# MANILA INTERNATIONAL RESEARCH CONFERENCE

MIRC|2025

September 18–19, 2025

PAMANTASAN NG LUNGSOD NG MAYNILA

THEME:

LEVERAGING RESEARCH, INNOVATION, TECHNOLOGY AND EDUCATION FOR SUSTAINABLE URBAN SOLUTIONS (L.I.T.E.S.)

Book of Abstracts

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Message from the Chairman of the Board of Regents of PLM

Atty. Edward S. Serapio
Chairman, Board of Regents
Pamantasan ng Lungsod ng Maynila

The **Manila International Research Conference 2025** carries with it a responsibility that transcends the walls of the academe. Under the theme *"Leveraging Research, Innovation, Technology and Education for Sustainable Urban Solutions (L.I.T.E.S.),"* we are challenged not only to generate knowledge but also to illuminate pathways toward a future that reconciles progress with sustainability.

Cities, whether Manila, Tokyo, Nairobi, or New York, stand as both symbols of human ingenuity and witnesses to human vulnerability. They are engines of growth, yet they are also epicenters of inequality, congestion, environmental degradation, and public health crises. To speak of sustainable urban solutions, therefore, is to acknowledge that no city exists in isolation. The problems we face are shared, just as the solutions we seek must be shared. This conference reminds us that knowledge, when cultivated in the spirit of collaboration, can transcend geographical boundaries and cultural divides.

Research, innovation, technology, and education—the four pillars embedded in this year's theme—must not be treated as separate domains but as interdependent forces. Innovation without education is fleeting; technology without governance is perilous; research without ethical grounding is incomplete. It is only in their convergence that we find the possibility of resilient, inclusive, and humane cities.

The Pamantasan ng Lungsod ng Maynila, as a public university situated in the heart of the nation's capital, recognizes the privilege and duty of contributing to this global conversation. But beyond the privilege is a deeper calling: to transform research from theory into practice, from academic discourse into public good, from intellectual pursuit into collective survival.

As Chairman of the Board of Regents, I commend our faculty, students, and partners who persist in advancing research with courage and conviction. I also extend my gratitude to the distinguished international participants who enrich this dialogue with global perspectives. May this conference not only inspire scholarly excellence but also instill in us the courage to reimagine our cities as living testaments of sustainability, equity, and hope.

Mabuhay, and welcome to the Manila International Research Conference 2025.

Message from the PLM President

Atty. Domingo "Sonny" Y. Reyes, Jr.
University President
Pamantasan ng Lungsod ng Maynila

The very essence of research has always been to question, to challenge, and to innovate. In this year's Manila International Research Conference 2025, we elevate that essence to the global stage under the theme: "Leveraging Research, Innovation, Technology and Education for Sustainable Urban Solutions (L.I.T.E.S.)." This is more than a theme—it is a collective endeavor to bridge knowledge with action, and vision with practice, for the future of our cities.

Research, when framed within the context of urban sustainability, transcends disciplinary boundaries. It no longer stands as a solitary exercise of inquiry, but as a dynamic convergence of science and engineering, governance and law, health sciences, and the social sciences and humanities. Each discipline contributes a vital thread to the larger fabric of sustainable development, weaving together solutions that are not only technically sound but also socially just, ethically grounded, and globally resonant.

At the Pamantasan ng Lungsod ng Maynila, we remain steadfast in our support for the research endeavors of our faculty, students, and collaborators. As a public university at the heart of Manila, our mission is not confined to the pursuit of knowledge for its own sake, but rather the harnessing of knowledge for the betterment of our people and the advancement of our communities. By welcoming scholars, researchers, and innovators from around the world, this conference strengthens our belief that sustainability cannot be pursued in isolation—it is a shared responsibility, nurtured by collaboration, dialogue, and the free exchange of ideas.

May this year's conference challenge us to think beyond conventional frameworks, to reimagine possibilities, and to pioneer solutions that are as resilient as they are inclusive. In doing so, let us reaffirm the role of research not simply as an academic exercise, but as an indispensable instrument for shaping cities that are humane, equitable, and sustainable.

On behalf of the Pamantasan ng Lungsod ng Maynila, I warmly welcome all participants to the Manila International Research Conference 2025. May our conversations here inspire transformative knowledge and innovative practices that will guide not only our urban futures but the global community we all share.

Mabuhay!

Message from the Conference Chair

Dr. Dan Michael A. Cortez
Conference Chair, MIRC 2025
VP for Research, Academic, and
   Extension Services
Pamantasan ng Lungsod ng Maynila

It is my honor to welcome everyone to the Manila International Research Conference 2025, held under the theme *"Leveraging Research, Innovation, Technology, and Education for Sustainable Urban Solutions."*

This gathering is a significant milestone for the Pamantasan ng Lungsod ng Maynila (PLM). Today, we are not only hosting a conference—we are also creating a forum where knowledge meets purpose, and research transforms into action. We are joined by faculty, students, researchers, and partners from diverse disciplines and institutions. Each one of us carries with us unique expertise, whether it may be in science and technology, engineering and architecture, business and governance, law and social justice, health sciences, education, the arts, or the social sciences and social work. But we are united by one goal: to find ways of improving life in our cities and communities.

As we gather here, we are reminded of the challenges that shape the modern urban landscape. Cities are engines of growth and opportunity, but they are also the frontlines of some of the world's most pressing issues—climate change and environmental degradation, poverty and inequality, gaps in health and education, rapid technological disruption, and the demands of governance in an increasingly complex world. These are not challenges that any single person, sector, or nation can solve alone. They demand collaboration, open exchange, and the courage to think outside the box. That is why this conference matters, as it provides us with a platform to share our knowledge, confront difficult questions, and imagine bold solutions together.

This conference is not just about presenting research. It is about building bridges across disciplines and across borders. Each abstract you will encounter in this collection represents more than academic effort—it embodies the hope, determination, and creativity of a researcher who wants to make a difference. These studies and insights are not just words on paper; they are seeds of change that can inform better policies, shape wiser decisions, and inspire practical, life-changing solutions.

Our theme also reminds us that research does not exist in isolation. It is deeply tied to the United Nations Sustainable Development Goals (SDGs). By aligning our scholarship and innovation with these global targets, we reaffirm our shared responsibility to ensure that knowledge benefits not only the academy but society at large. To conduct research is to serve—not only the pursuit of truth but also the pursuit of justice, equity, and sustainability.

I encourage each of you to approach this conference with openness and curiosity. Engage with the ideas presented here. Ask questions, challenge assumptions, and start conversations that may grow into collaborations. Research becomes truly powerful when it moves beyond individual effort and becomes a collective endeavor. Some of the most groundbreaking solutions are born not in isolation, but in dialogue—when engineers listen to social workers, when doctors collaborate with educators, when policymakers learn from artists and scientists alike.

On behalf of PLM, I extend my heartfelt gratitude to all our presenters, participants, and partners who have generously shared their time, expertise, and commitment. I also commend the tireless work of our organizers, students, faculty, and staff, whose dedication and vision have brought this event to life. This conference stands as a testament to your passion for excellence and your faith in the transformative power of education and research.

May this event inspire us all to continue pushing the boundaries of knowledge, while keeping in mind our responsibility to society. Let us move forward with the hope that our research, innovation, and education efforts will help build better and more sustainable communities for the next generation.

With that, it is with great joy and honor that I welcome you all once again to the Manila International Research Conference 2025. May this event be both a celebration of knowledge and a call to action. Thank you and God bless to us all.

Message from the Conference Co-Chair

Dr. Hernando S. Salapare III
Conference Co-Chair, MIRC 2025
2016 and 2025 DOST-Balik Scientist

Dear colleagues,

On behalf of the organizing committee and our esteemed partner institutions, it is a distinct honor to welcome all participants to the Manila International Research Conference 2025 (MIRC 2025). Hosted by Pamantasan ng Lungsod ng Maynila (PLM), this event is an important platform for advancing sustainability through research, innovation, and multidisciplinary collaboration in urban communities.

MIRC 2025 is made possible through the generous support of our principal sponsors: the Department of Science and Technology (DOST) – PCIEERD Balik Scientist Program, LibTech, and SciencesConf (supported by CCSD and the Ministère de l'Enseignement supérieur et de la Recherche, CNRS, INRIA, and INRAE, France). Our gratitude also extends to Colegio de San Juan de Letran – Manila, Manila Tytana Colleges, National University Fairview, and De La Salle - College of Saint Benilde who join us as university partners, enhancing the multidisciplinary spirit of this conference.

We extend our special thanks to the administration of Pamantasan ng Lungsod ng Maynila for their steadfast support, leadership, and commitment to academic excellence and sustainability. Their vision and dedication have been invaluable in making this event a reality.

This year's hybrid conference joins together researchers, educators, policymakers, and practitioners from various fields. Through plenary sessions, oral and poster presentations, and networking opportunities, MIRC 2025 aims to spark impactful conversations, foster international collaboration, and inspire innovative projects that contribute to a more sustainable and resilient urban communities.

Thank you for your presence, participation, and shared commitment to our goals. Let us work together to make MIRC 2025 a memorable and transformative event for all involved.

Manila Research Conference 2024 on Urban Sustainability and Innovation

The **Manila Research Conference on Urban Sustainability and Innovation (MRCUSI)** was spearheaded by the Pamantasan ng Lungsod ng Maynila (PLM) as the lead organizing institution, in partnership with the Unibersidad de Manila (UDM). This collaborative effort, established in July 2024, was initiated under the guidance of the City of Manila, with the goal of fostering research excellence, academic collaboration, and capacity building among faculty and students. The partnership recognized the vital role of research in advancing academic excellence and addressing the unique urban challenges of Manila.

Following the formalization of the partnership, the Call for Papers was announced in August 2024, and by September 2024, research submissions were reviewed and accepted for presentation.

The conference proper was held on October 10–11, 2024, at PLM in Intramuros, Manila, underscoring PLM's role as the lead host. Organized by the University Research Center (URC) and the Office of the Vice President for Research, Academic and Extension Services (OVPRAES) of PLM, with the support of the URC of UDM, the conference successfully gathered over 200 to 300 participants from PLM, UDM, and other higher education institutions. A total of 53 presenters showcased their research through parallel sessions across student and professional categories.

The conference adopted the theme:"**Innovative Collaboration for Sustainable Urban Futures: Integrating Disciplines to Address Manila's Unique Challenges**." It explored six major areas: urban planning and infrastructure, technology and innovation, public health and well-being, education and community engagement, social sciences and equity, and business, governance, and law.

Research presentations were categorized under four major clusters:

1. Science, Technology, Engineering, and Architecture (STEA)

2. Health Sciences

3. Education, Arts, Social Sciences, and Social Work

4. Business, Government, and Law

The conference was highlighted by distinguished contributions from experts. Dr. Benito L. Teehankee delivered the Keynote Address, while the cluster sessions featured speakers such as Prof. Ma. Teresita B. Dalusong (Health Sciences), Dr. Emmanuel P.

Paulino (Business, Governance, and Law), Dr. Racidon Bernarte (Education and Social Sciences), and Dr. Ace Lagman (Science and Technology).

Outstanding research outputs were recognized through the Best Presenter Awards. Among the awardees were:

- Students: John Nover S. Alama (PLM, STEA Cluster), Paul Jacob S. Villarino (PLM, Health Sciences), Jhay-Cee Halos (UDM, Education and Social Sciences), and Ivy S. Maguad (PLM, Business and Law).

- Professionals: Jesus Raymond R. Mijares (PLM, Education and Social Sciences), Stephen Kyle C. Arcan (PPMF–PGC, STEA), Judilynn L. Niedo-Solidum (UP Manila, Health Sciences), and Ronald P. Romero (PLM, Business and Law).

The success of the 2024 MRCUSI was made possible through the leadership of the Conference Committee, with PLM serving as the lead institution:

- Chairpersons: PLM President and UDM President

- Co-Chairpersons: PLM Vice President for Research, Academic and Extension Services (VPRAES) and UDM Vice President for Research

- Secretariat: PLM University Research Center, Technical Working Group on Research and Extension (TWG-RE) Members, and OVPRAES

This first-ever joint research initiative between PLM and UDM not only strengthened academic ties between the two universities but also demonstrated PLM's leadership in promoting research culture in Manila. By bringing together students, faculty, and research professionals, the 2024 MRCUSI laid a solid foundation for sustained collaboration, innovation, and solutions-driven research for the city's sustainable future.

MIRC 2025 Organizing Committees

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Dr. Dan Michael A. CORTEZ (Pamantasan ng Lungsod ng Maynila, Philippines)

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PLENARY SPEAKER 1

Hon. Mark Lapid

Bionote:
Has more than 20 years of public service capped with strong leadership, sound integrity, untarnished transparency and accountability, and commitment to growth and prosperity. Inspired national and local governments, including the private sector, to transform, innovate, expand, collaborate, and achieve global excellence.

Throughout his career as a civil servant, he has worked to ensure that tourism as a public policy responds to changing times and challenges, that tourism planning is a pre-requisite to better destination management and infrastructure development, and that allocation of meager government resources is essential for local people to gain access to more jobs and livelihoods.

Crafted and implemented tourism programs that provided local authorities the opportunity to increase their revenues, promote local attractions, diversify product offerings, and stimulate individual and community entrepreneurship. More importantly, immensely contributed to improving national and local tourism awareness, inducing foreign and local tourism investments, and forging partnerships and alliances with international organizations and development partners. In building tourism enterprise zones (TEZs) across the country and promoting public and private tourism investments, is guided by sustainable development principles to safeguard the environment, preserve cultural heritage, and give economic benefits to local residents. Has remained steadfast in helping tourist destinations manage current and future disasters and risks, including political crises and health pandemics, as well as guarantee their resiliency through institutional capacity building and networking.

Embodies a brand of leadership centered on tourism, trade, and investment that has steered the Sangguniang Kabataan Federation of Pampanga to significant achievements, enabled the Province of Pampanga to attain economic progress after the devastating eruption of Mt. Pinatubo and transitioned the Philippine Tourism Authority (now the Tourism Infrastructure and Enterprise Zone Authority) as among the best public corporations in the country (Gawad Pampublikong Korporasyon).

Holds a Master's Degree in Development Management from the University of the Philippines and completed Special Studies in Leadership from Stanford University's Graduate School of Business and Harvard University's John F. Kennedy School of Government. He had also recently earned his Doctorate in Business Administration from the Pamantasan ng Lungsod ng Maynila.

PLENARY SPEAKER 2

Leo Mendel D. Rosario, Ph.D.

He is an Assistant to the Vice Chancellor for Academic Affairs (A2VCAA) for Instruction, Program Chair at the Diploma in/Master of Research and Development (D/MR&DM) Program, and Assistant Professor of the Faculty of Management and Development Studies (FMDS) of the University of the Philippines Open University (UPOU). He is currently teaching and advising students from the Doctor of Sustainability Program of UPOU.

He finished BS Applied Physics, MS Physics, and PhD Physics from the National Institute of Physics of the University of the Philippines, Diliman. As a second specialization in R&D and Innovation Management, he finished Diploma in Research and Development Management at the University of the Philippines Open University. He was also a recipient of the Leaders in Innovation Fellowship Program of the Royal Academy of Engineering of the United Kingdom and Asian Institute of Management. He also attended the Aus4ASEAN Short Course on Skills Forecasting for the Fourth Industrial Revolution of the Department of Foreign Affairs and Trade (DFAT) of Australia and Griffiths University.

For his research, he has more than 20 international and local journal publications, around 50 conference papers, around 90 international and local conference presentations, and 2 utility models. He has a research collaboration on futures thinking on the technology startup ecosystem with University of Lincoln from the United Kingdom and UNESCO Chair on Responsible Foresight for Sustainable Development. His current public service involves the capacity building of DILG-Local Government Academy and DOTR-MARINA on strategic R&D and and research mentoring.

Advancing sustainability education in the Philippines: Pathways, Progress, and Possibilities

Leo Mendel D. Rosario
Faculty of Management and Development Studies,
University of the Philippines Open University, Los Banos, Laguna, Philippines

Sustainability has long been at the forefront of strategic initiatives among both public and private institutions in the Philippines. However, the underlying concepts of the triple bottom line and sustainability transitions are not always fully understood and effectively operationalized by key actors. Sustainability education provides necessary theoretical concepts, competencies, and strategies for advancing sustainability action. Through formal education offered by degree-granting institutions, community-based studies and extension on human-ecological problems form part of student course requirements. On the other hand, informal education through micro-credentials and massive open online courses (MOOCs) provide sustainability awareness to the general public and serve as a bridge to formal education. Recent progress in sustainability education in the country involve cross-sectoral collaborations among the academe, government, industry and civil society. Sustainability education may emerge as a key platform in fostering informed and collective sustainability action in the country.

PLENARY SPEAKER 3

Paulo Noel A. Mazo, DBA, LPT

Paulo Noel A. Mazo, DBA, LPT, is the Dean of the College of Tourism & Hospitality Management and the Graduate School Director of College of Business Administration at Pamantasan ng Lungsod ng Maynila. An Assistant Professor and holder of a Doctor in Business Administration, his research interests lie at the intersection of business technology and process optimization, encompassing areas such as human resource analytics, inventory management, business process automation, and service quality.

Embedding Responsibility into Engagement: The Mediating Role of CSR and Ethical Leadership in Driving Sustainable Business Practices in the Hospitality Sector

Paulo Noel A. Mazo; Emmanuel P. Paulino; Ronald P. Romero; Ronaldo A. Tan; Reynaldo J. Villegas

Abstract:
The digital transformation of the workplace has intensified the need for sustainable human resource strategies, particularly in the hospitality industry, where employee engagement and long-term viability are critical challenges. This study investigates the impact of employee engagement on sustainable business practices, with corporate social responsibility (CSR) and ethical leadership serving as mediators.

Using Partial Least Squares Structural Equation Modeling (PLS-SEM), data were collected from 285 human resource managers and employees in the Philippine hospitality sector, specifically within Metro Manila, through cluster sampling and validated survey instruments.

Results reveal that employee engagement directly promotes both CSR and ethical leadership. In turn, both mediators positively influence sustainable business practices. Notably, CSR and ethical leadership also mediate the relationship between engagement and sustainability, reinforcing their pivotal roles in aligning employee motivation with organizational responsibility.

This study contributes localized empirical evidence to the global discourse on sustainable HRM and offers a practical framework for enhancing sustainability in service-oriented industries. It highlights the importance of embedding ethical leadership and CSR into employee engagement strategies to drive long-term organizational success.

Keywords: Employee Engagement, Sustainable Business Practices, Corporate Social Responsibility, Ethical Leadership, Hospitality Industry, Human Resource Management

PLENARY SPEAKER 4

Mr. Richard Chandra

Richard Chandra is the International Area Manager for 7 regions in the Asia Pacific (APAC) region: Singapore, Malaysia, Indonesia, Japan, Korea, ANZ, and Pakistan. Prior to joining IEEE in 2018, he held various sales and marketing positions at WILEY, HMH, and McGraw-Hill.

Learning and Research in the Age of AI

How AI shaped how we learn, work, and research. AI is here to stay, as world largest professional organization - IEEE, embrace the technology and innovation. Equipping students, researchers, and professionals with the right and authoritative content. Providing strategies and tools to enhance learning / research experience.

SPECIAL SESSION SPEAKER 1

Dr. Woei Fuh Wong

Dr. Woei Fuh Wong is a seasoned professional with over three decades of experience as a researcher, engineer, and information specialist. During his tenure at Thomson Reuters, he actively collaborated with researchers and innovators in the Asia Pacific to address technology assessment and industrial engagement challenges. Woei Fuh later founded a Singapore-based consulting firm, specializing in research communication and assisting young researchers and innovators in acquiring future skills.

Building a Safe AI Research Environment: Policy-Driven Practice for Academic Integrity

Synopsis:
As generative AI tools like ChatGPT rapidly integrate into academic workflows, universities face new challenges in upholding research integrity and guiding ethical use. This workshop explores how top U.S. universities are addressing these concerns through sandboxed AI environments— safe digital spaces where students and researchers can engage with AI under clearly defined institutional policies.

A key highlight will be the role of platforms like PowerNotes, which enable supervisors to provide structured AI usage guidelines aligned with university policies and publisher expectations. Rather than enforcing surveillance, these environments empower faculty to monitor red flags and coach students on best practices for citation, attribution, and responsible content generation. By integrating with library-subscribed resources and generative AI, this approach nurtures academic honesty and research quality without stifling innovation.

The session invites university leadership, including provosts, to participate in an open dialogue on creating a policy-backed, practice-ready framework for AI adoption in research. Observers from the wider academic community are welcome to attend and learn from real-world models. Join us to discover how education, not enforcement, can shape the future of ethical AI use in research.

Amplifying Health Impact: University Research Outreach for Public Awareness and Trust

Synopsis:
In an era of rising misinformation and AI-generated content, the way universities communicate their health research has never been more critical. This workshop explores how university-led research outreach can improve public understanding of clinical findings, enhance transparency, and strengthen healthcare awareness, especially in urban settings where health literacy and access to accurate information are essential.

Inspired by recent efforts such as Pfizer's commitment to making medical research more discoverable, we'll demonstrate how universities can take a similar approach. Through strategic outreach including plain language summaries, visual explainers, and targeted social media sharing, researchers can translate complex findings into accessible stories for the public, healthcare professionals, and decision-makers.

Participants will learn how research outreach supports Health Sciences by addressing key public health challenges and fostering informed, inclusive healthcare conversations. We will also explore practical tools and workflows for crafting engaging, trustworthy content that resonates beyond academic journals.

By adopting proactive outreach strategies, universities not only raise the visibility of their health research but also play a vital role in combating misinformation and promoting sustainable community engagement. Join us to discover how research storytelling can bridge the gap between discovery and impact, bringing science to the people who need it most.

SPECIAL SESSION SPEAKER 2

Mr. KC Tang

KC Tang is an experienced professional with a decade in the educational publishing industry, specializing in digital implementation and blended learning support. With a passion for lifelong learning, he empowers graduates, young entrepreneurs, and professionals in strategic professional branding and online communication. Starting as a training assistant, KC now regularly moderates workshops on Digital Marketing and Professional Branding for researchers and innovators. He holds a Bachelor's Degree in Business Management and is certified as an HRDC trainer (Human Resources Development Corporation, Malaysia) and a Digital Marketing Specialist by iTrain Asia.

From Lab to Market: Showcasing Innovation in Science, Technology, Engineering, and Architecture for Real-World Impact

Bringing research innovation to the forefront of urban and industrial development requires more than great ideas; it needs compelling communication. This workshop equips researchers in Science, Technology, Engineering, and Architecture with strategies to reach targeted audiences, including industry partners, investors, and policymakers.

Focusing on innovative solutions for urban planning, infrastructure, and environmental management, the session explores how to transform technical research into accessible stories that highlight novelty, societal impact, and commercial value. Participants will learn to curate their research into engaging formats such as press releases, social media snippets, videos, and business-oriented narratives tailored for fast-paced industrial and commercial sectors.

While tools like Clarivate's Pivot-RP help identify funding and partnership opportunities, success also depends on the researcher's ability to communicate the relevance and value of their work. The workshop will guide attendees in framing their innovations with explicit problem-solution angles and translating complex findings into business-ready messages that resonate beyond academia.

Ideal for researchers, innovation managers, and university leaders, this session offers a practical roadmap for boosting the applied research profile of the university and accelerating the journey from scientific discovery to market-ready solutions.

SPECIAL SESSION SPEAKER 3

Ms. Iris Hsu

Iris **Hsu** has 18 years of experience in scholarly communication for academia particularly in the areas of e-resources management and digital implementation for libraries. Through her partnership with prestigious publishers like Nature and ACM, she acquired in-depth experience about researchers' behaviors and research skill sets. Recently she was involved in the knowledge transfer of research assessment framework from the UK to Hong Kong, giving support on research visibility and impact. Her consultancy work includes: improving the usage of e-resources and designing end-to-end research workflow that captures impact evidences

AI Literacy by Design and Education: Building Ethical AI Practices Through Guided Learning Environments

As generative AI becomes increasingly embedded in academic and professional spheres, universities must take the lead in fostering AI literacy as a core future skill. This workshop explores how institutions can create supportive, policy-aligned environments that teach students to use AI tools ethically and responsibly.

Inspired by leading U.S. models, we will examine the use of sandbox environments, safe digital spaces where students can engage with AI under faculty guidance. These environments help learners understand how to handle generative content with care, including proper attribution, citation, and the use of disclaimers to minimize plagiarism risks.

Rather than penalizing misuse, this approach emphasizes early intervention and constructive dialogue. Supervisors can customize AI usage guidelines and receive alerts for potential red flags, allowing for timely, educational conversations with students before work is submitted.

Building AI literacy within academia is essential, not only for maintaining research integrity but also for empowering students and faculty to participate confidently in collaborative initiatives that promote sustainability, community engagement, and inclusive education. This approach ensures the academic community is well-prepared to apply AI tools meaningfully, ethically, and effectively across disciplines and in broader societal contexts.

KEYNOTE SPEAKER 1

Dr. Julius Andrew P. Nuñez

For his PhD, Julius received a CHED-PhilFrance scholarship to study Materials Science at the Centre Nationale de la Recherche Scientifique (CNRS) in Grenoble, France, finally receiving a degree in 2022 from the Universite Grenoble Alpes. His research interests are mainly on Materials Chemistry and X-ray, and neutron diffraction. Dr. Nunez currently teaches Chemistry at the University of the Philippines Manila. He is the principal investigator of the Laboratory of Materials UP Manila. He is an early career scientist with research fundings from DOST-PCIEERD, CHED, and the National Institutes of Health. Outside his work in the academe and research, he is also an assessor of the ASEAN University Network Quality Assurance or AUN-QA.

"Surfactant-modified natural zeolites for pharmaceutical waste adsorption"

Widely consumed because of its analgesic properties, acetylsalicylic acid and its metabolites are considered as emerging contaminants identified in several regional water sources. Although sophisticated removal techniques such as microbial-degradation and electrochemical-membrane approaches are explored, the search for simpler adsorbent technologies remains popular. In this study, surfactantmodified natural zeolites were developed, characterized, and investigated for its adsorption performance for acetylsalicylic acid. Surfactant-modification using Hexadecyltrimethylammonium-bromide (HDTMA-Br) and Dioctadecyldimethylammonium-bromide (DODA-Br) at 100 and 200 % of the External Cation Exchange Capacity were employed. Zeolite samples were characterized for their thermal, crystallographic, morphological, and physicochemical properties. EDX data, FTIR spectra, and Zeta Potential data confirmed surfactant modification on the surface of the zeolite. XRD showed that modifications did not alter the crystallinity of the zeolites after modification. Batch adsorption experiments were carried out to examine adsorption isotherms in aqueous solutions at pH ≈ 7.5. The linearity observed in Freundlich isotherm across all adsorbents suggests heterogenous surface adsorption sites of the base material. Bilayer-DODA modified zeolites showed significantly promising sorption capacity for acetylsalicylic acid among all adsorbents due to anion exchange, electrostatic interaction, and hydrophobic interaction. This suggests the role of the bilayer and longer carbon chains in influencing adsorbent's affinity towards acetylsalicylic acid.

KEYNOTE SPEAKER 2

Dr. Rob Jeremiah G. Nuguid

Rob Jeremiah G. Nuguid is currently the Head of Specialty Gases Analytics at Linde GmbH (Germany). He obtained his Ph.D. degree from École polytechnique fédérale de Lausanne and Paul Scherrer Institut (Switzerland), M.Sc. degrees from Université Paris-Saclay (France), Universidad Complutense de Madrid (Spain), and Politechnika Wrocławska (Poland), and B.Sc. degree from Pamantasan ng Lungsod ng Maynila (Philippines). As part of his academic training, he also received grants to conduct research at Hanyang University (South Korea), Academia Sinica (Taiwan), University College London (UK), and Rice University (USA).

Time-resolved spectroscopy of NO_x reduction catalysts

Understanding the mechanisms behind chemical transformations is key to developing improved catalytic systems. In this context, operando spectroscopy has contributed significantly to advancing our molecular view of many reactions at the heart of the chemical industry. Here we show the application of complementary spectroscopic techniques (Fig. 1a) to elucidate the mechanism of a reaction that has always occupied a central role in environmental research – the selective catalytic reduction (SCR) of NO_x over vanadia-based catalysts. IR spectroscopy revealed that NH_3 could adsorb on Lewis and Brønsted-Lowry acid sites as NH_3 and NH_4^+, respectively. Upon NO addition, the SCR reaction started and adsorbed NH_3 molecules were consumed preferentially over NH_4^+ species (Fig. 1b), thereby suggesting that the Lewis sites are the active sites for SCR. The catalyst also reduced simultaneously as indicated by UV-Vis spectroscopy (Fig. 1c). Under reaction conditions, vanadyl species (VO_x) adopt various states of coordination, as demonstrated by the width of the VO_x peak in the time-resolved Raman spectra (Fig. 1d). However, only the coordinatively unsaturated species (i.e., Lewis sites) were found to be responsible for the SCR activity as their response to repeated NH_3 pulses caused their characteristic signal to appear in the phase-resolved spectra (Fig. 1e). The synergy between

complementary operando techniques, demonstrated here in the particular case of SCR, opens up new possibilities in deciphering the structure-performance relationship of catalysts and other functional materials.

Fig.1 (a) Complementarity between IR, UV-Vis, and Raman spectroscopies. (b) IR signal of adsorbed NH_3 (Lewis) and NH_4^+ (Brønsted-Lowry) species after NO addition. (c) UV-Vis signal of V^{4+} species after NO addition. (d) Time-resolved and (e) phase-resolved Raman signal of the V=O stretch.

KEYNOTE SPEAKER 3

Dr. Joel Garcia

Department of Chemistry, De La Salle University, 2401 Taft Avenue, 1004 Manila, Philippines

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Dr. Joel Garcia is a Research Fellow and Full Professor of Chemistry at De La Salle University, Manila, and a member of the Board of Directors of the Kapisanang Kimika ng Pilipinas (KKP). He earned his B.S. in Chemistry from the University of the Philippines Diliman and completed his Ph.D. in Inorganic Chemistry at Wayne State University (USA) under Prof. Matthew J. Allen, investigating the physical properties of air-sensitive europium(II)-containing compounds relevant to magnetic resonance imaging (MRI). As a postdoctoral researcher in UC Davis Biomedical Engineering, he worked with Prof. Angelique Y. Louie on the development of activatable MRI contrast agents using nanoparticles and small molecules. His current research integrates green chemistry with nanomaterials design to develop sensing and imaging agents, and explores the metabolic profiles of agarwood and traditional beverages.

Switching on Contrast, Greening Up Nanoparticles: Smarter Chemistry for Better Imaging

Joel Garcia

Department of Chemistry, De La Salle University, 2401 Taft Avenue, 1004 Manila, Philippines

E-mail: joel.garcia@dlsu.edu.ph

Magnetic resonance imaging (MRI) would benefit from contrast agents that are both safer and responsive to their chemical environment. This work presents two complementary strategies. First, we use spiropyran molecular photoswitches as small, modular sensors that convert light or specific metal ions into changes detectable by MRI. In water, these switches reversibly toggle between forms with distinct optical and coordination properties, enabling naked-eye Cu^{2+} sensing and modest, reproducible light-controlled changes in relaxivity when grafted onto gadolinium chelates. Simple structure, response rules, linker length, donor groups, and accessible binding sites guide the design toward reliable cycling and minimal interference. Second, we advance manganese-based nanomaterials as greener T_1 alternatives to gadolinium. Poly(acrylic acid)–stabilized Mn_3O_4 nanoparticles are prepared under mild, aqueous conditions and provide strong positive MRI contrast while avoiding gadolinium- related safety concerns. Together, these approaches outline a practical, chemistry-first route to responsive imaging: pair stimuli-switchable small molecules that encode specificity with biometal nanomaterials that deliver robust signal and sustainability.

KEYNOTE SPEAKER 4

Dr. Emmanuel P. Paulino

Emmanuel Paulino, DBA, LPT, is a faculty member at different graduate schools in the Philippines. He teaches research methods, statistics, and business analytics at Ateneo de Manila Graduate School of Business, De La Salle University Dasmarinas, Pamantasan ng Lungsod ng Maynila, and San Beda College Alabang. He has already published research papers on business analytics, consumer behavior, entrepreneurship, human resource management, and strategic management using different statistical and analytics conventions. He has been a consultant for enhancing the research capabilities of various universities. He now serves as the Research Consultant at the University Research Center of the Pamantasan ng Lungsod ng Maynila.

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KEYNOTE SPEAKER 5

Atty. Chad Patrick Osorio

Chad Patrick Osorio is an international academic and lawyer-economist, advocating for human and environmental rights. He is PhD Researcher at Wageningen University &Research, the Netherlands, for Environmental Economics & Law. As a full scholar of the French government, he received his Master II Business, Law & Economics at the top of his class, mention très bien, at L'Université d'Aix-Marseille, France. He also holds a Juris Doctor and a BA Psychology degree, cum laude, from the University of the Philippines Diliman. Chad is Adjunct Assistant Professor at the University of the Philippines Los Baños, focused on Intermediate Environmental Economics, Environmental Diplomacy and Negotiations, and Economics of Law and Regulation. He was former Professorial Lecturer for Public International Law at the UNO-R School of Law, and is current Lecturer and Researcher at the Law Group, Wageningen University and Research.

WORK, CONSULTANCIES AND INTERNSHIP EXPERIENCES

Chad is Expert Contributor for the World Bank Group's 2025 Business Ready (B-READY) Report on country specific international trade and digital infrastructures. He has been shortlisted for interview by Philippine Supreme Court as an expert on AI and the administration of justice. He is strategic legal and business operations consultant for a select number of national and international firms and institutions. Prior to his admission as a member of the Philippine Bar, he has worked as a United Nations Legal Intern in Cambodia with the Virtual Tribunal, under its international public affairs division. He spent three years as Research Associate at UP Law Center's Institute of International Legal Studies.He was Technical Consultant for Security Reforms and Governance at The Asia Foundation on special international law topics. From 2021 to 2023, he was also on the Roster of Consultants for Legal Services for Development, United Nations Food and Agricultural Organization. At present, he sits at the Board of the Wageningen School of Social Sciences, and is AI + IP Expert Mentor with the World Intellectual Property Organization.

CITATIONS, AWARDS AND SPEAKERSHIPS

Chad is a 2023 Sen Prize awardee, in honor of Nobel Prize-winning economist and philosopher Amartya Sen, granted by Yale University's Global Justice Program and Global Financial Integrity. He topped the Peter Drucker Challenge in 2022, invited on an all-expense paid trip at the Hofsburg Imperial Palace in Vienna, Austria to receive the award. He was also an integral part of Team MOKA, a woman-led, multicultural, cross-disciplinary team which won 10 out of the 14 awards at the 2022 HPHR (Harvard Public Health Review) Hackathon. He was hailed as SwissCognitive Global AI Ambassador, comprising top 51 thought leaders on artificial intelligence from around the world. In 2017, he was named the first Filipino recipient of the Eisaku Sato Award for Brilliance, a global essay competition supported by the United Nations University and Prime Minister Sato's Nobel Peace Prize, an award he won again in 2023. As a prolific writer, Chad is contributing author to a number of national and international publications, including the Harvard International Law Journal, the Cambridge Journal of Climate Research, German Commission for UNESCO's Fair Culture Journal, the Oxford Graduate Inequality Review, and the Palgrave Encyclopaedia of Global Security Studies. He has published in several top-ranking journals (Web of Science Q1), including Telecommunications Policy, Agriculture, and Review of European, Comparative and International Environmental Law (RECIEL), among others. Chad has been invited to speak at various international events, notably as plenary speaker for the International Conference on Human Rights and Peace & Conflict (Thailand), as keynote speaker for the ASEAN Youth Leaders' Association (Viet Nam), and as facilitator for Asian Development Bank's Youth for Asia (Japan), among many others. From 2020 to 2022, Chad served as (Presiding) Judge for Preliminaries for the Northern European Rounds of the Price Moot Court Competition: University of Paris Descartes and the Bonavero Institute of Human Rights, Oxford University. In 2025 he served as Presiding Judge for the European, Central Asia and the Middle East Regional Rounds for the Paula Sparks World Moot on International Law and Animal Rights (WMILAR).

EXTRACURRICULAR AWARDS AND COMMUNITY ACTIVITIES

Chad has been awarded the 2018 Huwarang Kabataang Lumbeño (Exemplary Youth Award) and the 2015 Gawad Felicisimo T. San Luis for the Most Outstanding Youth of Laguna. He is also an international award-winning photographer-artist, his works on exhibit at Harvard Law School, US, as well as the 2017 United Nations Conference of Parties in Bonn, Germany, among others. Chad is active in environmental and community initiatives, and devotes his spare time volunteering in underserved, underprivileged communities by sharing his knowledge and skills to promote inclusive development

Transdisciplinarity in the Age of AI

The accelerating deployment of artificial intelligence is reshaping not only markets and governance systems but also the way we do research itself. Addressing complex global challenges, including climate change, biodiversity loss, food security, and social justice, demands a transdisciplinary approach that moves beyond disciplinary silos and bridges science, law, economics, and technology. Drawing from my work at the intersection of international law, environmental economics, and AI governance, this talk explores how AI tools can enable new forms of collaboration while also reproducing old inequities if left unchecked. I will discuss case studies ranging from biodiversity monitoring and agricultural innovation to intellectual property strategies for startups in the Global South. By highlighting both opportunities and risks, I argue for a deliberate rethinking of transdisciplinarity: one that harnesses AI to co-produce knowledge across academic, policy, and community domains, while foregrounding inclusivity, ethics, and justice. The aim is to chart pathways where AI becomes not a substitute for human expertise but a catalyst for dialogue, creativity, and collective problem-solving.

KEYNOTE SPEAKER 6

Dr. Gary G. Ador Dionisio

Dr. Gary G. Ador Dionisio is an Associate Professor and Dean of the School of Diplomacy and Governance at the De La Salle – College of Saint Benilde. Dr. Ador Dionisio is also a CHED Technical Evaluator of Public Administration and Governance Program.

Currently, he is the Vice President of Philippine Society for Public Administration or PSPA (a professional organization of public administration students, professors, and practitioners). A Subject Matter Expert of the Graduate School of Public Development and Management of the Development Academy of the Philippines (DAP) and DFA – Foreign Service Institute (DFA – FSI). He is also a Senior Fellow of the Philippine Public Safety College (PPSC) and Achievement Awardee of the National Intelligence and Coordinating Agency (NICA) last July 11, 2025.
Lasty, Dr. Ador Dionisio is one of the Board of Advisers of the Washington Global Institute or WGI (an international training institute for Governance, Security and Development which has offices in Washington, DC and London, UK).

Why diplomacy matters in governance?

The growing global discontent and disruption due to the volatile, uncertain, complex and ambiguous (VUCA) world requires scholars, practitioners, and students of public administration and governance to rethink the works and strategies of 'governance' as a discipline to make it more relevant and important at this critical juncture.

After COVID 19 pandemic, it is now more pronounce that addressing issues and concerns such as climate change, health crisis, terrorism, poverty and inequality is beyond the sphere and ambit of nation – states.

Thus, it is now imperative that each government must cooperate and work with each other for the purpose primarily of addressing the grave happenings and urgent problems of our time, to promote sustainable development and sharing of best practices in both local and national governance.

This paper on 'Why diplomacy matters in governance?' follows the theory of Robert Putnam's 'Two – level games', which basically examines the role of government both at the national and international level and of why diplomacy matters in these both arenas of engagement. Two level games clearly explain the relationship of governance demands and responses both at the national and international level that must be coordinated and not isolated.

In the end, 'Global Governance' is an indispensable arena of cooperation, coordination and collaboration between national governments and international organizations and the underlying principle is none other than diplomacy.

Keywords: Diplomacy, Global Governance, and Two-Level Game

Dr. Gary Ador Dionisio, Dean, School of Diplomacy and Governance, De La Salle – College of Saint Benilde

KEYNOTE SPEAKER 7

Dr. Rowalt Alibudbud

Rowalt Alibudbud, MD, MHSS, FPPA is a member of the Department of Sociology and Behavioral Sciences at De La Salle University Manila and the Department of Psychiatry and Behavioral Medicine of the University of the Philippines – Philippine General Hospital. He is also a member of the Geopsychiatry Group of the World Psychiatric Association and the sole Southeast Asian senior fellow of the International Institute of Geopsychiatry in Switzerland.

He serves as an editor for the Philippine Journal of Psychiatry. His work centers on gender, social justice, and mental health, with a particular focus on students, young people, and the LGBTQ+ community. He has authored over 100 publications in Scopus-indexed journals and, according to SciVal, holds the highest number of international publications on mental health and psychiatry in the Philippines since 2020. He has served as a consultant and co-investigator on numerous research projects funded by both government agencies and non-governmental organizations, with several of his contributions informing national policy. His work has also been cited in local and international media, including Yahoo News Singapore, Asian Scientist, and Bloomberg.

In recognition of his contributions, he was invited to serve as the only Southeast Asian member of the Editorial Development Board of The Lancet Psychiatry (Elsevier), the world's leading journal in mental health, from 2022 to 2024. He also sits on the editorial boards of the Journal of Lesbian Studies (Taylor & Francis), the only journal dedicated to lesbian feminist scholarship, and Geopsychiatry (Elsevier). Recently, he was named the 2025 Outstanding Young Scientist for Psychiatry and Health Social Science by the National Academy of Science and Technology, the Philippines' highest scientific recognition body.

The State of mental health publications in the Philippines from 1996 to 2022 and its comparison with the ASEAN Region

Dr. Rowalt Alibudbud

This study evaluates psychiatry and mental health publications in the Association of Southeast Asian Nations (ASEAN) region, specifically focusing on the Philippines from 1996 to 2023. Academic publication varies among ASEAN states, with Singapore, Malaysia, and Thailand leading. Despite the 2018 Mental Health Act, the Philippines did not significantly increase research output. However, the COVID-19 pandemic spurred mental health research in the Philippines. This highlights the need for further research on barriers and research quality. Policymakers should consider these findings for regional mental health research strategies. The study also shows the research community's adaptability during crises, which can inform future responses to public health challenges.

KEYNOTE SPEAKER 8

Ms. Ferissa B. Ablola

Ferissa Ablola is a Registered Microbiologist and Licensed Professional Teacher, specializing in antimicrobial resistance surveillance, genomic epidemiology, and data-driven infectious disease research. She is currently a Bioinformatician and Digital Epidemiologist at the Antimicrobial Resistance Surveillance Reference Laboratory of the Research Institute for Tropical Medicine (RITM), where she leads training initiatives on bioinformatics and data management, conducts genomic analyses, and contributes to national and international projects on antimicrobial resistance.

Alongside her research work, she is an Associate Professorial Lecturer III at the Pamantasan ng Lungsod ng Maynila (PLM) College of Medicine, where she teaches Biostatistics and Research Methods to Master of Public Health students. She has also served as an instructor at Far Eastern University and UP Manila College of Public Health, teaching Biochemistry, Mycology & Virology, and Epidemiology.

Ferissa earned her Bachelor of Science in Biology from Pamantasan ng Lungsod ng Maynila in 2016 and her Master of Science in Public Health (Medical Microbiology) from the University of the Philippines Manila under the DOST-ASTHRDP scholarship in 2019. She is currently pursuing her Doctor of Philosophy in Education (Biology) at the University of the Philippines Diliman.
She has authored and co-authored several publications in infectious disease and health education, reflecting her dual commitment to advancing scientific research and strengthening academic instruction.

The Role of Molecular Systematics in Microbiological Research and Public Health: A Systematic Review

Ferissa Ablola

Background:
Molecular biology and bioinformatics have revolutionized microbiology and public health by enabling accurate identification, classification, and surveillance of microorganisms. Molecular systematics, which reconstructs phylogenetic relationships using molecular data, plays a crucial role in tracking pathogens, understanding evolutionary dynamics, and guiding public health interventions. This review synthesizes recent applications of molecular systematics in microbiological research and public health.

Methods:
Following PRISMA guidelines, a systematic search was conducted across databases including PubMed, ResearchGate, ScienceDirect, and Google Scholar. Forty-two full-text articles published between 2012 and 2022 were screened, with twenty meeting eligibility criteria. Studies were analyzed for molecular techniques applied, organisms studied, and their research or public health impacts.

Results:
Nine molecular techniques were identified: 16S rRNA gene-based ribotyping/oligotyping, amplified ribosomal DNA restriction analysis (ARDRA), random amplified polymorphic DNA (RAPD-PCR), sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE), multilocus sequence analysis (MLSA), restriction fragment length polymorphism (RFLP), DNA-DNA hybridization, multilocus sequence typing (MLST), and whole genome sequencing (WGS). Applications in microbiological research were largely focused on species identification and phylogenetic analysis, while public health applications emphasized outbreak investigation and antimicrobial resistance (AMR) surveillance. MLST and WGS were particularly valuable in characterizing high-burden pathogens such as *Salmonella spp.*, *Neisseria gonorrhoeae*, *Acinetobacter baumannii*, and methicillin-resistant *Staphylococcus aureus* (MRSA). While these tools improved accuracy, speed, and epidemiological insights, challenges included high costs, specialized equipment, and bioinformatics expertise requirements.

Conclusion:
Molecular systematics is indispensable in advancing both microbiological research and public health. By enabling precise microbial identification, evolutionary analysis, and outbreak monitoring, these methods strengthen surveillance systems and inform evidence-based health policies. Expanding genomic infrastructure, fostering interdisciplinary collaboration, and investing in laboratory capacity are critical to fully harness molecular systematics in addressing infectious disease threats and antimicrobial resistance globally.

KEYNOTE SPEAKER 9

Dr. Katherine G. Lacson

Bionote:
Katherine G. Lacson is an assistant professor at the Department of History, Ateneo de Manila University, and associate editor of the journal *Philippine Studies: Historical and Ethnographic Viewpoints*. She teaches various courses on Philippine History. She obtained her PhD in History at the University of Côte d'Azur at Nice, France in 2017. She was involved in producing and researching various award-winning historical documentaries. She was co-author and co-editor of the book *Barako 77: The Story of Environmental Activism in San Juan, Batangas*, which won the Silver Anvil for outstanding Public Relations Program in Arts & Culture / Heritage / Tourism in the 60th Anvil Awards.

Filipina in Flux:
A Historical Retrospective on the Evolving Narratives and Perceptions of Filipinas
by Katherine G. Lacson, PhD
(for the Manila International Research Conference, MIRC 2025,
EASS4 Keynote, 19 September 2025)

Abstract:
This presentation examines how Filipinas have been portrayed and perceived by society from the pre-colonial era to the present day. The Filipina has always been a dynamic figure throughout history, demonstrating a remarkable ability to transform and resist stereotypes and perceptions imposed on her. Using various historical texts, this presentation reveals how significant political, economic, social, and cultural shifts affected Filipina women's narratives. This retrospective reveals that while some narratives and perceptions have evolved, leading to progress and increased freedoms, other historical views have remained unchanged and still persist to this day. This shows that the path of the Filipina does not follow a straight line. Her journey is an ongoing dialogue between traditional and modern ideas, as well as outside perspectives and challenges to internal agency, creating a complex and ever-changing story and identity.

KEYNOTE SPEAKER 10

Dr. Stephanie Marie R. Coo

Dr. Stephanie Marie Coo is an Associate Professor at the Department of History of the Ateneo de Manila University in the Philippines and a researcher at Centro de Humanidades (CHAM NOVA-FCSH), Universidade Nova de Lisboa in Portugal. She is the author of two books: the multi-awared book, *Clothing the Colony: Nineteenth-century Philippine Sartorial Culture, 1820-1896* (IAS-ICAS International Book Prize for Best Book in Humanities 2021; National Book Awards and John C. Kaw Prize for Best Book in History 2022) and *Seams of Sedition: Sartorial Symbols in José Rizal's Noli Me Tángere* (2025). After earning her PHD in History, *mention très honourable avec les félicitations du jury à l'unanimité*, from Université Nice Sophia Antipolis in France, Dr. Coo was awarded a Marie Sklodowska-Curie Postdoctoral Fellowship at the Universidad de Granada in Spain and Ruhr-Universität Bochum in Germany.

Preloved, Reloved, and Reimagined:
Clothing's Colonial Roots and Contemporary Reuse

Colonial trade introduced European fabrics, allowing Filipinos to blend European aesthetics with native fabrics woven from durable piña and abacá fibers — a precursor to modern thrift culture's fusion of local and global.

Rooted in longstanding Filipino values of resourcefulness, practicality, and frugality, the tradition of passing down clothing and creatively reusing garments has evolved into the modern phenomenon of *Ukay Ukay* - a practice that not only offers affordable alternatives to fast fashion but also frugally fosters self-expression and individuality.

With the ethos of breathing new life to discarded items, *Ukay Ukay* culture - a phenomenon originating from aspiration and necessity and now thriving as a cultural movement, enables Filipinos to slow down the demand for new clothing, extend the life cycle of garments, and reduce environmental impact through circular consumption, at a low cost.

As preloved items are recirculated, upcycled, or transformed for new uses, they gain new significance, blending personal stories with collective memory and heritage. While the practice faces challenges, such as issues of accessibility, it stands as a testament to the Filipino ability to relove the preloved as well as to reimagine the past-making thrift not only sustainably chic but also a celebration of cultural resilience and creative reinvention. This continuity reveals sustainability not as a trend, but a historical imperative woven into the archipelago's sartorial identity.

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KEYNOTE SPEAKER 11

Dr. Chester Antonino Arcilla

Chester is an associate professor of economics and urban studies at University of the Philippines Manila. His work focuses on urban marginality and right to the city struggles. His current research located radical urban poor and housing politics with the global history of housing financialization and gentrification, and on feminist home-making.

Overlooked sufferings and struggles: Filipino urban poor lives in the Philippine housing crises

In this presentation, I mark the overlooked sufferings and struggles of Filipino urban poor lives as Metro Manila is increasingly integrated within the global economy. In the past decades, the main drivers of urbanization in Philippine cities in real estate and service sector economies. These are spatialized in the construction of high-end malls, condominiums and hotel and restaurant and other upper-middle class services. These urban developments often require the clearing of in-city urban poor communities to socialized housing, often located in peri-urban municipalities. Focusing on the case of the Quezon City Central Business District and the off-city resettlements in Rodriquez, Rizal, I highlight the often-forgotten sufferings and struggles of the displaced urban poor to survive and create better future for the families.

General Information and Reminders

A) Conference Fee:
Conference registration is FREE.

B) Dress code:
Business to business casual.

C) Registration:

1. **NO WALK-IN PARTICIPANTS and NO ONSITE REGISTRATION.** Only accepted and confirmed attendees and participants by the organizing committee are allowed to participate in the conference. Please present your **Registration Confirmation (sent to you by email with subject: [mirc2025] Registration Confirmation)** from the Organizing Committee when you sign in the attendance sheet on the registration table before the start of the conference. Conference badges will only be given to confirmed on-site participants. Registration table shall be open as early as 6:30 AM.

2. Please present your ID when you enter the PLM premises. Please sign on the list of participants handled by the Guards on Duty. They will ensure that only accepted attendees and participants are allowed to enter the campus for security and safety of everyone.

D) Certificate of attendance, appearance, and participation:

1. Only those who are able to sign on the attendance sheets and attend all sessions on both days, September 18 and 19, 2025, shall be entitled to receive a certificate of attendance. Certificate of appearance may also be given to attendees upon request for compliance to government processes and requirements.

2. Certificate of participation is awarded to the presenters only. A presenter who failed to present their research is not entitled to receive a certificate of participation.

3. Certificate of attendance, participation, (and appearance) will be given on the afternoon of September 19 at the Secretariat. Announcements will be given during the program.

E) Conference venue
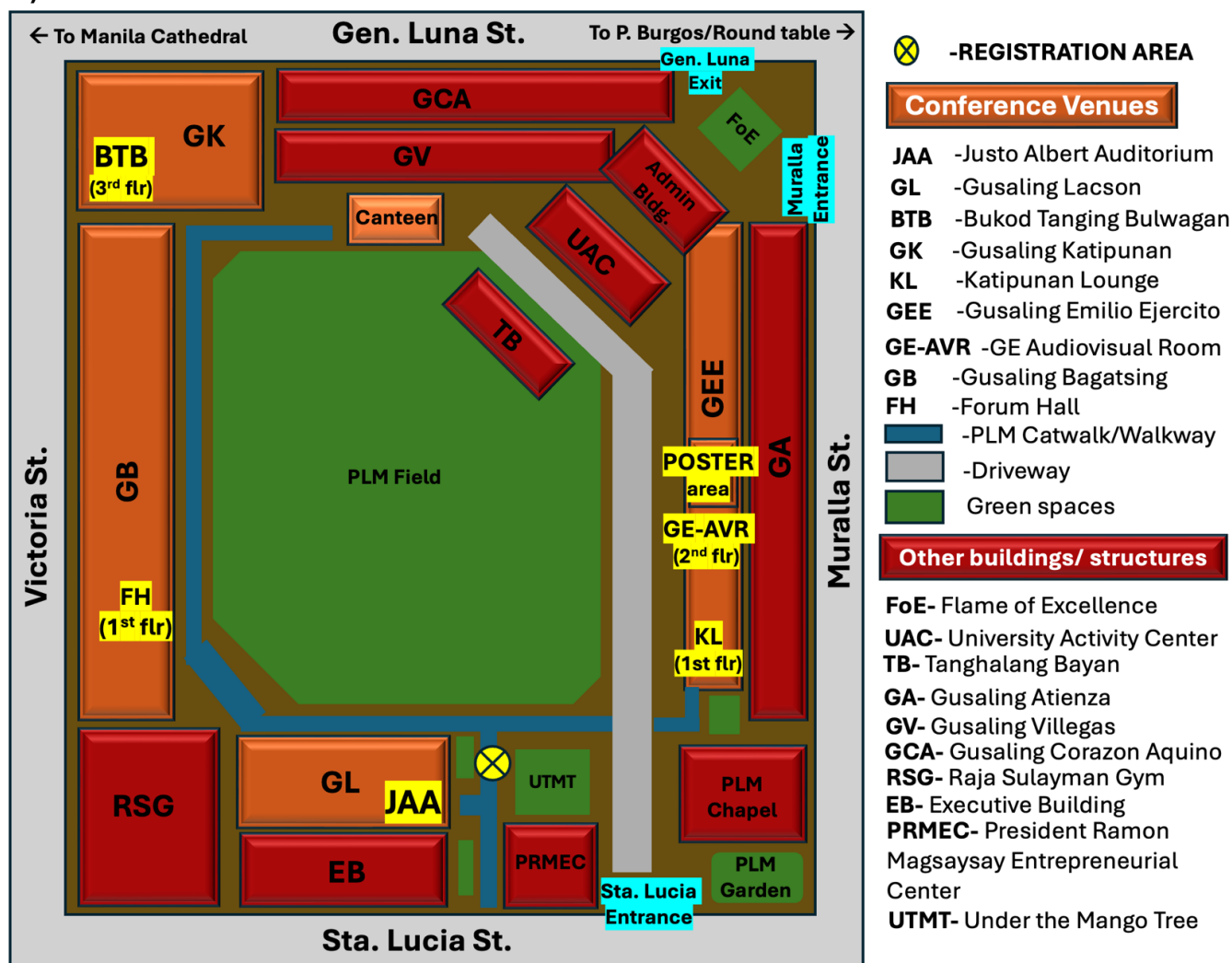
The conference shall be held onsite in five (5) different venues within the PLM Campus:

Venue	Building	Session	Schedule
Justo Albert Auditorium (JAA)	1st Floor, East Wing of Gusaling Lacson (GL)	**Plenary Sessions**	Sept 18 (AM) and 19 (PM)
		Cluster Session: Science, Technology, Engineering, Architecture	Sept 18 and 19 (PM)
		Special Session on AI	Sept 19 (AM)
Bukod Tanging Bulwagan (BTB)	3rd Floor, Gusaling Katipunan (GK)	**Cluster Session:** Health Sciences	Sept 18 and 19 (PM)
		Science, Technology, Engineering, Architecture	Sept 19 (AM)
Katipunan Lounge (KL)	1st Floor, Gusaling Emelio Ejercito (GEE)	**Cluster Session:** Business, Government, Law	Sept 18 and 19
GEE-AVR	2nd Floor, Gusaling Emelio Ejercito (GEE)	**Cluster Session:** Education, Arts, Social Science, and Social Work	Sept 18 and 19

Poster Area	1st Floor, Gusaling Emelio Ejercito (GEE)	Poster Sessions	As scheduled in the program
Forum Hall	1st floor, Gusaling Bagatsing (GB)	Special Session for Policmakers	Sept 18 (AM)

F) How to get to PLM:

Location map of PLM

Image Source : https://jeromeguarin.wordpress.com/wp-content/uploads/2010/11/untitled-picture.png
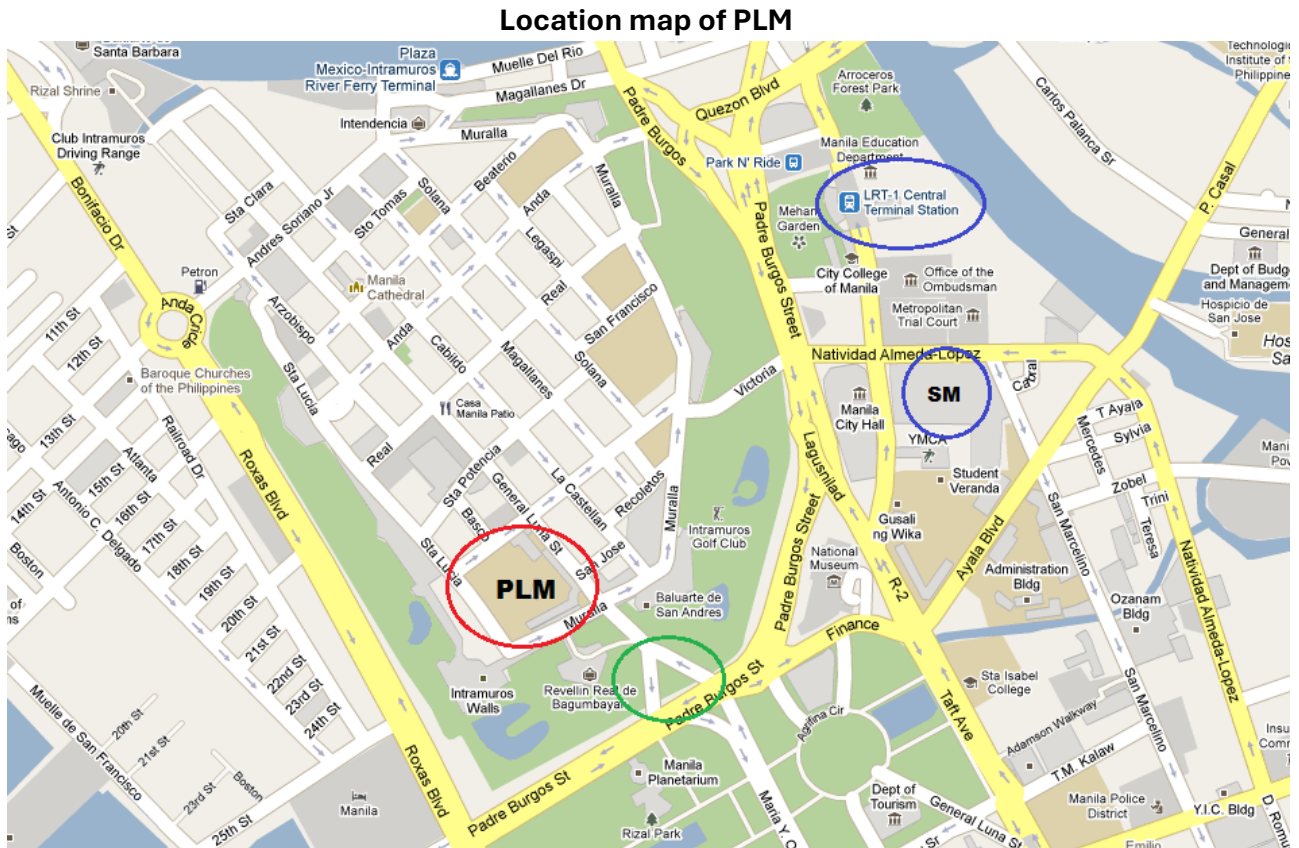
1. *Ride Hailing app:*

You can pin and locate **Pamantasan ng Lungsod ng Maynila** via Grab or Angkas. It is located within the scenic Intramuros. You may choose to alight via **Muralla St. Entrance or Sta. Lucia St. Entrance**. See screenshots below for sample pinned location of PLM. Fare varies depending on pick-up point and ride hailing app used.
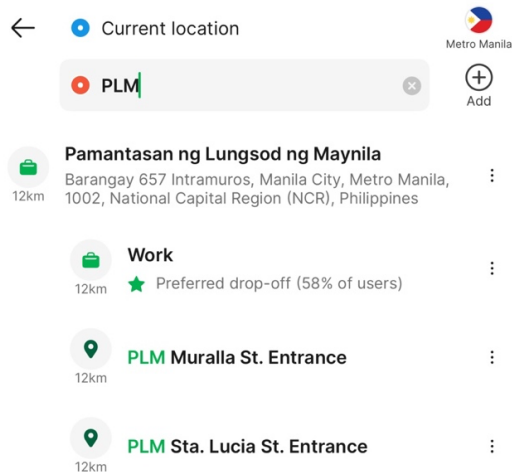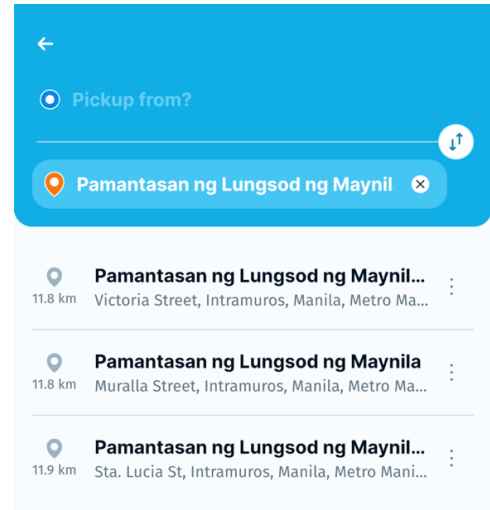
2. *Commuting to PLM:*

2a. If you are from the South and will alight at Buendia terminals:

At Taft Avenue, take a jeepney or UV express bound to Manila City Hall, Fairview, Quiapo, Divisoria, Sta Cruz, or Dapitan. Get off at the Manila City Hall. Find the underpass near the Kartilya ng Katipunan. Use the underpass and walk all the way to the other side going to Intramuros. You may choose any of the following mode to get to PLM from here:

i.   Ride a jeepney bound to Mabini and ask the driver to alight you at Round Table (it's only about 3-5 minute jeepney ride without traffic). From the PUJ Stop, you may walk towards Intramuros Entrance Arch. You will be able to immediately see PLM to your left once you enter and reach the Intramuros Arch. That side of PLM is the Muralla Entrance.
ii. Alternatively, (2) you may take a Tribike near the underpass going to Intramuros. Ask the driver to take you to PLM. Agree on the fare first as various drivers may charge differently from 30 to 70 pesos. PLM is located at General Luna cor. Muralla Sts., fronting the Department of Labor and Employment.

 2b. *If you are from the north and will alight at Cubao or Baliwag (Grace Park) Terminal:*

Take a jeepney or UV express bound to Taft, Buendia, Baclaran, or Manila City Hall. Get off at the Manila City Hall and find the underpass near the Kartilya ng Katipunan. Use the underpass to go to the Intramuros side. You may choose any of the following mode to get to PLM from here:

 (1) Ride a jeepney bound to Mabini and ask the driver to alight you at Round Table (it's only about 3-5 minute jeepney ride without traffic). From the PUJ Stop, you may walk towards the Intramuros Entrance Arch. You will be able to immediately see PLM to your left, once you enter Intramuros. Alternatively, (2) you may take a Tribike near the underpass going to Intramuros. Ask the driver to take you to PLM. Agree on the fare first as various drivers may charge differently from 30 to 70 pesos. PLM is located at General Luna cor. Muralla Sts., fronting the Department of Labor and Employment.

2c. If you are taking the LRT at any point:

Alight at Central Terminal. Walk towards the underpass and go all the way to the other side fronting Intramuros. Write a jeepney bound to Mabini and ask the driver to drop you off at Round table. Travel time is about 5 to 10 minutes only, depending on traffic. From the PUJ Stop at Round table, you may walk towards the Intramuros Entrance Arch. You will be able to immediately see PLM to your left once you enter Intramuros. That side of PLM is the Muralla Entrance.

3. *Private vehicle (LIMITED PARKING):*
   Use Waze or Google Maps and pin **Pamantasan ng Lungsod ng Maynila, Sta. Lucia Entrance.** It will take you directly to the back entrance of PLM, which gives you the option to park within campus. If no more slot is available, please refer to the map provided in a later section and look for available parking slots first. Recommended pay parking slots in the map are only 2 to 5 minute walk to PLM. Please note that Intramuros is filled with One-way streets so please be careful with how you navigate the streets.

G) Entrance and Exit in PLM:

Participants may enter the PLM campus via **Muralla Entrance for commuters** or via **Sta. Lucia Entrance for those who can park their vehicle** inside the campus. Ensure that you have been confirmed to attend by the organizers and that you have made prior arrangement and confirmation to bring your vehicle inside the campus.

Muralla St. Entrance is just about the corner once you enter Intramuros Arch via Round Table or General Luna St.

For Sta. Lucia Entrance, you have to turn right as you enter the Intramuros Arch if you're coming from Round table/Luneta Area. General Luna St. does not allow vehicles to enter as it is used by pedestrians only. On the first street, turn left via Cabildo St. In two blocks, turn left via Victoria Street. You may look for pay parking spaces first if you are uncertain if you can park within the campus. If you have made prior arrangements and have been confirmed, go straight to Sta. Lucia St. and just before Muralla corner, you will find the back gate of PLM for vehicles. It is marked as Sta. Lucia Entrance in the map.

H) Parking:
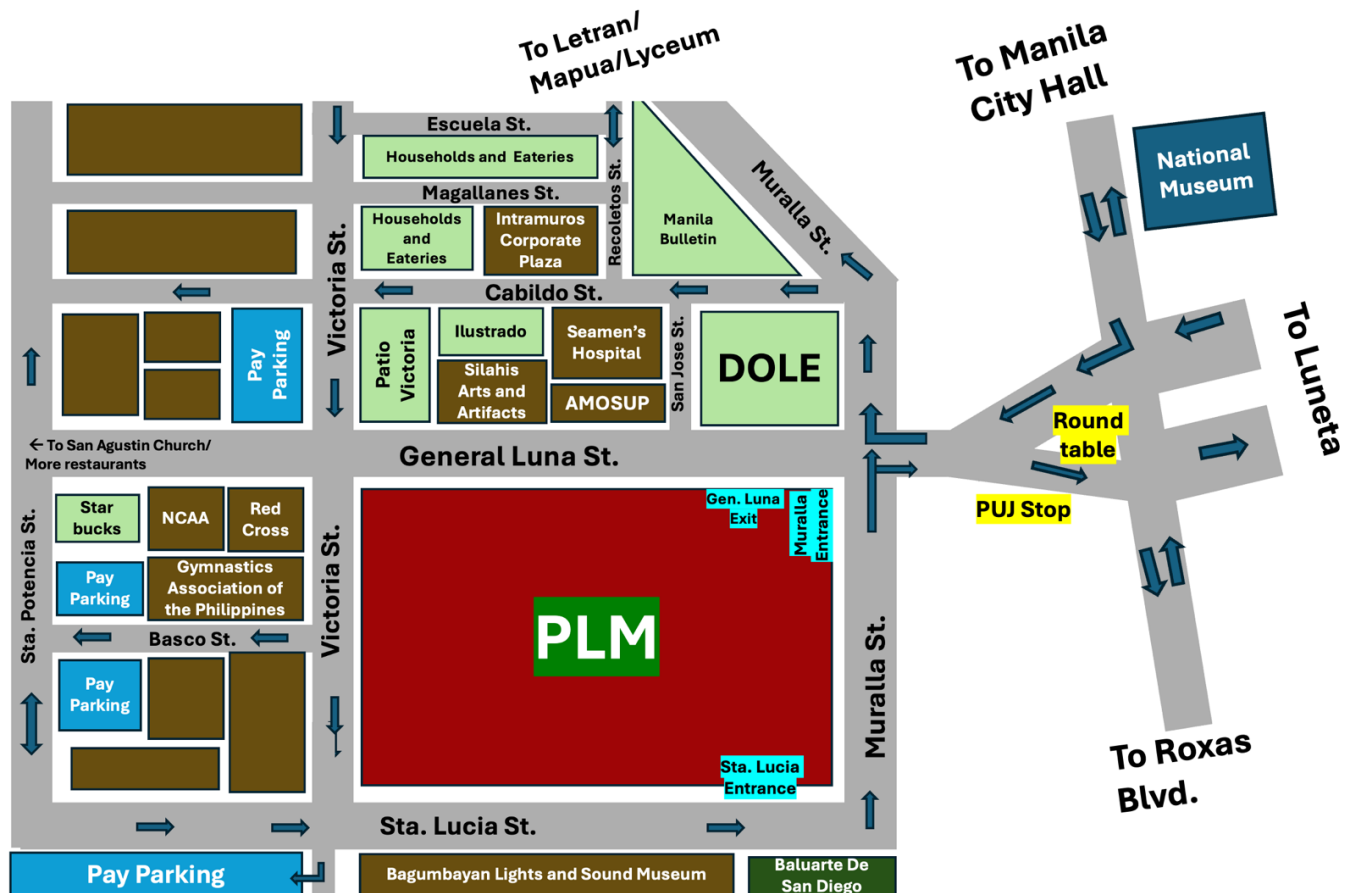
Limited parking is available within PLM campus. To request entry and park, you should coordinate weeks ahead to the Secretariat. Details about the vehicle, passenger/s, and driver will be obtained by the Secretariat. Please wait for confirmation if your vehicle can be granted entry to the campus during the conference.

Pay parking spaces are also available near the campus (see site map above; marked in light blue). Rates vary depending on the location and hours of stay. Recommended parking location is along Sta. Lucia St., which offers a relatively large parking space. It is located ~100 meter walk to Sta. Lucia Entrance of PLM.

Other nearby parking facilities are also located along Victoria St. and along Basco St. Limited parking space is available. They are about 100-200 meters away from Muralla Entrance of PLM.

MAP OF INTRAMUROS
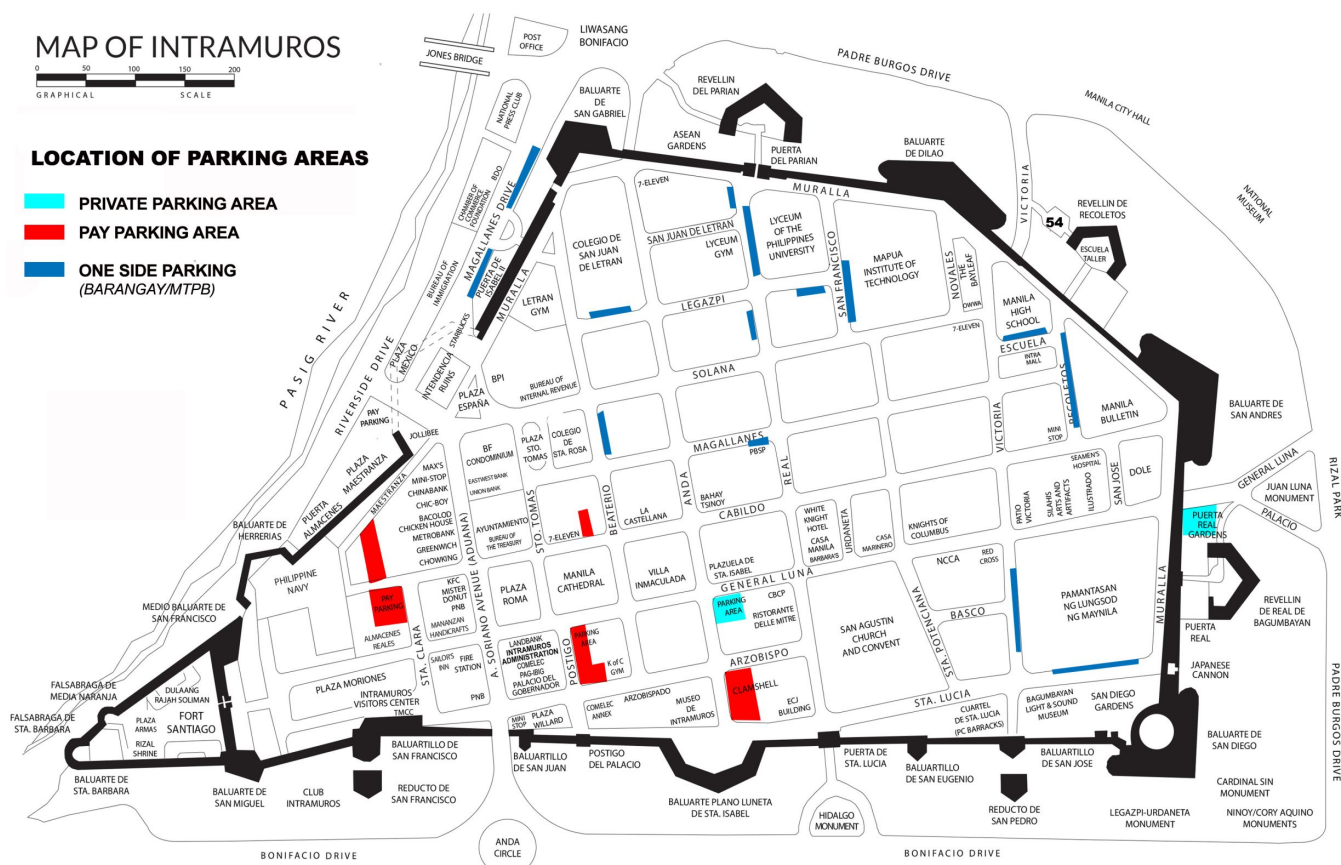
I) Where to Eat:

1. Morning and afternoon snacks are provided in the conference. This is given for FREE courtesy of our conference sponsors and partners. Food stubs will be given to claim the snacks, it will be inserted in your badges provided at the registration table.

2. Free-flowing coffee is also provided in selected stations during the conference. Bring your own mug or tumbler to avoid using single use cups as we advocate for sustainability.

3. Breakfast, lunch, and dinner are shouldered by the participants and attendees.

4. Participants and attendees have the option to purchase their food at the University Canteen (See Conference Map).

5. Participants and attendees may also opt to eat in nearby restaurants, cafés, or eateries. See map below for the location of some nearby establishments that have restaurants or eateries in their facility. They are drawn in light green in the map provided. They offer a wide range of food selection at various prices.
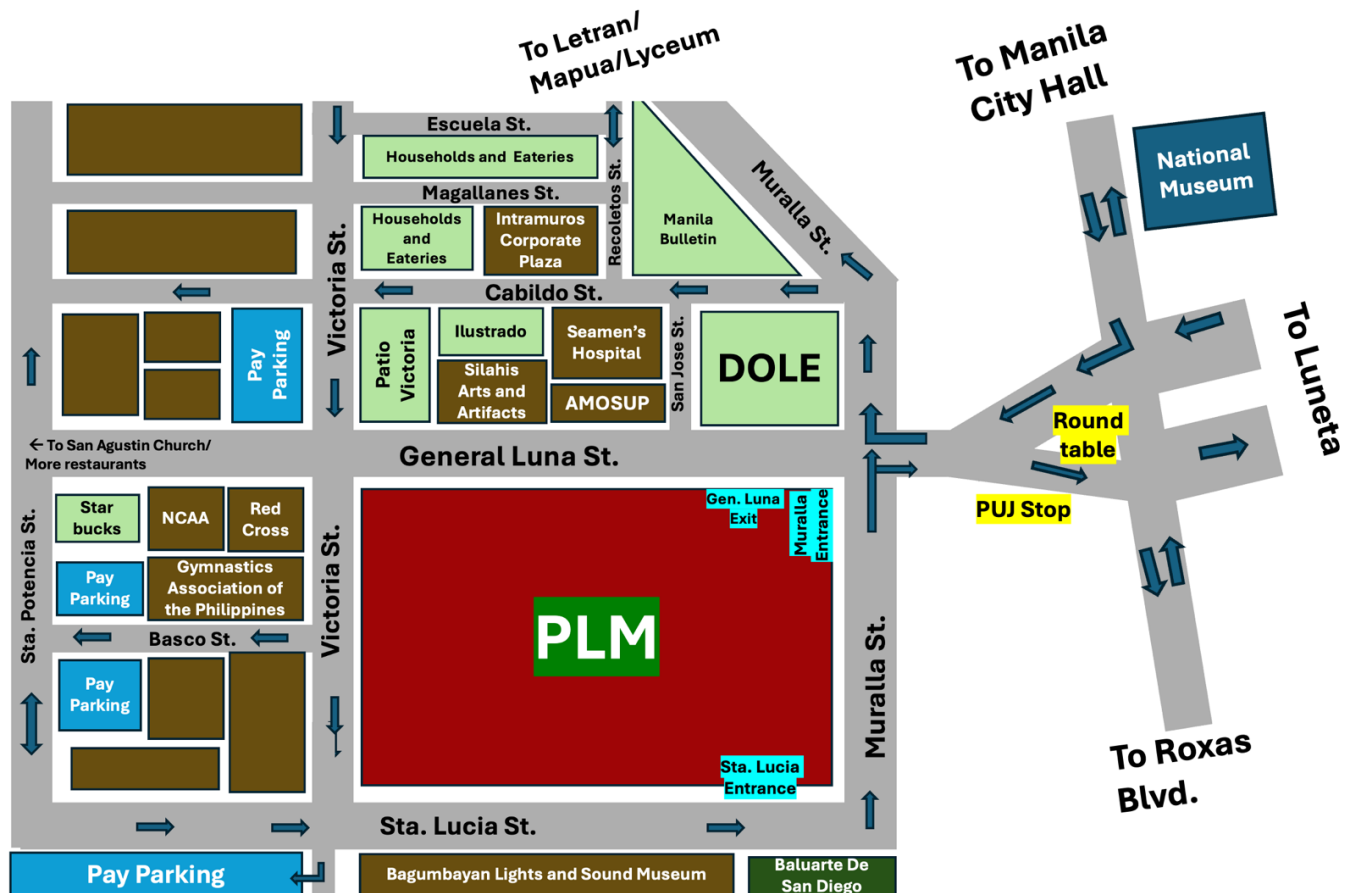
6) Other places where you can eat:

-Ristorante del Mitre opposite of San Agustin Church
-Barbara's Heritage Restaurant fronting San Agustin Church
 -Patio de Conchita Restaurant near The -Manila Cathedral

Within Intramuros- https://www.spot.ph/eatdrink/the-latest-eat-drink/111291/where-to-eat-in-intramuros-10-must-try-restaurants-in-intramuros-manila-a7989-20250319-lfrm

Near Intramuros- https://www.tripadvisor.com.ph/RestaurantsNear-g298573-d548076-Intramuros-Manila_Metro_Manila_Luzon.html

There are also a number of other restaurants located along General Luna St. near San Agustin Church. Fast food chains Jollibee, Chowking, Mang Inasal, Chickboy etc.) are also located along Kalaw Avenue in Luneta and Anda St. near Manila Cathedral if you want to roam around the area.
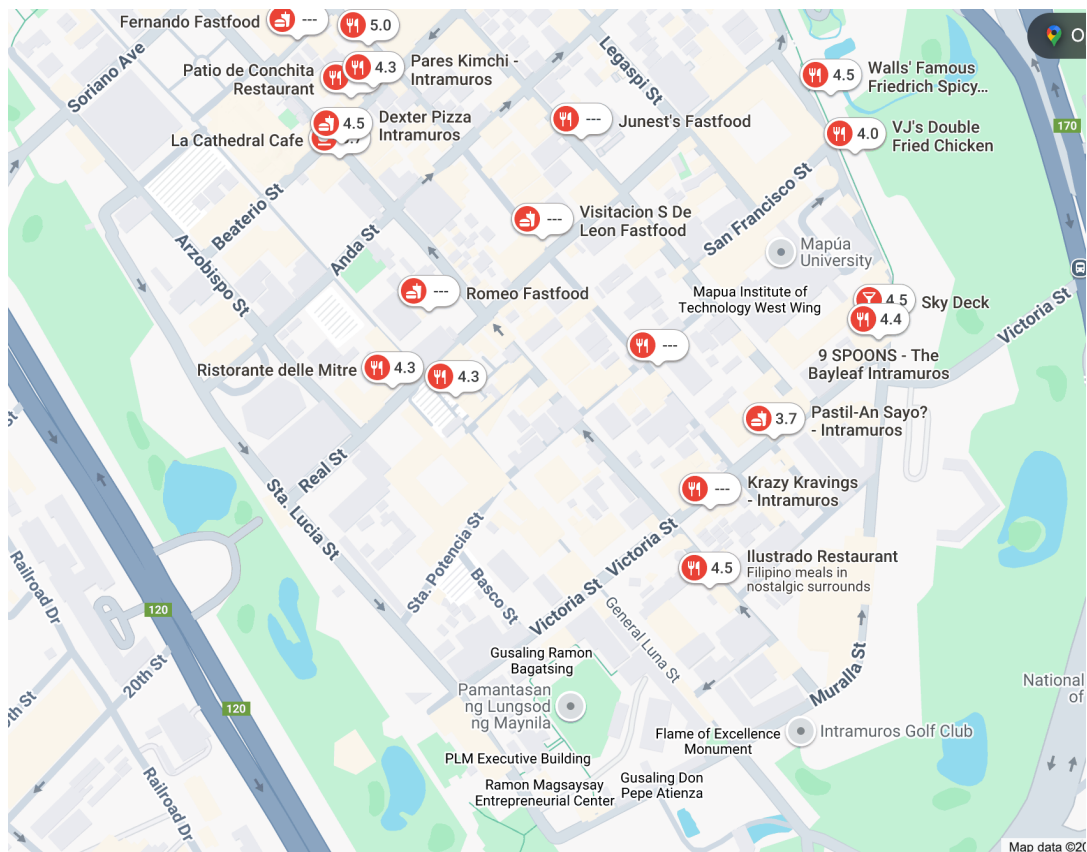
J) Where to stay:

Within Intramuros
The Bayleaf: https://www.thebayleaf.com.ph/intramuros/rooms/	**The White Knight Hotel Intramuros** https://whiteknighthotel-intramuros.com/

 Cinema Room by IN Café Via Agoda.com, booking.com, etc.	
Near Intramuros	
 Luneta Hotel: **https://luneta-hotel.getmanilahotels.com/en/**	 **Manila Hotel** **https://www.manila-hotel.com.ph/**
 Comfy Inn – Kalaw Via Agoda.com, Booking.com,	 **Casa Bocobo Hotel** https://casabocobo.com/

K) Places to visit:
Suggested places to visit:
https://intramuros.gov.ph/sites/
https://guidetothephilippines.ph/articles/ultimate-guides/intramuros-manila-travel-guide

Intramuros Main Map with places to visit:
https://onedrive.live.com/?redeem=aHR0cHM6Ly8xZHJ2Lm1zL3UvcyFBdW1OY041YTVsa2dudDV
jWlZpOTZOd0dFZmtOdHc%5FZT1kaGNhMFQ&cid=2059E65ADE708DE9&id=2059E65ADE708DE
9%21503640&parId=2059E65ADE708DE9%21503644&o=OneUp

L) Manila weather in September (Luzon, Philippines)
Source: Lifted from https://weather-and-climate.com/Manila-September-averages

Temperatures
The month of September in Manila typically includes very high temperatures and heavy rainfall. As the day progresses, monthly temperatures can peak at 32°C. At nightfall, they typically drop to 26°C.

Precipitation
Manila in September falls under the rainy season with heavy rainfall, averaging around 309 mm for the month. Climate statistics over the past 30 years suggest around 19 days of rain.

Average sunshine
You can expect a moderate amount of sunlight, with approximately 132 hours. Even though this month is part of the wet season, you can still see the sun occasionally.

Average windspeed
September sees wind speeds averaging 2 m/s. You'll typically experience pleasant light breezes that move leaves slightly and feel refreshing. As an average, expect variation from very calm days to periods with more apparent air movement.

Manila, monthly averages in September

Min Temperature	26°C		Humidity	82%
Max Temperature	32°C		Windspeed	2 m/s
Chance of Rain	62%		Sunshine	132 hours
Precipitation	309 mm		Percentage Sunshine	
Rainy days	19 days			

M) Pointers for the participants:

1. Have a copy of your confirmation to attend/participate. It will be presented when you enter PLM and sign the attendance sheet at the registration table.

2. For a sustainable event, we are minimizing the use of papers and cups that would generate unnecessary wastes. For the book of abstract and conference program, QR codes will be provided around the venue and during the program to access the electronic copies. We also encourage everyone to bring their own mugs or tumblers for the event.

3. The main venue for the conference is the **JUSTO ALBERT AUDITORIUM** located on the east wing of Gusaling Lacson. The registration table and secretariat are stationed near this venue for concerns.

4. Participants who are granted permission as online attendees have to register as well each day. They are required to attend all sessions. Separate instructions to join the plenary and parallel sessions will be given to online participants.

5. Registration table will be open as early as 6:30AM. Register early to avoid pooling the line at the registration table. Once registered, please enter the venue for plenary session.

6. For attendees, please settle down once you register. Please put your mobiles phones on silent mode to avoid disrupting the program and presentations.

7. Free morning and afternoon snacks will only be given to confirmed attendees and participants. NO FOOD STUB, No Free Snacks. Food stubs are given inside the Conference Badge provided.

8. For oral presenters, please ensure that the copy of your PowerPoint presentation is already submitted to the organizers on or before September 5, 2025.

9. For poster presenters, hoist your posters at the poster area on the designated time period announced separately. Although double-sided tapes will be available, it is highly encouraged to bring your own as well. A pdf copy of the poster shall also be submitted via a Google Drive (or One Drive) link to be given by the conference organizers days after receiving the notice of acceptance. Deadline of submission is also on September 5, 2025.

10. During parallel sessions, oral presenters are given 12 minutes to present and 3 minutes for Q/A. Time keepers are positioned in the room to remind the presenter of the remaining time. Each session chair assigned per cluster may cut the presentation to manage time allotment.

11. Be professional and courteous when asking questions and addressing questions to encourage intellectual and productive discourse. One of the goal of the conference is to enrich the research of the presenters, while disseminating research findings to the participants.

18-18 Sep 2025

Plenary Session

Triple Bottom Line Tourism: TIEZA's Sustainable Tourism Infrastructure in the Philippines

Mark Lapid [*][†] [1]

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Triple Bottom Line Tourism: TIEZA's Sustainable Tourism Infrastructure in the Philippines

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Advancing sustainability education in the Philippines: Pathways, Progress, and Possibilities

Leo Mendel Rosario *† 1

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Sustainability has long been at the forefront of strategic initiatives among both public and private institutions in the Philippines. However, the underlying concepts of the triple bottom line and sustainability transitions are not always fully understood and effectively operationalized by key actors. Sustainability education provides necessary theoretical concepts, competencies, and strategies for advancing sustainability action. Through formal education offered by degree-granting institutions, community-based studies and extension on human-ecological problems form part of student course requirements. On the other hand, informal education through micro-credentials and massive open online courses (MOOCs) provide sustainability awareness to the general public and serve as a bridge to formal education. Recent progress in sustainability education in the country involve cross-sectoral collaborations among the academe, government, industry and civil society. Sustainability education may emerge as a key platform in fostering informed and collective sustainability action in the country.

Keywords: Advancing sustainability education in the Philippines: Pathways, Progress, and Possibilities

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Special Session

From Risk to Confidence: Creating Policy-driven AI Environments for Researchers

Woei Fuh Wong [*][†] [1]

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As generative AI tools like ChatGPT rapidly integrate into academic workflows, universities face new challenges in upholding research integrity and guiding ethical use. This workshop explores how top U.S. universities are addressing these concerns through sandboxed AI environments-safe digital spaces where students and researchers can engage with AI under clearly defined institutional policies.

A key highlight will be the role of platforms like PowerNotes, which enable supervisors to provide structured AI usage guidelines aligned with university policies and publisher expectations. Rather than enforcing surveillance, these environments empower faculty to monitor red flags and coach students on best practices for citation, attribution, and responsible content generation. By integrating with library-subscribed resources and generative AI, this approach nurtures academic honesty and research quality without stifling innovation.

The session invites university leadership, including provosts, to participate in an open dialogue on creating a policy-backed, practice-ready framework for AI adoption in research. Observers from the wider academic community are welcome to attend and learn from real-world models. Join us to discover how education, not enforcement, can shape the future of ethical AI use in research.

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Science, Technology, Engineering, Architecture

Surfactant-modified natural zeolites for pharmaceutical waste adsorption

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Widely consumed because of its analgesic properties, acetylsalicylic acid and its metabolites are considered as emerging contaminants identified in several regional water sources. Although sophisticated removal techniques such as microbial-degradation and electrochemical-membrane approaches are explored, the search for simpler adsorbent technologies remains popular. In this study, surfactantmodified natural zeolites were developed, characterized, and investigated for its adsorption performance for acetylsalicylic acid. Surfactant-modification using Hexadecyltrimethylammonium-bromide (HDTMA-Br) and Dioctadecyldimethylammonium-bromide (DODA-Br) at 100 and 200 % of the External Cation Exchange Capacity were employed. Zeolite samples were characterized for their thermal, crystallographic, morphological, and physicochemical properties. EDX data, FTIR spectra, and Zeta Potential data confirmed surfactant modification on the surface of the zeolite. XRD showed that modifications did not alter the crystallinity of the zeolites after modification. Batch adsorption experiments were carried out to examine adsorption isotherms in aqueous solutions at pH $\approx$ 7.5. The linearity observed in Freundlich isotherm across all adsorbents suggests heterogenous surface adsorption sites of the base material. Bilayer-DODA modified zeolites showed significantly promising sorption capacity for acetylsalicylic acid among all adsorbents due to anion exchange, electrostatic interaction, and hydrophobic interaction. This suggests the role of the bilayer and longer carbon chains in influencing adsorbent's affinity towards acetylsalicylic acid.

Keywords: Surfactant, modified natural zeolites for pharmaceutical waste adsorption

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Analysis of the Physico-Biochemical Parameters of Aerobic Compost at the Day 14 Sampling Endpoint With and Without Sugarcane (Saccharum officinarum L.) Molasses (SOM) Using an Integrated Soil Sensor

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Adequate levels of acidity, humidity, nitrogen, phosphorus, and potassium are essential for optimal microbial activity, efficient decomposition, and the production of high-quality compost. This study aimed to analyze the physico-biochemical parameters of aerobic compost at a pre-defined sampling endpoint with and without sugarcane (Saccharum officinarum L.) molasses (SOM) using an integrated soil sensor across five (5) trials. The researchers focused on five (5) physico-biochemical parameters of aerobic compost, such as pH level, humidity, nitrogen, phosphorus, and potassium. The study relied on the use of quantitative experimental research design. The predefined sampling endpoint data collected were statistically treated with the use of nonparametric tests, specifically the Mann-Whitney U test. Results indicated no significant differences in acidity and humidity between the experimental and control groups (U = 3 and U = 12, respectively; $p > .05$). Furthermore, significant differences were observed in nitrogen, phosphorus, and potassium levels (U = 0 for all; $p < .05$), suggesting that the addition of SOM influenced nutrient mineralization during aerobic composting. Moreover, these findings support the potential of SOM as a natural additive to enhance compost quality without affecting pH or moisture conditions.

Keywords: sugarcane (Saccharum officinarum L.) molasses (SOM), aerobic compost, physico, biochemical parameters, Mann, Whitney U, test

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*Speaker

Antibacterial Activity of Eucheuma Denticulatum (Sea Moss) Extract Against Pneumonia Pathogenic Bacteria Staphylococcus aureus and Klebsiella pneumoniae

Jehann Thea * [1], Althea Pearl Gunio * † [1], Mary Louise Matos‡ [1],
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Background: Pneumonia remains a significant global health concern and a leading cause of morbidity and mortality. In the Philippines, *Klebsiella pneumoniae* and *Staphylococcus aureus* are major pathogens responsible for community-acquired pneumonia, with prevalence rates of 2.06% and 0.75%, respectively, highlighting the need for alternative natural therapeutic agents. This study investigates the antibacterial potential of *Eucheuma denticulatum* extracts, focusing on the presence of bioactive compounds such as phenolics and flavonoids derived from aqueous and crude polysaccharide extracts. *E. denticulatum* is a species of red algae known for producing carrageenan, which is widely used in various international industries. Despite its industrial applications, the antibacterial activity of *E. denticulatum* against pneumonia-causing bacteria remains underexplored.
Methods: Hot reflux distillation was used to obtain an aqueous extract of *E. denticulatum*. Ethanol precipitation of the aqueous extract yielded a crude polysaccharide extract. Both extracts underwent phytochemical screening, disc diffusion assay, and minimum inhibitory concentration (MIC) testing via broth serial dilution. The aqueous extract was analyzed for total phenolic and flavonoid content, while the polysaccharide extract was characterized using Fourier-transform infrared spectroscopy (FTIR).
Results: Phytochemical screening revealed the presence of alkaloids, saponins, phenols, flavonoids,

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carbohydrates, and tannins in the aqueous extract. It contained 3.42 ± 0.89 mg GAE/g of phenolics and 7.93 ± 3.06 mg QE/g of flavonoids. Aqueous extract revealed 67.98% inhibition against *S. aureus* at 25 mg/mL and 9.44% against *K. pneumoniae* at 100 mg/mL. The crude polysaccharide extract showed 100% inhibition of *S. aureus* at 100 mg/mL but no effect on *K. pneumoniae*

Prediction of Compressive Strength of Rice Husk Ash (RHA) Concrete Using Hybrid Neuro-Genetic Algorithm (ANN-GA)

Juliana Mae Bayhonan *[†] [1], James Paano * [‡] [1], Ashley Drykz Sultan * [§] [1],
Maria Sheiconne Aebrielle Tunay * [¶] [1]

[1] Pamantasan ng Lungsod ng Maynila (PLM) – Intramuros, Manila, Philippines

The increasing demand for sustainable construction materials has sparked interest in utilizing supplementary cementitious materials (SCMs) such as Rice Husk Ash (RHA) to improve concrete performance. However, testing methods are costly, expensive, and labor-intensive, making way for the adoption of predictive modeling as a viable alternative. To address this, the present study proposes the development of a predictive model for estimating the compressive strength of RHA concrete using a Hybrid Neuro-Genetic Algorithm (ANN-GA) approach. A comprehensive database of 1,192 datasets was utilized, encompassing seven key parameters: water, cement, RHA, fine aggregates, coarse aggregates, superplasticizer, and curing age. The preliminary assessment of the database illustrated both linear and monotonic interdependencies among parameter pairs. The ANN-GA model, configured with a single hidden layer of 36 neurons, achieved a high R-value of 0.98543, a low MSE of 15.9628, a MAPE of 8.36%, and only 0.92% of datapoints were unstable in the stability analysis, all of which validated the model's strong predictive accuracy across a diverse dataset. Furthermore, the ANN-GA model identified the relative importance of each input parameter, indicating that fine aggregates, coarse aggregates, superplasticizer, and cement were the most influential factors in predicting compressive strength. The findings confirm the capability of the ANN-GA model as a reliable and efficient alternative to traditional methods for predicting the compressive strength of RHA concrete, while also providing insights into optimal mix designs based on parameter relationships for enhanced performance.

Keywords: supplementary cementitious material, rice husk ash, predictive model, hybrid neuro, genetic algorithm, compressive strength

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Preformulation of a Self-repairing Hybrid Hydrogel Transdermal Patch infused with Green-synthesized Ag-ZnO bNPs using Saba banana (Musa acuminata x balbisiana) Peel Extracts

Alessandra Angela Gomez [*][†] [1], Jullia Clarisse Hernandez [*]

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Hydrogel-based transdermal patches can act as occlusive dressings that offer hydration of the skin's stratum corneum layer. This is recognized as one of the simplest methods in achieving desired therapeutic activity with greater bioavailability over traditional drug delivery systems. However, their main composition can come with limitations, such as proneness to physiologic degradation, low mechanical strength, and susceptibility to bacteria. Smart hydrogels that can self-repair from damage and the concept of metal nanoparticle-loaded hybrid hydrogels are emerging approaches in search of improving their stability and therapeutic efficacy. The study then aimed to preformulate a self-repairing hybrid hydrogel transdermal patch infused with green-synthesized silver zinc-oxide (Ag-ZnO) bimetallic nanoparticles (bNPs) using the phenolic compounds found in *Musa acuminata x balbisiana* peel extracts. Its thermal stability through Differential Scanning Calorimetry, self-repairing capability by visual examination, and antibacterial and antifungal activity against *S. aureus, P. aeruginosa, E. coli, S. epidermidis, and C. albicans* through a Kirby-Bauer disk diffusion assay were assessed. A starting concentration of 400 μg/mL of Ag-ZnO bNPs in the hydrogel was used as this exhibited antibacterial and antifungal activity against all strains in a prior conducted Rezasurin assay. Results indicated that the presence of Ag-ZnO bNPs in the hydrogel sustained a temperature range up to 1336∘C whereas a hydrogel alone for comparison only reached 96∘C. A cut-heal property was observed when the Ag-ZnO infused hydrogel and a plain hydrogel eventually merged at the center after contact. Marked antibacterial activity of the preformulation was exhibited against *S. aureus* (28.24 ± 2.54 mm) and *S. epidermidis* (26.07 ± 1.15 mm). The study's findings suggest that varying states of stable thermal behavior can be maintained in a hydrogel containing functional Ag-ZnO bNPs, its addition demonstrated no interference with self-repair, and its antimicrobial activity provides potential in advancing therapeutic dressings.

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Time-resolved spectroscopy of NOx reduction catalysts

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Understanding the mechanisms behind chemical transformations is key to developing improved catalytic systems. In this context, operando spectroscopy has contributed significantly to advancing our molecular view of many reactions at the heart of the chemical industry. Here we show the application of complementary spectroscopic techniques (Fig. 1a) to elucidate the mechanism of a reaction that has always occupied a central role in environmental research – the selective catalytic reduction (SCR) of NOx over vanadia-based catalysts. IR spectroscopy revealed that NH_3 could adsorb on Lewis and Brønsted-Lowry acid sites as NH_3 and $NH_4 +$, respectively. Upon NO addition, the SCR reaction started and adsorbed NH_3 molecules were consumed preferentially over $NH_4 +$ species (Fig. 1b), thereby suggesting that the Lewis sites are the active sites for SCR. The catalyst also reduced simultaneously as indicated by UV-Vis spectroscopy (Fig. 1c). Under reaction conditions, vanadyl species (VOx) adopt various states of coordination, as demonstrated by the width of the VOx peak in the time-resolved Raman spectra (Fig. 1d). However, only the coordinatively unsaturated species (i.e., Lewis sites) were found to be responsible for the SCR activity as their response to repeated NH_3 pulses caused their characteristic signal to appear in the phase-resolved spectra (Fig. 1e). The synergy between complementary operando techniques, demonstrated here in the particular case of SCR, opens up new possibilities in deciphering the structure-performance relationship of catalysts and other functional materials.

Keywords: Time, resolved spectroscopy of NOx reduction catalysts

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REM: A multi-device, multi-sided medication reminder system for middle-aged to older adults with hypertension - a formative study

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INTRODUCTION: Adherence to medication among middle-aged and older adults remains a key challenge in managing chronic illnesses such as hypertension. Although reminder apps have been developed to support medication compliance, usability issues often hinder their integration into patients' daily routines. To address this gap, this study aimed to explore the perceived usefulness, ease of use, behavioral intention, and recommendations for the development of the REM system among patients, physicians, and pharmacists, alongside IT experts' recommendations and feasibility insights.

METHODS: This qualitative study involved semi-structured interviews with patients (n = 20), physicians (n = 10), pharmacists (n = 10), and IT experts (n = 10). The interview guide was developed based on the Technology Acceptance Model (TAM), focusing on stakeholder perceptions, recommendations, and system feasibility. MAXQDA® was used for data coding and organization.

RESULTS: Stakeholders recognized the REM system's potential usefulness in supporting medication adherence, improving workflow efficiency, and enhancing prescription management. Simplicity of the interface, seamless digital synchronization, and ease of navigation contributed to perceived ease of use. Most participants expressed willingness to use and recommend the system, while some shared conditional acceptance, particularly about physician endorsement and insurance integration. Key recommendations included development of a chat feature, improved hardware portability, interface enhancements, offline functionality, and stronger data privacy and security. IT experts recommended using flexible tools, forming a skilled development team, and ensuring a balance between quality and affordability for broader adoption.

CONCLUSION: This formative study guides REM's user-centered design by identifying key perceptions and recommendations from stakeholders. The REM system was perceived as useful, easy to use, and potentially effective in improving medication adherence. Stakeholder insights emphasize the importance of system completeness, interface design, and robust security for suc-

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cessful implementation

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Smart Composting Machine

Jerome Jocosol * [1,2], Mariezol Ballesteros [2]

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Composting plays an essential role in sustainable agriculture, although traditional composting practices often result in a long decomposition process with inappropriate ratios of input organic materials. This study addresses these limitations by developing a Smart Composting Machine intended to automate key composting processes for small-scale farmers in General Mariano Alvarez, Cavite. It aims to improve efficiency and maintain optimal conditions for compost production. The system uses an Arduino microcontroller to control the integrated shredder, paddle mixer, AC motors, sensors for temperature, moisture, pH, and nutrients and a touchscreen display for monitoring, LED status indicators, and an emergency stop for safety. Fabrication involves assembling an 800W shredder motor and a 2HP mixer motor within a compact frame, with a 5mm safety-designed opening and a heating element attached to the mixing tub. The machine can handle up to 5kg of organic material per cycle and can maintain moisture between 30% and 60%. Performance trials indicated an average full-load current of 2.51A and produced shredded materials averaging 3.65mm in size. The compost met acceptable quality levels: 32.3% moisture, pH6.81, nitrogen 0.204%, phosphorus 0.122%, and potassium 1.289%. Daily monitoring over 14 days showed stable temperature and pH, with sensor readings validated against analog tools. Using the Technological University of the Philippines standard evaluation instrument, the prototype achieved an overall mean rating of 4.68, categorized as "Excellent", the study concludes that this low-cost automated system can reduce manual intervention and improve composting efficiency. It can be recommended for wider use among rural communities to promote sustainable agriculture.

Keywords: smart composting machine, automation, organic waste, sustainable agriculture, sensor monitoring

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*Speaker

Synthesis of a biochar-based catalyst for biodiesel production

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The growing demand for green and sustainable fuels has intensified research into efficient catalytic processes for biodiesel production, based on the valorization of agro-industrial waste. This work focuses on the synthesis, characterization, and application of a biochar based heterogeneous catalyst doped with tin chloride (SnCl2) for the transesterification of used cooking oil into biodiesel. A catalyst based on biochar from de-oiled cashew nut shells was prepared in several steps. The waste biomass was carbonized for 4 hours. The biochar was first impregnated via wet impregnation with sulfuric acid, followed by an impregnation with a solution of SnCl·2HO. The catalyst was then subjected to heat treatment at 300∘C. Characterization techniques, including X-ray diffraction (XRD), specific surface area analysis using the Brunauer-Emmett-Teller (BET) method, scanning electron microscopy (SEM), and Fourier transform infrared spectroscopy (FTIR), confirmed the successful incorporation of Sn species with a specific surface area of 221 m^2/g.Catalytic activity was evaluated in the transesterification of used cooking oil using ethanol. The reactions were carried out at 65∘C for 4 hours with an ethanol/oil molar ratio of 11:1 and a catalyst loading of 5% by weight. The conversion of biodiesel is 95.5%. Catalyst reusability tests showed a minimal decrease in activity over five consecutive cycles with a yield of 81.5%.This study demonstrates that SnCl-doped biochar-based catalysts can be effective and recyclable alternatives to conventional homogeneous systems, taking into account the circular economy.

Keywords: Acid catalyst, Biodiesel, Waste, Biochar

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CARICA PAPAYA SEEDS AS A POTENTIAL BIO-COAGULANT FOR IRON (FE) AND MANGANESE (MN) REMOVAL IN GROUNDWATER

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This study evaluated the potential of *Carica papaya* seed powder as a natural coagulant for the treatment of groundwater contaminated with iron (Fe) and manganese (Mn). The research focused on the effectiveness of varying dosages-200 mg, 400 mg, 600 mg, and 800 mg per 1000 mL-through jar testing and laboratory analysis of treated samples. Results showed that the 200 mg dosage yielded the most effective removal, reducing Fe to 0.434 mg/L and Mn to 0.49 mg/L. Statistical analysis using the T-test confirmed that the reductions were significant ($p < 0.05$). The study findings aligned with previous research that identified papaya seeds as a viable natural coagulant, with effectiveness comparable to other natural coagulant (chitosan) alternative and other chemical coagulants (aluminum sulfate). Further research is recommended to explore the effects of pH, treatment at larger volumes, and the potential application to other types of water contamination.

Keywords: Carica papaya seed, bio, coagulant, groundwater treatment, iron removal, manganese removal

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GREATMINDS: A machine learning–driven approach to forecasting in construction project management

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In response to common challenges faced by engineering and structural construction companies, such as poor communication, unorganized workflows, lack of real-time coordination, and frequent project delays. These companies often struggle with manual processes and inconsistent information flow that further contribute to inefficiencies and project setbacks. To address workflow problems, this study introduces GreatMinds, a web-based construction project management system integrated with the Gradient Boosting Model (LightGBM) for forecasting. GreatMinds has a machine learning technique analyzes historical project data to predict completion timelines, monitor resource usage, and identify potential risks, enabling teams to make more informed decisions. Developed using the Agile methodology, GreatMinds was improved through sprint-based development cycles that allowed continuous stakeholder feedback, regular evaluations, and iterative enhancements tailored to the evolving operational needs of construction environments. The system includes features such as real-time task tracking, centralized document management, and role-based access to improve coordination among all involved teams. The research also presents the system's architecture, technical requirements, and evaluation process to ensure its functionality and performance. To assess system effectiveness, a user evaluation survey employing a 4-point Likert scale measured five key categories: Usability, Functionality, Ease of Learning, Forecasting Capabilities, and System Performance. GreatMinds received high satisfaction ratings in all categories: Usability (3.93), Functionality (3.75), Ease of Learning (3.88), Forecasting Capabilities (3.77), and System Performance (3.81). Additionally, the system was developed in compliance with ISO 9001:2015 Quality Management Systems, emphasizing quality control, proper documentation, and continuous improvement. This alignment further supports the system's role in helping construction companies meet international standards for operational efficiency and project excellence. By combining intelligent forecasting with practical project management tools, GreatMinds offers a reliable and quality-driven solution that significantly improves the management of construction projects.

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AniLytics: A Solar-Powered IoT and AI-Driven Aquaponics System for Sustainable Agriculture

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This study introduced AniLytics, a solar-powered, AI- and IoT-enhanced aquaponics system designed to address urban food insecurity and sustainability challenges in Metro Manila. Motivated by rising food demand, limited agricultural space, and the inefficiency of traditional farming methods, the research explored how a closed-loop system integrating fish and plant cultivation could optimize urban food production. Employing a mixed-methods approach, the study assessed both the technical performance and social acceptance of the system, using experimental data (e.g., water quality, growth rates of tilapia and lettuce) and survey feedback from urban residents. Results showed that AniLytics significantly outperformed traditional setups-tilapia grew 20.5 mm over 22 days with high survival rates, while lettuce expanded from 2.2 to 5.9 inches-highlighting the system's effectiveness in maintaining optimal growth conditions. The accompanying real-time monitoring web app, built with Next.JS and AWS, received over 90% user satisfaction, affirming the system's usability and scalability. The project aligns with multiple Sustainable Development Goals (SDGs), including Zero Hunger, Clean Water and Sanitation, and Responsible Consumption and Production. To further improve its impact, researchers recommend crop diversification, use of durable materials for outdoor resilience, and the integration of computer vision to automate plant and fish health monitoring. Overall, AniLytics offers a practical, scalable model for modern, sustainable urban agriculture.

Keywords: AniLytics, Aquaponics, Urban Agriculture, IoT, AI, Sustainable Farming, Solar, powered System, Food Security

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SpicePick: An LCD-Guided, Arduino-Controlled Rack for Automated Ingredient Selection for Filipino Dishes

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In many modern Filipino kitchens and small-scale food businesses, preparing traditional dishes often involves handling multiple spices, a task that can be time-consuming, error-prone, and wasteful. Despite the availability of affordable automation tools like Arduino, their use in everyday culinary processes-especially spice management-remains limited. This study introduces *SpicePick*, an LCD-guided, Arduino-controlled automated spice rack designed to streamline the preparation of Filipino meals by accurately identifying and dispensing pre-measured spice blends based on user-selected recipes.

SpicePick features a keypad-LCD interface for recipe input, an Arduino microcontroller to interpret selections, and a Finite State Machine (FSM)-based algorithm that activates servo motors to release spices from designated compartments. A load cell ensures accurate quantity output, enhancing consistency and reducing waste. The system adheres to ISO 22000:2018 food safety and ISO/IEC 25010:2023 software quality standards, focusing on functionality, usability, and reliability.

Beyond efficiency and hygiene, *SpicePick* contributes to sustainability in the kitchen by minimizing spice overuse, reducing single-use packaging through bulk storage, and promoting accurate portioning to limit food waste. Its modular and low-energy design encourages long-term use, while the use of readily available electronic components supports repairability and local sourcing.

Prototype testing confirmed that SpicePick reliably automated spice selection and measurement, enhancing accuracy and reducing the manual workload. By modernizing traditional cooking practices through food-safe mechanical automation and robust embedded control, *SpicePick* offers a practical, scalable, and eco-conscious solution for both home cooks and culinary professionals. It supports sustainable kitchen practices while preserving the rich flavors of Filipino cuisine.

Keywords: Automated Spice Dispenser, Arduino, Based System, Filipino Cuisine Technology, Finite State Machine, Sustainable Kitchen Spices

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Husay: Promoting learning engagement among PLM CED-MILC pupils through a gamified RFID-based learning device

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Education is widely recognized as a fundamental driver of economic progress, as emphasized by the World Economic Forum. In the Philippines, addressing foundational learning challenges-specifically low learning engagement, which is most common among children aged 3 to 6-is critical for improving educational outcomes. This study, entitled "*HUSAY: Promoting Learning Engagement Among PLM CED-MILC Pupils Through a Gamified RFID-Based Learning Device*" investigates the impact of an integrated hardware-software learning device on student engagement. Unlike previous digital-only interventions, Husay combines RFID-enabled flashcards with a mobile game application to teach basic concepts-shapes, colors, and numbers-while keeping students engaged. The application follows play-based learning principles from the DEPED MATATAG curriculum and features child-friendly visuals and audio. To support healthy screen habits, daily usage is limited to one hour, in line with the Department of Education Memorandum DM-CI-2020-00162, which sets age-appropriate screen time guidelines for young learners during distance learning. It adapts lesson difficulty based on student performance, with progress tracked using a machine learning model based on Multi-Computerized Item Response Theory (MCIRT), allowing for real-time, personalized learning. The study utilized a fully adopted research instrument, divided into two parts: the first tracked the pupils' total screen time per week, while the second evaluated behavioral indicators of their learning engagement. Data were analyzed using a two-way mixed ANOVA, which confirmed that students exceeded the prescribed screen time limit, averaging 10.27 hours per week (SD = 11.38). Despite this, engagement levels improved significantly. The treatment group recorded a notably higher mean score of 1.50, compared to 0.64 in the control group, indicating a marked increase in active participation. These findings indicate that the Husay educational device can significantly improve learning engagement while also helping mitigate the negative effects of excessive screen time among young learners.

Keywords: Education, educational device, learning engagement, learning modality, screen time

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Business, Government, Law

From Data to Discovery: Rethinking Business Research in the Age of AI

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From Data to Discovery: Rethinking Business Research in the Age of AI

Keywords: From Data to Discovery: Rethinking Business Research in the Age of AI

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The Role of Handshake Loans in Shaping Financial Management Practices: Opportunities and Challenges for Sari-Sari Store Owners

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Using a phenomenological research design and semi-structured interviews, the study captured the lived experiences of sari-sari store owners who utilize handshake loans to manage business operations, particularly inventory restocking, cost control, and cash flow monitoring. The findings highlighted that flexible repayment schemes, such as daily or capability-based payments, reduce financial pressure and encourage responsible borrowing. Store owners often develop creative and low-cost financial tracking methods, such as using jars, calendars, and manual tracking, to monitor debts, savings, and store expenses. These practices promote financial discipline and reduce reliance on personal funds. However, the study also revealed financial vulnerabilities, including the risk of under-stocking due to loan repayments, reliance on memory-based budgeting, and recurring borrowing cycles. Despite these challenges, participants reported that the accessibility of handshake loans enables them to maintain operations, support household needs, and occasionally diversify their income. The study concluded that while handshake loans provide immediate relief and strengthen financial inclusion, long-term sustainability relies on disciplined financial behavior and effective budgeting. The findings also highlighted the importance of teaching basic financial skills like budgeting, saving, and loan management to help store owners use borrowed money more wisely and avoid falling into repeated debt. Overall, this research helped people better understand how informal lending works in everyday Filipino communities and how it can be improved to make micro businesses more stable, successful, and financially secure in the long run.

Keywords: Handshake Loan, Sari, sari Store Owners, Financial Management Practices, Opportunities to Sari, sari Store Owners, Challenges to Sari, sari Store Owners

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Toward a healthier bureaucracy: occupational stress assessment as basis for a strategic intervention program in the Bureau of Customs

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I In government organizations, especially those entrusted with high-stakes, revenue-generating duties like the Bureau of Customs (BOC), occupational stress is still a persistent but often ignired issue. The BOC Central Office staff members' occupational stress are evaluated in this study, and the results are used to guide the creation of a strategic intervention program. The study used the Health and Safety Executive Management Standards Indicator Tool (HSE-MSIT) to survey 650 employees from seven operational units as part of a descriptive quantitative research design. Job demands, control, peer and managerial support, role clarity, workplace relationships, and organizational change are the six key areas of workplace stress that are assessed by this tool. Results of the survey revealed relatively high levels of role clarity (M = 4.41) and peer support (M = 4.22), while workplace relationships emerged as the most problematic domain (M = 2.90), reflecting interpersonal tension and potential dysfunction within teams. While there were no significant differences in four of the six domains across employment status, statistical analysis showed significant differences in stress levels across assignment units. These results highlight the significance of putting in place focused, research-based interventions aimed at enhancing employee support networks, fostering organizational wellness, and improving interpersonal dynamic. Addressing these internal challenges can contribute to building a healthier, more resilient bureaucracy that is better equipped to meet the complex demands of public service delivery.

Keywords: bureaucracy, occupational stress, organizational support, workplace relationship

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*Speaker

An empirical study of Airbnb and hotels Selections of the members of an Educational Institution: A basis for Strategic Marketing Insights

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Scouting for a worthy accommodation is one of the most crucial steps for travelers when planning their getaways. Historically, hotels have been the primary lodging choice for travelers, but the rise of other platforms like Airbnb since its establishment in 2008 has significantly impacted the global accommodation market (Oskam & Boswijk, 2016). The study's rationale is to examine the preferences of the Letran Bataan community regarding their choice between Airbnb and hotels, focusing on key factors such as location, price, and facilities. Moreover, it aims to assess the level of satisfaction of respondents based on their demographic profile. By correlating these variables, this study seeks to gain a deeper understanding of what drives accommodation decisions within employees of Letran Bataan, as the main respondents of this study and the only ones limited to them. For the theoretical framework, it is supported by theories such as Maslow's Hierarchy of Needs which highlights the significance of physiological and safety needs in travel decisions (Cooper et al., 2008), Travel Behavior – A Synthesized Theory which focuses on the relationship between an individual's travel behavior and the location of activities and entertainment points around an accommodation (Fried M., et al, 1977) and Plog's Allocentric Psychocentric Model which explains that personality traits influence travelers' choices (Plog, 1977). In conclusion, this study finds generally positive satisfaction levels for both Airbnb and hotels, with Airbnb receiving slightly higher scores, likely due to its personalized and immersive experiences. However, demographic factors such as age, income, or frequency of use showed no correlation at all to the respondents' satisfaction level, suggesting that personal preferences and past experiences are more influential. Based on these findings, the study proposes recommendations for Airbnb and hotel owners to enhance customer satisfaction through flexible, personalized packages, improved customer service, and targeted marketing strategies.

Keywords: Airbnb accommodations, Hotel, Satisfaction, Travel, Letran Bataan

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Transdisciplinarity in the Age of AI

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The accelerating deployment of artificial intelligence is reshaping not only markets and governance systems but also the way we do research itself. Addressing complex global challenges, including climate change, biodiversity loss, food security, and social justice, demands a transdisciplinary approach that moves beyond disciplinary silos and bridges science, law, economics, and technology. Drawing from my work at the intersection of international law, environmental economics, and AI governance, this talk explores how AI tools can enable new forms of collaboration while also reproducing old inequities if left unchecked. I will discuss case studies ranging from biodiversity monitoring and agricultural innovation to intellectual property strategies for startups in the Global South. By highlighting both opportunities and risks, I argue for a deliberate rethinking of transdisciplinarity: one that harnesses AI to co-produce knowledge across academic, policy, and community domains, while foregrounding inclusivity, ethics, and justice. The aim is to chart pathways where AI becomes not a substitute for human expertise but a catalyst for dialogue, creativity, and collective problem-solving.

Keywords: Transdisciplinarity in the Age of AI

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Development of an automated faculty selection board matrix evaluation and ranking system using decision tree algorithm for the Technological University of the Philippines - Manila

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The development of an Automated Faculty Selection Board Matrix Evaluation and Ranking System (AFSB-MERS) Using Decision Tree Algorithm tailored for the Technological University of the Philippines - Manila. The system integrates a variety of metrics or evaluation criteria that are grouped into four Key Results Areas (KRAs), namely: 1) instruction; 2) research, invention, and creative work; 3) extension; and 4) professional development categories are systematically incorporated into the model. The system effectively handles complex decision criteria by leveraging the decision tree algorithm and generates a clear, hierarchical selection matrix for potential faculty members. The Decision Tree Algorithm classifies and ranks applicants by assigning a score-based on weighted criteria, ensuring a fair and consistent evaluation process. The automated system helps to minimize human error, reduce processing time, and enable TUP Manila to make data-informed decisions in faculty recruitment. Test results showed that the application software can provides role-based access such as faculty members, administrator or college evaluators, and university validators for tailored access using multi-factor authentication for secure access, utilizes dynamic evaluation criteria with weighted scoring and decision tree logic for automated and adaptive ranking, and generates detailed reports with data visualization and audit logs for transparency while supporting panel feedback, notifications, and collaborative review. The thirty respondents were composed of ten (10) Faculty Members, five (5) Administrators or Human Resource Management Services staff from the Technological University of the Philippines – Manila, five (5) staff from the Commission on Higher Education, and ten (10) Information Technology professionals evaluated the system. The 4-Point Likert Scale with a descriptive interpretation of the Mean is used to evaluate the system evaluation response and was rated with a grand weighted mean of 3.72, indicating that the system is Highly Acceptable to the evaluators using the ISO 25010 tool.

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iBCRIS: Development of an Integrated Barangay Civil Registration and Information System optimizing Data Analytics for Smarter e-Governance of the City of Tayabas

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E-government is crucial for the modernization of any LGU. In Tayabas' Local Government Unit, the City Civil Registry Office collaborated with the 66 barangays to establish a localized Barangay Civil Registration System. The system aims to create a functional database of vital statistics, demographic characteristics, sectoral gender statistics, and civil registration statistics to provide insightful data for better decision-making. However, the barangays and LGU offices, particularly the CCRO, were unable to maximize the benefits of analytics in extracting meaningful insights from the collected data. To address this, the project aimed to develop an integrated Barangay Civil Registration and Information System (BCRIS) that can effectively manage residents' data from barangays and optimize data analytics to generate insightful reports. These reports can be used by LGU offices and the 66 barangays to make informed decisions, leading to smarter e-governance. Following the Agile methodology, the system was developed using the Laravel framework and vue.js for the back-end and front-end functionalities, respectively. MySQL was used for the database. Overall, the respondents gave a positive evaluation of iBCRIS, indicating their satisfaction with its performance.

Keywords: Barangay civil registration, information system, data analytics, e, governance

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Truckserbisyo: Business Performance Forecasting for EPM Trucking Services

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This study developed a web-based system with machine learning forecasting to address the inefficiencies in terms of operation of EPM Trucking services which is a Batangas-based logistics company. Previously, the company heavily relied on manual processes and fragmented data management resulting in inaccuracies in financial records, delays in deliveries, and costly truck maintenance and operations.

The system development is well guided by Agile Methodology wherein it follows the seven phases including definition requirements, UI design, development quality assurance, user acceptance testing, client feedback, and system release. To support the development of the system, data gatherings such as interviews with the owners were conducted followed by a thorough data cleaning and data restructuring to ensure consistency and reliability. The system featured role-based access such as Super Admin, Admin, and Employee with defined access rights.

Machine learning models were implemented for forecasting the financial trends, optimizing truck routes, and forecast truck maintenance, helping EPM Trucking Services make better decisions and improved efficiency in their operations. Random Forest Regressor accurately predicted the financial trends based on factors such toll fees, tonnage, fuel prices, and date-related variables achieving a low Mean Absolute Error and high R2 values. Logistic Regression was also used to predict truck maintenance getting an accurate score of 96.83%. Additionally, a route feature using GenAI suggested efficient delivery routes, reducing operational cost and delivery times.

An ISO/IEC 25010:2011 was used as a framework to test the functionality, reliability, usability, efficiency, and security of the developed system and it has achieved a 100% success rate. Based on these findings, it is evident that the system significantly improved the operation, cost management, and efficiency of EPM Trucking Services. Recommendations were also provided such as management of inventory modules and an improved forecasting model integrating external economic factors.

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Artificial Intelligence and Employee Well-being: Ally or Enemy?

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This present article examines whether artificial intelligence (AI) serves as an ally or an enemy to employee well-being. Drawing on existing scientific studies, this literature review explores the dual impact of AI technologies on workers well-being, highlighting both its potential benefits-increasing self-efficacy, job satisfaction, creativity-and its challenges, including job insecurity, mental problems, and social isolation. The study underscores that AI is a double-edged sword for workforce well-being. Its effectiveness depends largely on how it is implemented and managed within the organization. Ultimately, the present article advocates for a balanced and a human-centered approach that prioritizes workers' psychological safety and wellness to harness AI's benefits while minimizing its risks.

Keywords: Artificial intelligence, Well, being, Benefits, Risks, Workplace

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Promoting Urban Based Renewable Energy: Policy Orientation and Political Environment

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Urbanization in the Philippines has increased dramatically since the closing decade of the 20th century. According to the 2020 Philippine Statistics Authority report, the country's population has become predominantly urban, with 58.93 million Filipinos living in cities. Urban Filipinos now comprise 54% of the total population. However, the move to cities and urban centers means Filipinos are now consuming more energy, specifically electricity, to make life work in the urban jungle. As the cities grow, the Philippines will require more electricity in the foreseeable future. In this situation, the nation needs to invest in new energy sources; however, with the threat of climate change and geopolitical issues surrounding carbon-based fuels like oil and coal, alternative sources, like renewable energy (RE) systems, are now increasingly desirable but traditional RE, like geothermal energy and hydroelectricity, requires massive investments and may result in the dislocation of communities. Fortunately, other RE systems are now steadily becoming an option for the government and the people; these are urban generating systems like city-based solar fields and biomass plants. These systems allow greater flexibility for energy production, expanding participation in power generation and consumption to more actors besides traditional generation companies. Decentralizing power generation also allows urban areas to become active power producers that democratize the electricity sector. However, this sector still has limitations due to the weak policy orientation and the government's lukewarm promotion. This research will focus on this issue by using information obtained from two main cases of urban-based power generation, namely the Payatas Methane Plant in Quezon City and the Solar Fields in Valenzuela City. The data from this research will provide the possible prospects of policies that will further the adoption of city-based systems to provide flexibility among urban Filipinos to secure their energy needs.

Keywords: urban generating system, city, based solar fields, biomass energy, decentralizing power generation, energy democratization

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*Speaker

The Role of Social Audit in Enhancing the Social Performance of Moroccan Local Authorities

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Social auditing serves as a strategic lever for enhancing the social performance of local authorities, a key issue for sustainable development and good local governance. It contributes to strengthening transparency, improving accountability, and promoting better management of human resources and public services. In Morocco, however, the adoption of social auditing remains limited and faces several structural and organizational obstacles.

This paper, based on a review of existing literature, explores the role of social audit as a mechanism for improving the social performance of Moroccan local authorities. It examines how social audit practices can contribute to the evaluation and improvement of social policies, working conditions, employee well-being, and stakeholder relations within local administrations. It also identifies the main barriers to its implementation, such as the lack of regulatory frameworks, insufficient institutional awareness, and weak integration into governance and performance systems.

Findings from the literature indicate that, when effectively applied, social auditing can play a key role in detecting dysfunctions, preventing social risks, and supporting inclusive and ethical decision-making. It enables local governments to align their actions with the principles of social responsibility, while reinforcing trust with citizens and internal stakeholders.

The paper concludes that to fully leverage the benefits of social auditing, Moroccan local authorities should invest in their institutionalization by developing clear methodological guidelines, building internal capacities, and embedding audit practices within broader performance management frameworks.

Keywords: Social auditing, social performance, local authorities.

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Influence that Sells: How do the characteristics of fashion influencers on Instagram (expertise, authenticity, and homophily) shape their perceived credibility, and in turn, how does this credibility influence Filipino Gen Z consumers' product attitude, brand loyalty, and purchase intention?

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Social media influencers today hold growing power in shaping how consumers think, shop, and engage with brands. More than just trendsetters, influencers help guide their followers toward smarter and more thoughtful buying decisions. This study explores how the credibility of Instagram fashion influencers shapes Filipino Gen Z consumers' product attitude, brand loyalty, and purchase intention. Grounded in Source Credibility Theory and Social Exchange Theory, it examines how influencer characteristics, like expertise, authenticity, and homophily, affect perceived credibility, which in turn influences key marketing outcomes: product attitude, brand loyalty, and purchase intention. The study used a quantitative and cross-sectional design through an online survey administered via Google Forms. A total of 400 responses from respondents who actively follow at least one fashion influencer on Instagram were collected. The main findings show that fashion influencers are seen as more credible by Filipino Gen Z when they appear authentic, with relatability and expertise playing smaller supporting roles. This credibility significantly shapes how they feel about a brand and how loyal they are to it. While credibility also increases the intention to purchase, simply liking a product doesn't necessarily lead to buying it. These results highlight that authenticity-driven trust is more effective than knowledge alone in cultivating brand loyalty, which supports more thoughtful and consistent consumer behavior, rather than impulse-driven and wasteful purchasing habits among Gen Z.

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Bridging Generational Gaps in Chinoy Family Businesses: A Qualitative Study of Work Ethics, Communication, and Intergenerational Theory Development

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This study explores the intergenerational dynamics between Filipino Chinese (Chinoy) business owners and their Gen Z employees in small and medium-sized enterprises located in the National Capital Region of the Philippines. Using qualitative interviews, we examined how both groups perceive each other's work ethics, communication styles, and professional expectations. The findings reveal tensions and adjustments shaped by differences in cultural values, leadership preferences, and generational motivations. Drawing on Social Identity Theory and Hofstede's cultural dimensions, the study shows how identity boundaries and cultural values are actively negotiated within organizational settings. Our analysis highlights the formation of microcultures within ethnic communities, where younger generations operate under evolving value systems distinct from their older counterparts. The study offers theoretical insights into the fluid nature of cultural identity and provides practical implications for cross-generational leadership, conflict resolution, and inclusive workplace practices. Limitations are acknowledged, and recommendations for future research are suggested to deepen understanding of generational dynamics in multicultural organizational contexts.

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Health Sciences

The state of mental health publications in the Philippines from 1996 to 2022 and its comparison with the ASEAN Region

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This study evaluates psychiatry and mental health publications in the Association of Southeast Asian Nations (ASEAN) region, specifically focusing on the Philippines from 1996 to 2023. Academic publication varies among ASEAN states, with Singapore, Malaysia, and Thailand leading. Despite the 2018 Mental Health Act, the Philippines did not significantly increase research output. However, the COVID-19 pandemic spurred mental health research in the Philippines. This highlights the need for further research on barriers and research quality. Policymakers should consider these findings for regional mental health research strategies. The study also shows the research community's adaptability during crises, which can inform future responses to public health challenges.

Keywords: The state of mental health publications in the Philippines from 1996 to 2022 and its comparison with the ASEAN Region

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Knowledge of HPV and HPV Vaccines as Predictors of Sexual Risk Behavior Among Female University Students in Manila

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Cervical cancer remains a serious public health issue in the Philippines, despite the availability of HPV vaccines and screening programs. Many young women lack comprehensive knowledge about HPV, contributing to low vaccine uptake and potential engagement in risky sexual behaviors. While education campaigns assume that improved knowledge reduces sexual risk-taking, evidence from the Philippine context remains scarce. Hence, this study investigated whether knowledge of HPV and HPV vaccines could predict sexual risk behavior among young adult women in Manila. Using a predictive cross-sectional design, 219 female university students aged 18 to 24 completed the Human Papillomavirus and Cervical Cancer Risk Assessment (HCRA) and the Sexual Behavior Questionnaire (SBQ). Results revealed that neither HPV knowledge nor HPV vaccine knowledge predicted risky sexual behavior. These results suggest that knowledge alone is not a significant predictor of sexual health decisions among this population. Broader influences, such as peer norms, cultural attitudes, and access to reproductive health services, may play a more substantial role. Implications are discussed.

Keywords: HPV, sexual behavior, vaccine knowledge, Filipino women, public health

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*Speaker

Effects of peer-led interventions on HIV-related stigma: A systematic review

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Introduction: Although there have been significant advances in HIV treatment, the disease continues to pose a global challenge, with stigma affecting the quality of life for people living with HIV. Peer-led interventions have demonstrated potential in decreasing HIV-related stigma and enhancing health outcomes but there is a lack of comprehensive systematic review to synthesize the evidence on this topic. This systematic review aimed to examine the effects of peer-led interventions on HIV-related stigma among PLHIV and key populations.

Methods: Based on our PICO criteria, we devised search strategies and searched eight databases, grey literature, and reference lists of included studies. We included all relevant original research articles published in English from January 1982 until March 2025. Appropriate tools were used to assess the risk of bias and certainty of evidence of included studies. A narrative synthesis summarized the effects of peer-led interventions on HIV-related stigma.

Results: Out of 19,179 records screened, 11 studies met the inclusion criteria. Most studies reported positive effects of peer-led interventions in reducing internalized HIV-related stigma. One study showed mixed results, while another found no significant effect and reported an increase in felt stigma. Although some qualitative evidence suggested potential for reducing external stigma, the lack of quantitative data created a critical knowledge gap.

Conclusion: Peer-led interventions are a promising adjunct to standard care for reducing HIV-related stigma, particularly internalized stigma, as demonstrated by positive outcomes in most studies. However, evidence regarding their effectiveness in addressing external stigma remains limited, highlighting a critical gap in the literature. Future research should explore broader stigma domains to better understand their effect on HIV-related stigma.

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Coping Styles of Caregivers of Patients Both Infected and Affected With HIV and AIDS

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Coping occurs in response to life changes that are viewed as stressful, necessitating adjustments to unusual demands or stressors. This process often requires more effort and energy than is typically needed for everyday life.

This descriptive correlational study utilized the Jaloweic Coping Scale to explore the coping styles of caregivers of patients both infected and affected with HIV/AIDS living in the community of Manila. Results showed: that generally the respondents were male, below 30 years old, sibling of the patient, and college graduate; in terms of level of effectiveness of the use of the coping styles, very high for confrontive and supportive; high for evasive, optimistic, palliative, and self-reliant; and low for fatalistic and emotive. There were no significant differences between the level of effectiveness of the use of each coping style: when grouped according to gender except for evasive and emotive coping styles; when grouped according to age except for evasive coping style; when grouped according to the relationship to patient except for fatalistic coping style; and lastly, when grouped according to highest educational attainment.

In conclusion, the study highlights that caregivers of HIV/AIDS patients in Manila predominantly employ a range of coping styles; It suggests that these coping mechanisms are generally utilized across different demographic groups, with minimal significant differences observed based on gender, age, relationship to the patient, or educational attainment. This indicates a potential universality in coping responses among caregivers, emphasizing the importance of fostering and supporting these adaptive strategies to enhance their resilience and well-being. Future interventions and support programs can build on these insights to tailor psychosocial support that reinforces effective coping mechanisms, ultimately improving the quality of life for both caregivers and patients.

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Regression-Mediation Analysis in Infodemic on Academic Resilience as Predictors of Curricular Success of Nursing Students

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This multi-phase study examined the Manila nursing students' understanding of the infodemic concept, their awareness of misinformation during health crises, and their attitudes toward the use of health information. The findings revealed that nursing students possess a strong grasp of the infodemic phenomenon, identifying it as the rapid spread of misinformation during health crises. They are cognizant of the potential consequences and the role of social media in propagating misinformation. They exhibit confidence in critically evaluating online health information and employing verification strategies. However, they maintain a neutral stance towards fact-checking before sharing on social media and the role of healthcare professionals in combating misinformation. Regarding awareness, they display high levels of awareness about misinformation during health crises, actively seeking reliable sources and emphasizing the need to verify health information credibility. In terms of infodemic information use, students are neutral about using online platforms for health-related information and sharing on social media. Yet, they rely on multiple sources, engage in discussions, and collaborate with healthcare professionals to disseminate accurate information. Furthermore, the study highlights nursing students' positive outlook and academic resilience. Significant correlations were found between academic success, infodemic knowledge, awareness, information use, and academic resilience. Higher levels of these variables are associated with greater academic resilience and success, emphasizing the importance of promoting resilience and infodemic literacy to optimize educational outcomes in nursing education. In conclusion, the study underscores the critical significance of infodemic literacy, linking knowledge, awareness, and strategic use of infodemic-related information with academic success. To navigate healthcare challenges posed by misinformation, nursing education programs must integrate infodemic literacy and resilience-building programs into their curricula, fostering critical evaluation skills, responsible information sharing, and academic resilience among nursing students. These measures are vital for preparing students to thrive in dynamic healthcare environments and contribute to evidence-based practice.

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of Nursing Students

The Role of Molecular Systematics in Microbiological Research and Public Health: A Systematic Review

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Molecular biology and bioinformatics have revolutionized microbiology and public health by enabling accurate identification, classification, and surveillance of microorganisms. Molecular systematics, which reconstructs phylogenetic relationships using molecular data, plays a crucial role in tracking pathogens, understanding evolutionary dynamics, and guiding public health interventions. This review synthesizes recent applications of molecular systematics in microbiological research and public health.

Following PRISMA guidelines, a systematic search was conducted across databases including PubMed, ResearchGate, ScienceDirect, and Google Scholar. Forty-two full-text articles published between 2012 and 2022 were screened, with twenty meeting eligibility criteria. Studies were analyzed for molecular techniques applied, organisms studied, and their research or public health impacts.

Nine molecular techniques were identified: 16S rRNA gene-based ribotyping/oligotyping, amplified ribosomal DNA restriction analysis (ARDRA), random amplified polymorphic DNA (RAPD-PCR), sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE), multilocus sequence analysis (MLSA), restriction fragment length polymorphism (RFLP), DNA-DNA hybridization, multilocus sequence typing (MLST), and whole genome sequencing (WGS). Applications in microbiological research were largely focused on species identification and phylogenetic analysis, while public health applications emphasized outbreak investigation and antimicrobial resistance (AMR) surveillance. MLST and WGS were particularly valuable in characterizing high-burden pathogens such as Salmonella spp., Neisseria gonorrhoeae, Acinetobacter baumannii, and methicillin-resistant Staphylococcus aureus (MRSA). While these tools improved accuracy, speed, and epidemiological insights, challenges included high costs, specialized equipment, and bioinformatics expertise requirements.

Molecular systematics is indispensable in advancing both microbiological research and public health. By enabling precise microbial identification, evolutionary analysis, and outbreak monitoring, these methods strengthen surveillance systems and inform evidence-based health policies. Expanding genomic infrastructure, fostering interdisciplinary collaboration, and investing in laboratory capacity are critical to fully harness molecular systematics in addressing infectious disease threats and antimicrobial resistance globally.

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BreatheSafe+: An IoT-Based Air Quality Monitoring and Filtration Device for Particulate-Induced Respiratory Disease Prevention in Vulnerable Workforces

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Air pollution in construction sites presents a serious health risk due to high levels of particulate matter (PM), contributing to respiratory diseases among workers. To address this, the study developed BreatheSafe+, an IoT-based wearable air quality monitoring and filtration device designed to detect PM2.5 and PM10 levels in real-time and automatically activate a filtration system when pollutant levels exceed safety thresholds. Using a one-group pretest-posttest quasi-experimental research design, the study involved five actively employed, legal-age employees of HNB Construction Corp. with no pre-existing respiratory conditions during the field data collection phase. Respiratory symptoms were monitored using a survey adapted from the American Thoracic Society's ATS-DLD-78-A questionnaire. Perceived air quality and device usability were assessed using a questionnaire developed by Wargocki et al. and a self-made instrument, respectively. Results demonstrated a 98% reduction in particulate matter concentration when using the device. Additionally, improvements were observed in perceived air quality, and a reduction in respiratory symptoms was recorded post-intervention. Participants expressed favorable views regarding the device's comfort and usability in occupational settings. The findings suggest that the integration of real-time monitoring with an active filtration mechanism offers an effective and user-friendly solution to mitigate workplace exposure to harmful airborne particles. This study concludes that BreatheSafe+ is a viable intervention to improve air quality and reduce respiratory health risks among vulnerable workforces in industrial environments, supporting goals related to occupational safety and public health.

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Determination of the Anti-Angiogenic Activity of Partitioned Annona squamosa L. Leaf Extract Using In Ovo Chorioallantoic Membrane (CAM) Assay

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Background: Angiogenesis enables tumors to grow and progress from a dormant to a malignant state. The *Annona* genus is well known for its anticancer properties, however, the anti-angiogenic effects of *Annona squamosa* leaves remain underexplored. This study investigated the anti-angiogenic activity of partitioned *A. squamosa* L. leaf extract.

Methods: Powdered leaves of *A. squamosa* were extracted using acetone and subsequently partitioned through Kupchan partitioning using n-hexane, chloroform, and ethyl acetate. Phytochemical screening of the crude extract was conducted using standard qualitative assays. The functional groups were characterized using Attenuated Total Reflection-Fourier Transform Infrared (ATR-FTIR) spectroscopy. The *in ovo* chorioallantoic membrane (CAM) assay was performed and the vascular branching points were quantified using ImageJ to observe anti-angiogenic activity.

Results: Phytochemical screening revealed the presence of flavonoids, phenolic compounds, and tannins in the crude extract. The ethyl acetate fraction of *A. squamosa* leaf extract exhibited consistent inhibition observed at 0.0625 mg/mL, 0.125 mg/mL, 0.5 mg/mL, and 1 mg/mL, showing mean percent inhibitions of 34.54%, 36.58%, 56.69%, 54.07%, and 62.49%, respectively. The positive control (quercetin) exhibited a stronger inhibition at 81.23%, while the negative

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control (distilled water) served as the baseline vascular growth. The ATR-FTIR analysis of the fraction identified possible functional groups such as alcohols, alkanes, methyl groups, and ethers.

Conclusion: The ethyl acetate fraction of *Annona squamosa* L. leaf extract exhibited the most promising anti-angiogenic profile, showing consistent and dose-dependent inhibition of vascular growth and may benefit from the use of a low-toxicity solvent. These findings support its potential as a safe and effective natural therapeutic agent for anti-angiogenesis. Further purification and isolation are warranted to determine if the activity is due to specific bioactive compounds, and to validate these findings and elucidate mechanisms through in vivo and clinical studies.

In vitro evaluation of the Antidiabetic property of Ampelocissus ochracea var. Trilobata leaf extracts

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Background: Type II diabetes mellitus is a prevalent chronic disease affecting millions worldwide and ranks as the 4th leading cause of death in the Philippines. Conventional treatments are often expensive and have varying side effects, leading to poor patient compliance. This has led to the search for natural alternatives that may offer safer and cost-effective treatments. The *Ampelocissus* genus is known to contain polyphenols with antidiabetic properties. However, *A. ochracea* var. *trilobata*, a plant endemic to the Philippines, remains pharmacologically unexplored. This study aimed to evaluate its in vitro antidiabetic activity.

Methods: Powdered leaves of *A. ochracea* (63 g) were subjected to exhaustive sequential extraction using n-hexane, ethyl acetate, and methanol, obtaining 3 extracts. Screening of phytochemicals present in the extracts was performed using thin layer chromatography. The α-glucosidase inhibitory activity of each extract was assessed in vitro to evaluate their antidiabetic activity.

Results: Phytochemical analysis of *A. ochracea* extracts revealed the presence of phenols, flavonoids, triterpenes, and sterols. Furthermore, all extracts exhibited potent α-glucosidase inhibitory activity, outperforming the standard drug acarbose (IC50 3652.41 μg/mL). The methanolic extract (AoM) was the most potent inhibitor, with an IC50 of 48.41 μg/mL, followed by hexane (AoH) and ethyl acetate (AoE) extracts with an IC50 of 1191.46 and 553.69 μg/mL, respectively. The observed activity may be attributed to the phytochemicals present in the extracts.

Conclusion: This is the first report on the antidiabetic activity of *A. ochracea* var. *trilobata* leaves. The potent α-glucosidase inhibitory activity, particularly of the methanolic extract, is likely due to its polyphenolic content. This study highlights the therapeutic potential of *A. ochracea* var. *trilobata* leaves as an alternative natural source of bioactive compounds that could help manage postprandial hyperglycemia in type II diabetes patients.

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Embracing breastfeeding: a case study of filipino mothers' challenges with breastfeeding in public

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Breastfeeding babies in open view of the public remains a controversy. Breastfeeding in public in the Philippines faces challenges. It is a critical women's health issue that must not be overlooked

The study aimed to explore the challenges faced by Filipino mothers who are breastfeeding in public. The study employed the single exploratory case study design. Conducted in the national capital region plus of the Philippines. Recruitment was done through social media utilizing the purposive sampling augmented by snowballing. Sample (N=21) comprised of Filipino mothers who have breastfed in public and are 18-40 years old. Four focus group discussions and six interviews were conducted face-to-face and online. These were guided by an aide memoire validated a psychometrician, a guidance counselor, and a doctor of philosophy in psychology. Data were analyzed using Merriam's qualitative case study approach. To ensure the trustworthiness of the study, the validation techniques of members checking and critical friend were applied. Bracketing, horizontalization, and resonance were observed to enhance the rigor of the study. The ethical principles of beneficence, respect for human dignity, and justice were upheld all throughout the research process.

The analyzed narratives focused on three emergent themes, namely: Intrapersonal issues, Interpersonal issues, and Extrapersonal issues. Intrapersonal issues surrounding public breastfeeding involve participants' internal struggles among their thoughts, feelings, and values, their concerns of body image and being seen or judged by others. Interpersonal issues surfaced from mother and child's discomforts and needs, requisite for support systems, and environmental constraints. Extrapersonal issues result from lack of policies to advocate for breastfeeding normalcy, social stigma, and cultural expectations.

Breastfeeding is a natural phenomenon, but when done in public, sparks multifaceted issues and complex challenges. Advocacy for breastfeeding in public is critical for establishing it as a normal and accepted practice, benefiting both mothers and children.

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*Speaker

Correlation between sleep quality and functional outcome of Filipino contemporary dancers

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Introduction: Contemporary dance involves dynamic movements that require high physical demands, making dancers prone to musculoskeletal injuries. Sleep plays a crucial role in recovery and performance. Although the importance of sleep has been studied in athletes and ballet dancers, its impact on the functional outcomes of contemporary dancers remains understudied. This study aimed to determine the relationship between sleep quality and functional outcomes among Filipino contemporary dancers.

Methods: We used a descriptive-correlational research design. Filipino contemporary dancers from ten dance studios in Metro Manila were surveyed. Demographic profiles, including sex, age, years of experience, frequency of training, and duration, were included in the survey. Sleep quality and functional performance were assessed using self-reported questionnaires, specifically the Pittsburgh Sleep Quality Index (PSQI) and the Dance Functional Outcome Survey (DFOS), respectively. The data were analyzed using Pearson correlation.

Findings: A total of 84 contemporary dancers were included in the study, aged 26.60 ± 5.80 years old. The majority are female (57%), with dance experience averaging 9.68 ± 6.09 years, a practice frequency of 2.39 ± 1.18 sessions/week, and a training duration of 2.32 ± 1.17 hours. The global PSQI score is 6.44 ± 2.45, with 62% of the subjects experiencing poor sleep quality. Sleep latency has the highest score among the PSQI components (1.77 ± 0.75). The average overall DFOS score is 81.51 ± 8.03. There is a negative fair correlation (r = -0.30 (95% CI = -0.0915, -0.4833), p = 0.0056) between sleep quality and functional outcome.

Conclusion: Poor sleep quality among contemporary dancers is associated with decreased functional performance. These findings underscore the significance of sleep in maintaining overall health and optimal physical performance among Filipino contemporary dancers. Strategies should be implemented to improve the quality of their sleep.

Keywords: contemporary dance, sleep quality, functional outcome, health, wellness

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Exploring The Impact of Socio-Economic, Cultural and Health Behaviors on the Quality of Life among Older Adults

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Abstract

Integrating academic research with clinical practice, this study sought to contribute to the broader understanding of the impacts of health promoting lifestyles (socio-economic, cultural) and health behaviors on the quality of life among older adults living in Manila and Cavite, offering evidence-based solutions to promote healthful behaviors.

Using quantitative multi-method design study that utilized WHOQOL-BREF and Health-Promoting Lifestyle Profile II (HPLP-II) with the combined teaching and clinical expertise background of the researcher, this study investigated the unique insight of the gaps in current geriatric care models.

Results of the study showed that older adults exhibit a high to very high level of engagement in health-promoting lifestyles and behaviors. Regarding quality-of-life predictors, they demonstrated moderate to routinely high engagement across various lifestyle and emotional wellness indicators. The correlation analysis revealed a statistically significant yet modest positive linear relationship between health-promoting lifestyle behaviors and quality-of-life predictors. Further regression analysis supported these findings, showing health-promoting lifestyles (socio-economic, cultural) and behaviors to be significant predictors of quality of life.

In conclusion, the results of this study suggested practical implications for public health interventions aimed at boosting consistent health-promoting behaviors to enhance overall wellness. This is why a proposed "Holistic Aging" intervention program was developed based on the results of this study to strategically address identified gaps, emphasizing areas needing improvement such as physical activity, dietary habits, relaxation techniques, emotional support, and stress management.
Ultimately, the researcher recommended that public health policies and community-based programs should prioritize comprehensive lifestyle promotion to maintain and further enhance the quality of life experienced by older adults, contributing significantly to healthy aging and overall community wellness.

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[*]Speaker

The Relationship of Self-efficacy and Students' Motivation of Physical Therapy students in a Local University

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Self-Efficacy is regarded as one of the necessary components a Physical Therapist must have in order to provide quality care for their patient, thus the need to cultivate self-efficacy among Physical Therapist students is vital for their professional development. Academic Motivation is a contributing factor to the engagement which facilitates learning of students as they give value to their academics and studies. This study analyzed the levels of self-efficacy and academic motivation among regular First to Fourth year Physical Therapy students and its correlation to one another. A total of 136 students participated in this study, in which data was collected through the 'Physiotherapist Self-Efficacy Scale', and the 'Short Academic Motivation Scale'. In line with the identified problems of this study, the researchers used Spearman rho's correlation to analyze the relationship between both variables. Kendall Tau's coefficient was also used for data with small sample sizes. Results showed high levels of Self-efficacy and Academic motivation across the four year levels. A statistically significant correlation between the PSE and the following subtypes of motivation: IMK, IMA, and IMS was also noted indicating a positive relationship between self-efficacy and academic motivation. Several literature supporting the result was also used to discuss the data gathered. With this, academes can help create a more holistic environment for their students, giving importance to their self-efficacy and motivation as they shape new generations of Physical Therapists.

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Determinants of the Predictors Between Extent of Caring to Patient Satisfaction: A Basis for Regression-Based Modeling

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This study examines the relationship between caring behavior and patient satisfaction using a multi-phase research design: survey correlational research, regression analysis, and regression-based modeling to identify significant predictors and develop interventions to enhance nursing care specifically in the government-owned hospitals in Manila. It explored relationships between various caring behaviors and patient satisfaction, providing insights into naturally occurring phenomena without manipulating variables and allowing the identification of potential causal relationships. Regression analysis facilitated the development of predictive models to understand how changes in caring behaviors impact patient satisfaction, thus informing decision-making based on empirical evidence. The study revealed that patients responded positively to assurance-related issues, skills competence, and coordination between caregivers, indicating effective service delivery. High ratings for discharge instructions suggested good post-discharge continuity in care. However, knowledge and skill explanations were rated lower, highlighting areas for improvement. Respectful treatment varies among individuals, indicating potential areas for enhancement. Caring behaviors such as treating people individually, providing support, and involving them in health care planning were consistently performed by nurses.
However, attentive listening, spending enough time with clients, and displaying confidence during challenging times were less frequent. Correlation analysis showed a strong positive relationship between all caring behaviors and overall patient satisfaction, with connectedness recording the highest value. Regression analysis identified assurance, respectfulness, connectedness, and overall perception of nursing as significant predictors of patient satisfaction.
For the conclusion, the study supports the significant linear relationships between caring behaviors and patient satisfaction. The findings emphasized the importance of fostering caring behaviors to enhance patient satisfaction. The proposed intervention program aims to improve caring behaviors through training workshops and continuous professional development. These

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findings provide a basis for creating successful interventions that enhance patient-centered care and improve satisfaction with nursing services.

Education, Arts, Social Science, Social Work

Exploring the impact of gamified learning on positive psychology in CALL environments: A mixed-methods study with Thai university students

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Despite growing interest in both fields, research into how positive psychology principles and gamification can be integrated in Computer-Assisted Language Learning (CALL) environments and their impact on language learning outcomes remains insufficiently explored. Thus, this study intends to contribute by implementing a 10-week gamified learning program using the *Quizizz* application within CALL classrooms at a university in Thailand. A total of 69 first-year students, experiencing gamified learning-which integrates game elements into educa- tional activities-for the first time, participated in this sequential explanatory mixed-method study, which combined a single-group design with narrative frames. After a one-week introduction to the course, the study progressed through two cycles-Cycle 1 spanned five weeks, and Cycle 2 lasted four weeks. Throughout these periods, we collected data using surveys, test scores, and narrative frames. Quantitative data were analyzed using descriptive and inferential statistics, while narrative essays were examined using thematic analysis. The study found that positive psychology principles such as motivation, enjoyment, and anxiety remained stable over the two learning cycles, indicating that while gamified learning initially engages students, its effects do not signif- icantly evolve without varied interventions. Even with high initial motivation and en- joyment, there were only modest improvements in reducing anxiety, suggesting that competitive elements in gamified environments might sustain some anxiety levels. Additionally, strengthened interrelationships among motivation, enjoyment, anxi- ety, and performance were observed, but these psychological factors did not directly predict grammar test outcomes.

Keywords: Positive psychology, Computer, assisted, language learning Gamification, Mixed, method study

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*Speaker

The ACCESS Project: Unveiling Barriers and Cultivating an Inclusive Campus Culture for Underrepresented Student Success in Higher Education

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Underrepresented students in higher education encounter unique hurdles impacting their academic journey and well-being. This study, conducted at Batangas State University, aimed to identify these critical challenges and specific needs, providing insights for fostering a more equitable and supportive university environment.

A mixed-methods approach was employed, collecting data from 328 underrepresented students. This allowed for a robust understanding of their barriers and needs, combining quantitative trends with qualitative insights into their daily realities.

The study revealed several prevalent challenges. Financially, many struggled with insufficient funds for academic and personal responsibilities. Limited access to technology was another significant barrier. Students also reported considerable mental health concerns like depression, anxiety, and stress, often exacerbated by a lack of adequate support services. These issues frequently led to feelings of loneliness, exhaustion, frustration, and anxiety, negatively impacting academic performance.

Regarding needs, students desired greater flexibility in class schedules, more culturally relevant coursework, accessible programs, and individualized learning support. Crucially, a profound desire for belonging was evident; students yearned for a supportive community where they felt valued and integrated.

This research highlights critical gaps in the current higher education system. Creating an inclusive culture requires actionable changes: providing flexible scheduling, developing culturally responsive curricula, enhancing technology access, and making substantial investments in mental health support. Fostering belonging through mentorship programs, social gatherings, and robust support networks is also paramount. By cultivating an empathetic learning environment, institutions can empower underrepresented students to overcome challenges, build resilience, and achieve academic success.

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Blood poured on the handful prayer: mapping the spatial relationship between sacred sites and extrajudicial killings of Manila city

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Manila City has different sacred sites varying from the religions of Christianity, Islam, Buddhism, and other belief systems. Following Durkheim's sacred, these sacred sites are those treated with respect and reverence. However, these sacred sites are set into an inquiry into their possible influence on criminal behavior, particularly the extrajudicial killings. Interestingly, extrajudicial killings are no ordinary crimes, as this is employed as political capital to attract citizens. This mapping research investigated the spatial relationship between Manila's sacred sites and extrajudicial killings. Utilizing critical methodology through Geographic Information System (GIS), geographic profiling, crime mapping, and spatial analysis were used to gather critical insights about the investigation. The mapping research revealed the distribution of Manila sacred sites and their types, extrajudicial killings by type, methods, and their concentration around Manila (2016-2021), and the areas of San Nicolas, Binondo, Quiapo, Santa Cruz, Port Area, and northern part of Tondo with highest extrajudicial killing incidents around the sacred sites, concurrently, represent a high number of killings occur near other killing locations. The presence of extrajudicial killings around sacred sites proves the heightened violence that occurred while utilizing it as political capital to appeal to the people. The appearance of sacred sites does not signify safe areas, however, is still relevant to maintaining peace and order. The local government, through the city police, religious and human rights organizations, and future researchers, can reinforce ordinances, peace, and police visibility around hotspots, promote peace, safe spaces, and justice, and explore the factors affecting the significant relationship between sacred sites and extrajudicial killings.

Keywords: sacred sites, extrajudicial killings, mapping, GIS, spatial relationship

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*Speaker

Unraveling the Push and Pull Factors of Migration: The Case of Meranaw Migrants in Select Cities of the Philippines

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This study investigates the migration experiences and patterns of Meranaw individuals who have relocated to urban centers in Metro Manila, Cebu City, and Davao City, focusing on the push and pull factors, aspirations, and migration trends. Using a mixed-method approach, the research integrates survey data from 350 respondents and insights from focus group discussions. The thematic analysis of the qualitative data identified economic hardship, unemployment, insecurity, and cultural pressures as key push factors. At the same time, better livelihood opportunities, safety, access to education, and inclusive governance are influential pull factors. In the analysis of the survey data, apparent differences emerged in what respondents from each city identified as their main reasons for leaving home. For those who migrated to Metro Manila, the most common push factor was the lack of job opportunities, cited by 56% of respondents. In Cebu City, social conflict stood out, with 39% mentioning it as their primary reason for migration. Meanwhile, 28% of respondents now living in Davao City pointed to limited access to educational services as their top push factor. As for what drew them to their new locations, patterns also differed. In Metro Manila, nearly half of the respondents, 49.3%, were drawn by the promise of employment opportunities. In Davao City, 37.3% highlighted the area's social stability, while 34.4% of those in Cebu City chose the city for its better educational services. The study emphasizes recurring patterns across spatial, temporal, demographic, and economic dimensions, providing a deeper understanding of the socio-political significance of Meranaw migration. In conclusion, policy recommendations focus on inclusive governance, access to education, peacebuilding, and sustainable development strategies to address the root causes of migration and support the integration of Meranaw migrants, ultimately aiming to reduce forced migration and empower individuals and families in their home regions and urban destinations.

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*Speaker

Advocacies of Ayta educators in catapulting language and cultural heritage among IP schools and local communities

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Ayta educators, as cultural workers, bearers, and ambassadors, play a pivotal role in promoting and sustaining the Indigenous language and culture in the school and the community. In the advent of technological and societal developments, Ayta teachers' advocacies ramified contextualized and immersive education integral for cultural survival. The study echoes the advocacies of ten purposively selected Ayta educators from three provinces in Region III, Philippines in promoting language and cultural heritage among Indigenous Peoples (IP) schools and local communities through the lens of descriptive phenomenological research. Semi-structured one-on-one interviews are used to gather data upon securing consent forms and endorsements, wherein the results are analyzed using Descriptive Phenomenological Analysis (DPA). The findings indicate that Ayta educators contextualize their lessons through localization and indigenization, infusing Indigenous Knowledge, Systems, and Practices (IKSP) in the curriculum. They also actively engage their IP and non-IP learners in the Indigenous month celebration through presentations and immersions, inviting IP elders to share their knowledge, demonstrate, and perform. They also teach their language, culture, and rights (IPRA Law) to IP and non-IP learners, as well as to younger and older generations who seem to forget their cultural identity. They also develop Indigenized learning materials in teaching the Ayta language and culture. As intermediaries, Ayta educators can bridge the gap between education and cultural preservation, serving as voices for both IP learners and the communities through constant calls for the establishment of language and cultural centers for future generations. Through these advocacies, Ayta educators take a stand and cement their legacies both in academia and the communities they represent – a reminder of their triumphs in long-standing battles for IP representation and education.

Keywords: advocacies, Ayta educators, Indigenous language and culture

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*Speaker

Oral Reading Miscues of Frustrated Level Students in Urban Philippine Schools: Basis for a Reading Intervention Plan for Sustainable Education

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In the Philippines, it is evident that there are still many high school students especially from urban schools who cannot read well. In many cases, some, if not most, could not read at all. Teachers often encounter students who fail to recognize symbols of the printed English words; thus, they commit several miscues. Even though in each grade level, the students are already exposed to various ways to develop and enhance their reading skills, the aim of the schools to nurture students who are prepared to meet the challenges in their educational development is still not achieved.

This study aimed to determine the oral reading miscues produced by the selected Grade 7 students from selected urban, under-resourced and overcrowded schools in the Philippines whose reading level is at the frustration level as well as to determine the causes of these reading miscues using a mixed method research design.

Based on the oral reading analysis conducted, among 100 students, a total of 6,088 miscues were committed. These consisted of 1,435 mispronunciations, 1,038 omissions of words, 1,005 substitutions, 582 repetitions, 552 unfamiliar words, 468 self-corrections, 445 reversals, 292 insertions, and 271 omission of punctuations. The most produced miscue was mispronunciation whereas, the least produced miscue was omission of punctuation. Meanwhile, in determining the causes of the reading miscues produced by the participants, the result showed that the causes that made them encounter difficulty in reading were lack of confidence, shyness and nervousness. Based on the findings, a reading intervention plan for sustainable education was proposed. This consists of a set of activities and strategies that could address the difficulties faced by the students in reading and improve the literacy among struggling urban students and promote long-term educational sustainability including the reduction of drop-out rates, enhancing employment opportunities and fostering inclusive educational communities.

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*Speaker

Utilization of artificial intelligence in lesson planning, assessment, and development of instructional materials of PLM science pre-service teachers

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Artificial Intelligence stands in the middle of bringing advantages and disadvantages to the academy. It is a continuous debate whether incorporating AI into the educational setting poses a threat to academic integrity or provides a significant advantage to the advancement of education. This study explored the perception of pre-service science teachers regarding the utilization of Artificial Intelligence in Lesson Planning, Assessment, and the development of Instructional Materials, with a specific focus on the integration of Artificial Intelligence (AI) technology in education. The researchers aimed to identify AI tools commonly used by pre-service teachers and determine how frequently they utilize these tools to plan and evaluate their lessons, as well as their perception of the ethical and practical considerations associated with integrating AI into their teaching. Data were collected using a questionnaire, employing a quantitative, non-experimental, and descriptive research design as the statistical treatment to analyze the data from the respondents. This includes calculating measurements of central tendency (weighted mean) and variability (range) to provide a complete understanding of the frequency of respondents using AI tools. The respondents included 26 science pre-service teachers from Pamantasan ng Lungsod ng Maynila, from the College of Education. The findings of this study incorporated a wide range of concerns expressed by educators. The results indicated doubts about AI's ability to accurately generate creative ideas, improve the quality and efficiency of instructional outputs, and maintain content consistency. Additionally, the science pre-service teachers also demonstrate limited technological competence, skepticism regarding the reliability of AI content, and a lack of familiarity with AI tools. The majority of the respondents felt insufficiently trained to incorporate AI tools meaningfully into their teaching practices. Positively, the findings included that the adoption of AI tools is motivated by various factors, such as saving time, facilitating skills, and content generation.

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Voices in the Cloud: A Qualitative Study of the Reflections of Students on Digital Citizenship and Urban Sustainability

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The increased urbanization of cities alongside technological innovation requires students who understand their roles as digital citizens to support social sustainability in urban development. This qualitative research investigates college students' definitions of digital citizenship through their understanding of civic participation along with their social duty and their views on sustainable urban development.
This qualitative study included naturally occurring student-generated content, such as reflections in essays, discussion board contributions, class activities, and digital academic projects. No interviews were conducted. Thematic analysis was used to explore how students understand digital responsibility, ethical online conduct, and the social implications of technology outside their academic context and within their academic context.

The analysis surfaced four main themes: environmental alertness, media literacy, digital activism, and the continuum between online engagement and digital fatigue. Even though many of the students exhibit social and environmental responsibility, their ability to get involved meaningfully is hampered by limited digital literacy practices, passive consumption of material, and inequitable access to reliable platforms for information. Nevertheless, the outputs exhibited creativity, critical thinking, and a curiosity to contribute meaningfully to digital spaces.
The conclusion of this study is that digital citizenship needs to be perceived in education as more than just technical training. It should be perceived as developing civic agency, critical reflection, and social innovation. When student voices are amplified through their writing and digital products, the potential exists for education to bridge the divide between technology and endemic, human-centered, inclusive urban development. This study shows that releasing this potential will lead to viable, sustainable, and student-led contributions to smart cities.

Keywords: Digital Citizenship, Student Reflections, Smart Cities, Urban Sustainability, Thematic Analysis

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*Speaker

Disarming words: Pre-service teachers' pedagogical approaches in catapulting language sensitivity toward a harmonized instructional plan

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Words, as a double-edged sword, can make or break a child. As society and education progress, inclusivity in diversity has been the norm, mandating academic institutions and educators become more responsive to progressive approaches in instructional delivery, contributing further to SDG No. 4 (Quality Education) and statutory and regulatory requirements. However, limited studies highlight preparatory practices for future educators in preparing them to foster inclusive education. With that information, the study determines the pre-service teachers' pedagogical approaches in promoting language sensitivity practices among public secondary students during their internship program through a concurrent triangulation mixed-method approach. The quantitative data include (i) pedagogical approaches used and (ii) the significant difference in their practices, while the qualitative data include (i) their challenges experienced, (ii) their strategic measures applied, and (iii) their instructional resources utilized. Eighty (80) pre-service teachers, 65 females and 15 males, deployed to public secondary schools in the City of Balanga and Bataan, handling Grades 7 to 10 students, are purposively selected to serve as the respondents for the survey (quantitative phase) and for the interview (qualitative phase). Upon validation and reliability assertion of the research instruments, data gathering commenced, assuring compliance to stringent research protocols (i.e., anonymity, consent, and data confidentiality). In analyzing the quantitative data collected, descriptive and inferential statistics are used, while thematic analysis is used for the qualitative data. The quantitative findings reveal the same level of high utilization of approaches in promoting language inclusivity. The qualitative analysis of teaching language sensitivity identifies key challenges like lack of awareness, peer influence, and normalization of insensitive language. Strategies to address these include vocabulary building, creating safe learning environments, and experiential learning. Instructional resources range from visual aids and reflective writing to multimedia resources and interactive activities. At the outset, a comprehensive harmonized instructional plan is introduced.

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[*]Speaker

Leveraging EdTech Tools for Culturally Responsive Pedagogy Towards achieving SDGs 5 and 10

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The integration of Culturally Responsive Pedagogy (CRP) and Educational Technology (EdTech) presents persistent challenges in contemporary education. This study investigates the EdTech tools utilized by laboratory school teachers at Rizal Technological University and examines how these tools are leveraged to support CRP in alignment with Sustainable Development Goals (SDGs) 5 and 10. It also explores the relationship between teachers' demographic profiles (gender, age, ethnicity, and religion) and their use of EdTech for CRP, as well as the associated challenges, opportunities, and professional development needs.

A convergent parallel design was employed, involving 24 laboratory school teachers. Results indicate that most participants were male, and a majority belonged to Generation X. In terms of demographic background, the majority identified as ethnically Tagalog and religiously Roman Catholic. Presentation tools emerged as the most frequently used EdTech resources. Teachers generally recognized the role of EdTech in enhancing CRP, particularly in achieving SDGs 5 and 10. Gender significantly influenced the integration of EdTech, while age was only relevant in the use of gender-responsive feedback. Ethnicity and religion showed no notable impact.

The findings suggest that while EdTech holds strong potential for supporting CRP and advancing SDGs 5 and 10, challenges such as inequitable access, generational gaps, and limited institutional support must be addressed. Nevertheless, EdTech presents valuable opportunities to enrich learning experiences, foster engagement, and bridge cultural divides. The study underscores the importance of sustained professional development through hands-on training and structured programs. Future research is encouraged to explore this topic across diverse contexts and develop targeted CRP-EdTech interventions that explicitly promote SDGs 5 and 10 and strengthen inclusive, culturally responsive education.

Keywords: Culturally Responsive Pedagogy, Educational Technology, Sustainable Development

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Goals, SDG 5, SDG 10

An Interpretative Phenomenological Analysis of Suicidal Attempts Among College Students in Batangas Province, Philippines

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Suicidal attempts among college students pose a critical global public health concern, demanding a profound understanding of the intricate individual and contextual factors involved. This study rigorously utilized Interpretative Phenomenological Analysis (IPA) to meticulously explore the nuanced lived experiences of five college students in Batangas Province, Philippines, who have bravely navigated suicidal attempts. Through in-depth, semi-structured interviews, the research aimed to uncover the complex interplay of their unique contextual factors, underlying psychological processes, and subsequent meaning-making efforts related to their suicidal behaviors.

The rigorous analytical process yielded four superordinate themes, offering profound insights into their compelling experiences. First, "The Overwhelming Nexus of Expectations," captured the immense academic, familial, and societal pressures weighing on these students. Second, "Profound Disconnection and Existential Isolation," illuminated a pervasive void in authentic understanding and meaningful support. Third, "The Acute Precipice of Crisis," detailed specific, often cumulative, stressors and pivotal events that triggered their attempts. Finally, "Post-Attempt Trajectories: Seeking Reintegration and Meaning," showcased the diverse strategies participants employed to navigate recovery and foster resilience after their attempts.

These compelling findings unequivocally underscore the highly individualized yet culturally embedded nature of suicidal attempts within this demographic. The research therefore posits critical implications for the urgent development of nuanced, person-centered mental health interventions, robust academic support structures, and family-inclusive awareness programs meticulously tailored to Batangas' distinct sociocultural landscape. This study significantly enriches the qualitative understanding of suicidality in the Philippine context, advocating for a more empathetic, comprehensive, and culturally sensitive approach to both vital prevention and compassionate postvention efforts.

Keywords: suicidal attempts, college students, Interpretative Phenomenological Analysis (IPA), lived experience, mental health

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*Speaker

Fostering Intellectual Property (IP) literacy for sustainable futures: A study of BASC students' awareness across technology-based academic programs

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Intellectual Property (IP) is a critical driver of innovation and creativity, essential for developing advanced technologies required for sustainable solutions. It enables the development of innovations that contribute to long-term environmental, social, and economic well-being. IP is a critical incentive for innovation and creativity, which are key to achieving the United Nations Sustainable Development Goals (SDGs). This study aimed to assess the foundational knowledge of IP concepts and awareness of IP infringement among students enrolled in the technological courses at the college: Agricultural and Biosystems Engineering (ABE), Geodetic Engineering (GE), Food Technology (FT), and Information Technology (IT). A validated survey questionnaire was distributed to the students, involving a self-rated knowledge and awareness survey. Included also is a 12-item quiz on IP concepts and a 10-item quiz on IP infringement for validation. The self-assessment results indicated generally moderate perceived knowledge ratings across the four disciplines (ABE = 3.56, GE = 3.87, FT = 3.80, IT = 3.65). However, actual knowledge, as measured by the percentage of students scoring above 50% on the IP knowledge quiz, revealed a significant disparity: ABE = 1.85%, GE = 36.36%, FT = 18.42%, and IT = 16.67%. Similarly, for IP infringement, self-rated awareness (ABE: 3.50, GE: 3.00, FT: 3.24, IT: 3.41) contrasted with actual understanding (percentage scoring above 50% on the quiz: ABE: 40.47%, GE: 54.55%, FT: 23.68%, IT: 33.33%). These findings highlight substantial gaps in students' understanding of IP rights and infringement, emphasizing the urgent need for targeted educational interventions, including specialized seminars, training programs, and comprehensive curriculum integration, to equip these future professionals with the IP literacy necessary to responsibly contribute to the country's sustainable development.

Keywords: intellectual property, IP education, awareness gaps

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Preloved, Reloved, and Reimagined: Clothing's Colonial Roots and Contemporary Reuse

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Colonial trade introduced European fabrics, allowing Filipinos to blend European aesthetics with native fabrics woven from durable piña and abacá fibers -a precursor to modern thrift culture's fusion of local and global.

Rooted in longstanding Filipino values of resourcefulness, practicality, and frugality, the tradition of passing down clothing and creatively reusing garments has evolved into the modern phenomenon of *Ukay Ukay* - a practice that not only offers affordable alternatives to fast fashion but also frugally fosters self-expression and individuality.

With the ethos of breathing new life to discarded items, *Ukay Ukay* culture – a phenomenon originating from aspiration and necessity and now thriving as a cultural movement, enables Filipinos to slow down the demand for new clothing, extend the life cycle of garments, and reduce environmental impact through circular consumption, at a low cost.

As preloved items are recirculated, upcycled, or transformed for new uses, they gain new significance, blending personal stories with collective memory and heritage. While the practice faces challenges, such as issues of accessibility, it stands as a testament to the Filipino ability to relove the preloved as well as to reimagine the past-making thrift not only sustainably chic but also a celebration of cultural resilience and creative reinvention. This continuity reveals sustainability not as a trend, but a historical imperative woven into the archipelago's sartorial identity.

Keywords: Preloved, Reloved, and Reimagined: Clothing's Colonial Roots and Contemporary Reuse

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A Qualitative Analysis on Factors Influencing Canva Subscription Choices Among San Sebastian College-Recoletos Manila Undergraduates

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This study explores the factors influencing Canva subscription choices among undergraduate students at San Sebastian College-Recoletos Manila, addressing the interplay between legitimate freemium software and digital piracy within the digital ecosystem. Given the increasing integration of digital tools for academic tasks and the prevalence of digital piracy in the Philippines, understanding student behavior is crucial for promoting ethical technology use and informing institutional policies. Employing a qualitative research design, data was gathered through semi-structured focus group discussions with students and interviews with teaching and administrative staff, utilizing convenience sampling. The research is framed by the Psychological Reactance Theory and Operant Conditioning Theory, examining how perceived limitations and prior experiences shape user choices. Key findings indicate that prior hands-on experience, even with shared or pirated accounts, significantly influences subscription decisions, often serving as a "demo". Students' motivation for using Canva stems from its indispensable role in academic tasks like presentations and reports, facilitated by user-friendly templates and features. The persistence of shared accounts

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highlights the normalization of unauthorized access and weak enforcement, despite awareness of associated risks. This research contributes to filling the literature gap by providing a real-case study on Filipino undergraduate students' digital tool adoption. Practically, the study recommends institutional trials or licenses, awareness campaigns on digital ethics, and formal integration of tools like Canva into curricula to reduce digital piracy incentives and foster digital literacy. This aligns with the conference's focus on Education, Arts, Social Science, and Social Work by addressing ethical digital citizenship and sustainable technology integration in educational settings, contributing to Sustainable Urban Solutions in Manila through responsible technology adoption.

Disable to "This Able": Filipino Employer's Attitudes in Employing Differently Abled Persons

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The study is anchored with Social Model of Disability (1983). According to Oliver, there is no such thing as a disability inside the body or the intellect, it is something that an exclusive society has produced. Thus, DAPs are seen to be a major key player in today's generation. Differently Abled Persons, commonly known as Persons with Disability are becoming part of Philippine workforce and their advocacies are being heard and recognized by a growing number of groups. This study aims to investigate society's awareness on the plight of PWDs in the workforce. This paper is a descriptive comparative research. The researcher utilized quota sampling and gathered 129 Filipino employers located in the National Capital Region with experience in recruitment process. An attitude survey that has been adopted was utilized and was validated. Demographics of Filipino employers such as age, sex, industry type, and PWD criteria (willing to employ) were taken into account. Results were evident that Filipino employers continue to have a diversified attitude in hiring people with disabilities in terms of work performance, accommodation costs, and negative stereotypes. However, positive attitudes towards PWDs were seen in the aspect of work ethics, general evaluation, and employment risks. Additionally, Filipino employers expressed interest in hiring people with disabilities but with preference to physical/orthopedic disability.

Keywords: Hiring PWD, Disability

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*Speaker

Poster Session 1

Teaching and Learning Research Towards Self-Directed Training Program Development on Capacity, Capability and Competency of Nursing Students in the Doctorate Program

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This study utilized a multi-phase research design to explore and enhance the development of self-directed learning (SDL) capacity, competency, and capability in teaching and learning research among nursing doctoral students. Through an integrative review, Modified Delphi method, and Project Action Logic Model (PALM), the research systematically builds a foundation for an SDL-focused training program tailored for Doctor of Nursing students.

Phase 1 comprises an integrative literature review to identify existing competencies and capabilities relevant to SDL in research education. Using rigorous appraisal tools including CASP, PRISMA, and the Aliswag Expedited Evidence Evaluation Tool, high-quality and current evidence were synthesized. Phase 2 employs a Two-Round Modified Delphi process, engaging 15 purposively selected experts to reach a consensus on core SDL competencies. Cohen's Kappa values (0.741 and 0.735) indicate substantial expert agreement, validating the inclusion of key SDL domains such as critical thinking, research competence, and independent learning. Phase 3 applies the PALM framework to design a targeted SDL program informed by consensus data and thematic analysis. Ethical considerations were rigorously observed, ensuring informed consent, confidentiality, and equitable treatment of participants.

Findings emphasize that SDL is foundational to doctoral nursing education, supporting lifelong learning, research independence, and competency-based outcomes. The final program integrates structured workshops, mentorship, and peer-based learning to bolster research skills and teaching proficiency. The study concludes with strong expert consensus and literature support, suggesting immediate applicability of the SDL program in doctoral nursing curricula.

This research contributes significantly to the pedagogical infrastructure in nursing by providing a validated, evidence-based SDL development framework that aligns with adult learning theory, enhances research capacity, and meets the evolving demands of professional nursing education.

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"Academic Achievement, Emotional Intelligence and 21st Century Skills as Predictors of Field Experience Satisfaction and Career Readiness: Basis for Career Development Program"

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How do recent college graduates handle their transition into a professional milieu? According to Blasko, Brennan, Little, and Shah (2002); Hillage & Pollard (1998); Holmes (2001); Knight and Yorke (2002); and Pierce (2002), as cited by Beaumont E., Gedye S., and Richardson S. (2016), many academic researchers expressed concern about college graduates' employability. In fact, the job market is extremely competitive, particularly for entry-level roles, making it challenging for recent graduates to be employed and gain valuable working experience in their chosen career. This could be due to numerous underlying factors; thus, this phenomenon led to the inception of this study, which highlights academic achievement, emotional intelligence (EQ) and 21st century skills as predictors of field experience satisfaction and career readiness of graduating college students. This is a descriptive correlational study. Data was collected from 172 graduating college students of Adamson University, who successfully completed their internship. The standardized tests include: Bar-On Emotional Quotient Inventory, 4Cs of 21st Century Skills Test, Work Experience Questionnaire (WEQ), and Career Confidence Scale (CCS) to measure emotional intelligence, 21st century skills, field experience satisfaction, and career readiness respectively, while academic achievement was assessed through the grade point average. This study shows which among the independent variables (academic achievement, emotional intelligence and 21st century skills) would likely have a significant positive relationship with field experience satisfaction and career readiness; indeed, which could mostly predict field experience satisfaction and career readiness. Through Pearson Correlation Coefficient, it was revealed that among the said independent variables, the 21st century skills have a strong significant positive relationship with field experience satisfaction (r= .72; p=.001) and career readiness (r=.74; p=.001) with a significance level of .05. Furthermore, through multiple regression analysis, it was discovered that the 21st century skills exert statistically significant predictor of field experience satisfaction (B= .78; p=< .001) and career readiness (B= .74; p=< .001). It is concluded that 21st century skills are mostly essential for field experience satisfaction and career readiness; thus, these findings serve as the framework for the proposed career development program. Since there is not enough recent research on the great practices to adequately sustain these new objectives, this program needs to be given priority. For that reason, this study is being done to help educational institutions make career development a fully recognized priority.

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*Speaker

Understanding Minority Stress: Heterosexist Experiences and Psychological Distress among Filipino Lesbians

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Heterosexism, which is the systemic privileging of heterosexuality and marginalization of other sexual orientations, influences the everyday realities of LGBTQA+ individuals. Filipino lesbians, in particular, are often vulnerable to different forms of discrimination due to their "double-minority" position, which may lead to heightened levels of psychological distress. This issue remains underexplored empirically in the Philippines; hence, this study examined how different types of heterosexist experiences are linked to psychological distress among Filipino lesbians. Using a predictive cross-sectional design, we investigated whether heterosexism predicts psychological distress among 501 self-identified Filipino lesbians aged 18 to 26 years who completed the Daily Heterosexist Experiences Questionnaire (DHEQ) and the Kessler Psychological Distress Scale (K10). Results revealed significant positive associations between psychological distress and the eight DHEQ subscales (stressors): (1) vigilance, (2) discrimination/harassment, (3) gender expression, (4) victimization, (5) family of origin, (6) vicarious trauma, (7) isolation, (8) concerns about HIV/ AIDS. Moreover, multiple regression analysis identified vigilance, gender expression, and vicarious trauma as significant predictors of psychological distress. These findings underscore the psychological impact of heterosexism among Filipino lesbians in the country, which emphasizes the need for more inclusive and culturally informed mental health strategies.

Keywords: heterosexist experiences, psychological distress, minority stress, Filipino lesbians

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HEALTH BELIEFS AND BEHAVIORAL CHANGE IN DENGUE PREVENTION IN A HIGH-RISK COMMUNITY: A MIXED-METHODS STUDY FOR COMMUNITY NURSING INTERVENTION DESIGN

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Using the Health Belief Model (HBM) as a guide, this mixed-methods study investigated behavioral practices and health beliefs related to dengue prevention in high-risk community in Zambales. A cross-sectional survey was used to gather quantitative data (N=500), the results showed that respondents firmly believed dengue to be a dangerous and potentially fatal illness (M = 3.25). They showed positive attitudes toward cues to action (M = 3.35) and the advantages of prevention (M = 3.52), and they acknowledged moderate susceptibility (M = 2.67). Respondents perceived few obstacles to taking preventive action (M = 2.35), and they demonstrated a comparatively high level of self-efficacy (M = 2.81). These results point to a readiness for community involvement and behavior modification. Qualitative insights obtained through the application of Colaizzi's phenomenological method (N=15) demonstrated that health beliefs and responses are significantly influenced by individual and collective experiences with dengue. In addition to posing a health risk, participants characterized dengue as a social and emotional burden that is influenced by cultural norms and past trauma. Even though the importance of preventive measures was acknowledged, full behavioral engagement was hampered by issues like systemic gaps, traditional practices, and resource constraints. Nonetheless, motivation to act was sparked by cues to action, such as public health campaigns and community members' deaths. The study, which integrates both datasets, concludes that although cognitive health beliefs - such as perceived severity, benefits, and cues to action - drive awareness, behavior is sustained by emotional, cultural, and social factors. For community nursing interventions to effectively support dengue prevention, they must be emotionally resonant, culturally sensitive, and community driven. Long-term community resilience can be promoted by empowering local leaders, upholding social norms regarding hygiene, and incorporating health techniques into culturally significant customs.

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Inventory of Vascular Lithophytes in an Inner Wall Section of Intramuros, Manila, and a New Distribution Record for Pteris ryukyuensis

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Intramuros is one of the heritage areas in the Philippines that could host a diverse range of plant species such as vascular lithophytes due to its old, mossy, rocky walls that were once used to protect the city from invasions and attacks. However, the lack of studies concerning the presence of vascular lithophytes raises questions about their adaptations, diversity, and environmental significance in urban ecosystems. This study aimed to identify vascular lithophytes on Intramuros's inner wall through an opportunistic survey and assess their abundance, diversity, endemicity, and conservation status. By examining plants adapted to this unique urban habitat, the study offers insights into their ecological roles and significance, contributing to a deeper understanding of urban biodiversity and the conservation potential of heritage sites. This survey, conducted from April–May 2024, identified 25 species exhibiting varied lithophytic habits, with *Pilea microphylla* and *Lindenbergia philippinensis* emerging as the most abundant epilithic species. Twelve (12) out of 25 recorded species are native, whereas the rest are exotic (naturalized or cultivated). Except for the strict lithophyte *Pteris ryukyuensis*, all species exhibited lithophytic tendencies. In contrast, the abundance of *Ficus*, represented by four species, suggests adaptation and ecological role within the wall ecosystem of Intramuros. Populations of previously considered vulnerable species such as the endemic *Ficus ulmifolia* were found at different wall portions. Importantly, this study reveals an extended range of P. ryukyuensis in the Philippines, marking its first recorded presence outside the Batanes Islands in over 60 years.

Keywords: native species, range extension, rediscovery, urban ecology, wall vegetation

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A Qualitative Study on Assessing Financial Security through Retirement Planning Preparedness of Gen X in Barangay Fairview

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This research evaluated the retirement preparedness of Generation X residents in Barangay Fairview, Quezon City. The objective was to determine how ready they were for retirement and how it affected their financial security. The researchers applied a Constructivist Grounded Theory approach and conducted semi-structured interviews with eight participants selected through snowball sampling. Thematic analysis revealed significant themes, including financial literacy, saving and investing habits, awareness of social security and pension benefits, and a positive attitude toward financial well-being. The data indicated that most participants primarily depended on government pensions, and only a small number had engaged in activities such as saving, investing, or starting a business to support their retirement. A few participants admitted that their retirement plans were neither clearly outlined nor well-considered, while others struggled to meet basic daily needs and demonstrated limited financial awareness. The study underscores the need for enhanced financial education programs and policy interventions to promote diversified retirement planning among Gen X individuals. Recommendations include community-based financial literacy campaigns, tailored retirement planning services, and accessible pension-investment packages to improve long-term financial security. These insights contribute to addressing gaps in localized retirement preparedness research and offer practical solutions for parents, financial institutions, and Gen X individuals navigating retirement transitions.

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Impact of Financial Incentives on Employee Satisfaction of Company A's Supervisory Level

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This study explores the impact of financial incentives on the job satisfaction of supervisory-level employees at The Gourmet Lounge, a company in the food service industry. Grounded in Herzberg's Two-Factor Theory, the research focuses on how commission-based and performance-based incentives influence key satisfaction factors such as job fulfillment, recognition, and opportunities for advancement. Using a descriptive quantitative approach, data were collected through structured surveys from all seven supervisors employed across the company's branches. The results revealed that supervisors generally held positive perceptions of both types of financial incentives and expressed high levels of satisfaction with their roles, particularly in terms of job fulfillment and professional growth. Despite these positive perceptions, regression and ANOVA analysis indicated that financial incentives do not significantly impact overall job satisfaction among supervisory staff. The findings led to the acceptance of the null hypothesis, suggesting that monetary rewards alone may not be strong predictors of satisfaction at the supervisory level. This implies that while financial incentives are appreciated, they must be supplemented with non-monetary motivators such as recognition, feedback, and career advancement opportunities. The study recommends that companies adopt a more holistic approach to employee satisfaction by integrating both financial and intrinsic motivators to maintain a motivated and committed workforce.

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Banana peels and chitosan as potential biocoagulant in treating wastewater at Paco Public Market

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Wastewater pollution has been a serious issue in the Philippines due to the pollutants that it carries to numerous bodies of water in which the country is mostly composed of. One of the major contributors to the said issue is the discharges from the community, specifically, public markets that produce high-strength exudes from various sources and operations within a specific area. With this in mind, the study investigates the potential of banana peels and chitosan as biocoagulant for treating wastewater generated from the Paco Public Market, which is a significant contributor to the pollution of Estero de Paco and the Pasig River. Using the jar test method, raw wastewater samples with initial Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS) values of 1665 mg/L and 252 mg/L, respectively, were treated with varying dosages of the biocoagulant mixture. Laboratory analysis revealed that the highest dosage resulted in the greatest reduction, with BOD decreasing to 160 mg/L and TSS to 186 mg/L. Although the treated samples did not meet the DENR Class C effluent standards of 50 mg/L for BOD and 100 mg/L for TSS, the results demonstrated significant pollutant reduction, with a BOD removal efficiency of approximately 90%. Moreover, the analysis suggests that several factors during the procurement of raw materials or the preparation of the biocoagulant may have affected the outcome of the results. Hence, the research highlights the feasibility of using organic waste as a sustainable and for preliminary wastewater treatment, offering promising implications for environmental engineering and localized pollution control strategies. Overall, it is revealed that the biocoagulant made from waste products, specifically banana peels and chitosan, has a significant impact on treating wastewater obtained from Paco Public Market, as it successfully reduced pollutants such as BOD and TSS.

Keywords: Biocoagulation, Banana Peels, Chitosan, BOD, TSS

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Senior High School Student's Knowledge and Awareness on Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome

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As deadly as it is, Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) is a disease that targets the human white blood cells, which weakens the immune system. It can be spread from the infected person body fluids like blood, semen, vaginal fluids and even breast milk. Here in the Philippines, there's a worrying upsurge in HIV/AIDS cases among those aged 15-24, with a significant proportion of new cases attributed to sexual contact, especially among young men who have sex with another men (MSM). According to the report of the June 2023 HIV/AIDS and ART Registry of the Philippines (HARP) by the Epidemiology Bureau of the Department of Health (DOH-EB), 29% of reported cases belonged to young people aged 15-24 years old. This concerning issue made the researchers pursue this correlational research study to determine the senior high school student's knowledge and awareness about HIV/AIDS at selected Manila high schools.
The findings of the study revealed that senior high school students at selected Manila High Schools have a high level of knowledge of HIV/AIDS in terms of transmission, prevention and protection. However, they still have moments that they fail to realize the risks of having the disease, thus needing more education on how to prevent and be protected from it. The senior high school students also have a high level of awareness about the effects of HIV/AIDS in people who contracted them in terms of physical, psychological, socio-economic and spiritual aspects. In terms of significant relationships there was strong evidence between levels of knowledge and awareness about the effects of HIV/AIDS.

In conclusion, young people like senior high school students must be more knowledgeable, aware, and updated about HIV/AIDS. They should recognize the importance of knowing the risks of contracting the disease and being able to prevent it.

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ASSESSING THE IMPACT OF LOYALTY CARDS ON CUSTOMER RETENTION: EFFECTIVENESS OF REWARD SYSTEMS

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This study investigates the impact of loyalty cards on customer retention, focusing on the effectiveness of reward systems in the retail industry. The objective is to assess whether loyalty cards influence customer retention and to identify which reward aspects most affect retention, with the hypothesis that loyalty cards do not significantly impact customer retention. Using a descriptive research design, data were collected from 100 marketing students at National University-Fairview through purposive sampling, focusing on respondents who held retail loyalty cards. Data were analyzed using percentages, means, and Chi-square tests, with reliability and validity ensured through pilot testing and expert validation. The results show that satisfaction and repurchase intention received the highest ratings, indicating that customers are pleased with the rewards from loyalty cards, which drive their intent to make repeat purchases. To further enhance engagement, the researchers propose that retail businesses incorporate gamification into loyalty programs. By introducing customer challenges that unlock exclusive, more valuable rewards, businesses can boost emotional engagement and increase the perceived value of loyalty cards, ultimately improving customer satisfaction and retention. Additionally, the findings also show that ease of redemption is the most effective aspect of reward systems in retaining customers, as participants highly valued the simplicity and convenience of redeeming rewards. Moreover, the study confirms that loyalty cards have a significant positive impact on customer retention. These findings suggest that businesses should prioritize user-friendly loyalty programs that offer easily accessible and redeemable rewards to enhance long-term customer retention.

Keywords: LOYALTY CARDS, CUSTOMER RETENTION, and REWARD SYSTEM

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The Effectiveness of Annona Muricata (Guyabano) Leaves with Allium Sativum (Garlic) and Citrus Limon (Lemon) as Insecticide

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The widespread use of chemical pesticides in traditional insect control poses significant environmental risks, including water contamination, harm to beneficial insects, and the emergence of pesticide-resistant insects. In response to the urgent need for eco-friendly alternatives, this study explores the insecticidal potential of *Annona muricata* (soursop) leaves, enhanced with *Allium sativum* (garlic) and *Citrus limon* (lemon), as a natural insecticide. While *Annona muricata* is widely recognized for its nutritional and medicinal properties, its leaves are rich in phytochemicals such as acetogenins, flavonoids, and tannins compounds known for their insecticidal effects. Controlled laboratory experiments were conducted to assess the efficacy of prepared plant-based solutions on common household insects like mosquitoes and cockroaches. The process involved sun-drying soursop leaves, grinding them into powder, and combining them with garlic and lemon extracts, followed by boiling and application via spray. The results demonstrated promising insect-repellent and insecticidal effects, highlighting the potential of this mixture as an effective, sustainable alternative to synthetic pesticides in household insect management.

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*Speaker

Development of Doctor of Nursing Practice Curricular Framework in Selected Asian Countries: A Multi Phased Design in ADDIE Model

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This study examines the development of a Doctor of Nursing Practice (DNP) curricular framework in selected Asian countries using a multiphase design based on the ADDIE Model (Analysis, Design, Development, Implementation, Evaluation). The research utilizes a systematic approach, ensuring that each phase builds upon the previous one, promoting continuous curriculum improvement. In the first phase, an integrative review of literature was conducted to identify evidence-based components for the curriculum. The second phase involved 35 experts selected through purposive sampling, who participated in a two-round Modified Delphi Method to achieve consensus on the curriculum design. The analysis revealed a significant agreement with a Fleiss' Kappa statistic of 0.617, indicating robust alignment on key curricular elements, including the integration of theory, practice, and research.

The third phase focused on further developing the curriculum by incorporating feedback from the Delphi process, emphasizing a constructivist approach aligned with outcomes-based education. The fourth phase involved pilot testing, where 10 graduate school experts assessed the Content Validity Index (CVI) of the proposed curriculum, with results ranging from 0.90 to 1.00. Additionally, 30 staff nurses with master's degrees in nursing participated in a feasibility survey, revealing a positive inclination to enroll in the DNP program, with a mean score of 4.07, although concerns about time commitments were noted.

This comprehensive approach ensured the development of a practical, outcomes-based DNP curriculum designed to equip nursing professionals with advanced clinical and leadership skills to meet the complex needs of healthcare systems in Asia.

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Too Little, Too Late: Perception of Teenage Mothers of Dasmariñas Integrated High School on the Importance of Sex Education

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With the rising concerns surrounding teenage pregnancy and comprehensive sex education in schools, questions arise about how well teenagers are being guided in making decisions about relationships, sexuality, and overall well-being. Therefore, the researchers conducted a qualitative research using Basic Interpretive Qualitative Study (BIQS) to further examine the perceptions of teenage mothers towards sex education. This study was conducted at Dasmariñas Integrated High School with a total of three Open High School Program (OHSP) students as respondents. A semi-structured questionnaire was used to collect data from the participants regarding their perceptions of sex education learning. Findings revealed that existing sex education programs inadequately prepare adolescents for developmental realities, with early pregnancy significantly compromising educational attainment and socioeconomic trajectories. Insights from the participants underscore the urgent need for a more effective, age-appropriate, and relevant sex education to prevent similar outcomes and empower young women. Overall, this study advocates for the implementation of evidence-based, developmentally appropriate sexuality education to equip youth with essential knowledge and agency, informing critical policy reforms to address adolescent reproductive health disparities in the Philippine educational system.

Keywords: Teenage Pregnancy, Sex Education, Reproductive Health, Adolescent Perception, Open High School Program (OHSP)

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A Phenomenological Study on the Academic, Emotional, and Social Experiences of ALS Students at Dasmariñas Integrated High School

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Alternative education in the Philippines is often marginalized and undervalued, despite its role in offering inclusive education for out-of-school youth and adults. Frequently perceived as inferior to formal education. This Phenomenological study explored the lived experiences of five (5) grade 12 ALS students at Dasmariñas Integrated High School through interviews and thematic analysis. The research focused on four key metrics: Academic challenges, Emotional struggles, Social adaptation, and Coping mechanisms. Findings revealed that students struggled with understanding self-learning modules, balancing studies with work and family responsibilities, financial strain, and age-related limitations. Limited class sessions and reduced student-teacher interaction further intensified these challenges. To address learning gaps, students turned to online resources, teachers, and peers-treating tools like Google as informal classrooms. Social stigma also emerged as a significant barrier, affecting self-esteem and making some feel excluded or compelled to justify their place in the academic setting. Despite these pressures, ALS learners demonstrated resilience through self-motivation, identity negotiation, and strong peer support, enabling them to persevere alongside regular students. The study highlights that ALS students' academic, emotional, and social struggles reflect broader systemic and individual factors inherent in non-traditional learning environments. In conclusion, strengthening the ALS program through more flexible scheduling, increased teacher-student interaction, and expanded community support may help bridge these learning gaps and better meet the needs of out-of-school youth and adult learners. The study highlights the importance of recognizing the emotional and social realities of ALS learners. It offers practical insights for improving program delivery, teacher engagement, and community awareness.

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Apoptotic Gene Modulation by Saribus rotundifolius and Ziziphus talanai Extracts in MCF-7 Cells

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Introduction:

Urban populations face a growing burden of cancer, including breast cancer, which demands more sustainable and accessible therapeutic options. Natural products derived from endemic Philippine flora offer promising bioactive compounds for anticancer applications. This study aimed to investigate the cytotoxic and gene expression effects of methanolic extracts from Saribus rotundifolius (Anahaw) and Ziziphus talanai (Balakat) on MCF-7 human breast cancer cells.

Methodology:

Cytotoxic activity was assessed using the MTT assay to determine IC values. Gene expression levels of the tumor suppressor gene p53 and the anti-apoptotic gene BCL2 were measured using quantitative real-time polymerase chain reaction (qRT-PCR). Doxorubicin served as the positive control.

Findings:

Anahaw exhibited weak cytotoxicity with an IC of 183 μg/mL, while Balakat showed negative percent inhibition, suggesting a possible stimulatory effect. Both extracts modulated gene expression: Anahaw upregulated p53 (0.84 log-fold) and downregulated BCL2 (-0.153 log-fold), while Balakat induced milder changes (p53 = 0.52; BCL2 = -0.032). The positive control resulted in strong p53 (3.17) and BCL2 (2.27) upregulation. These results suggest that both extracts may influence apoptotic regulation, though cytotoxic effects were limited.

Conclusion:

The findings support the potential of S. rotundifolius and Z. talanai in modulating cancer-related gene expression, particularly in enhancing p53 activity. While cytotoxic effects were modest, the observed gene modulation highlights their possible role in pro-apoptotic regulation. This contributes to the broader pursuit of affordable, plant-based cancer therapeutics aligned with sustainable urban health strategies. Further studies are needed to isolate active compounds and assess therapeutic potential.

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*Speaker

DEVELOPMENT OF ESP-32 BASED AND SMS TEXT ACTIVATED ELECTRICAL SYSTEM SHUT-OFF DEVICE FOR EARTHQUAKES

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One of the major hazards associated with earthquakes is the risk of fire caused by electrical systems within the buildings. This study focused on creating an electrical system shut-off device that automatically turns off electricity during an earthquake to lower the risk of fire and electrical hazards. The shut off device which composed of ESP32 microcontroller and accelerometer successfully accomplished its initial purpose which is to automatically cut the power when a certain intensity of earthquake occurred. The shut off device underwent simulated seismic shaking of increasing intensity during the test period. Three installation conditions were compared: wall-fixed, suspended, and free-standing (stand-still). Of these three conditions, the wall-fixed configuration provided the most stable pattern and behavior during the testing phase. These findings indicate that a fixed wall-mounted setup ensures optimal performance and safety. In addition, an SMS text activated system was added to its features to enable remote manual device activation to the two modules: master and slave. These added features will avoid false triggers from non-seismic vibrations.

Keywords: earthquake, automatic shut, off, electrical safety, SMS activation, failsafe, device installation

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Integrating Geometry and Problem-Based Learning for Environmental Action in Local Communities: Students' Initiatives for Sustainable Development

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This research investigated how Teacher Education students in a Plane and Solid Geometry course applied problem-based learning (PBL) to address environmental issues within their local communities. Anchored in the frameworks of Education for Sustainable Development or ESD (UNESCO, 2020), and Experiential Learning Theory (Kolb, 1984; Bartle, 2015), the project aimed to deepen students' mathematical understanding while fostering environmental responsibility and civic engagement. Over a semester, mathematics majors identified barangay-level environmental concerns-such as paper and plastic waste, flooding, and poor waste segregation-and developed practical, geometry-based solutions. These included designing notebooks using recycled papers, drainage covers, water collection systems, and three-bin waste segregation units. Students engaged in sustained inquiry by exploring real-life challenges, applying geometric concepts (e.g., surface area, volume, spatial reasoning), and creating scaled models or prototypes using recycled materials. Outputs were analyzed through content analysis of student artifacts, including PowerPoint and video presentations, and validated by expert audit trails. Results showed strong alignment with multiple Sustainable Development Goals, notably SDG 4 (Quality Education), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action).

The PBL approach facilitated meaningful learning by promoting collaboration, critical reflection, and public sharing. While all groups demonstrated effective application of geometry and community relevance, the depth of reflection, feedback incorporation, and documentation varied.
This study illustrates how mathematics education, when situated in authentic contexts and guided by ESD principles, can empower students as problem-solvers and active citizens. It underscores the potential of interdisciplinary, localized, and value-driven teaching methods to bridge academic content with global sustainability efforts. Future implementations should enhance mathematical rigor, integrate structured reflection, and expand community involvement to further amplify educational and environmental impact.

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*Speaker

IntraRide: An Internet of Things (IoT) - Powered Bike Rental System with RFID Lock, GPS Tracking, and Data Analytics for Bambike Eco-Tours

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In pursuit of enhancing sustainable tourism and addressing operational challenges in bike rentals, this study developed IntraRide, an IoT-powered bike rental system tailored for Bambike Eco-Tours in Intramuros, Manila. The project aimed to resolve key issues in rental efficiency, security, and data-driven management by integrating RFID-based locking mechanisms, real-time GPS tracking, and predictive data analytics.

To achieve this, researchers adopted the Kanban agile methodology, with system development guided by ISO/IEC 25010:2023 (software quality) and ISO/IEC 30162:2022 (IoT trustworthiness and reliability) standards. Using React.js, Firebase, ESP32 microcontrollers, MFRC522 RFID modules, and Neo-6M GPS trackers, the team built an intelligent system layered across hardware implementation, cloud integration, and data pipeline automation. Evaluation criteria included Functionality, Usability, Reliability, Security, and Resilience. Predictive models such as the ARIMA algorithm were used for demand forecasting and fleet maintenance scheduling, while the Kalman Filter enhanced GPS signal stability for accurate route monitoring. A FIFO queuing algorithm was embedded to ensure fair access to limited bike resources.

Data was collected through structured surveys involving 87 validated participants across three respondent groups, 71 users/tourists, 5 staff/admin, and 11 IT professionals. Quantitative analysis applied a 4-point Likert scale with cross-referenced ISO standards. Results confirmed high system effectiveness, registering overall mean scores of 3.90 (staff/admin), 3.54 (customers), and 3.52 (IT professionals). Respondents noted marked improvements in reducing wait times, simplifying transactions, increasing lock reliability, and providing responsive real-time GPS tracking, all while using automated mechanisms that require minimal staff intervention.

Key findings emphasize that IntraRide's design not only enhances user experience but also supports Bambike's sustainability goals by optimizing fleet utilization and minimizing idle resources. Despite limitations such as dependence on internet connectivity and limited GPS coverage to

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the Intramuros area, the system proved scalable, resilient, and technically robust.

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CLINICAL COMPETENCE, NURSE CARE PERCEPTIONS, and QUALITY of NURSING CARE IN ACUTE CARE SETTINGS: A MULTIMETHOD DESIGN STUDY

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This study examined the relationship between nurses' care perspectives, clinical competence, and care quality in acute care settings. It aimed to establish a framework for evaluating and improving nursing practice, contributing to nursing education, healthcare policy, and patient-centered care. Respondents were 152 registered nurses from Manila hospitals in Acute care areas, with at least six months of experience and direct patient care roles.

A Quantitative Multi-Method Design was employed, combining survey-based correlational analysis, regression–mediation analysis, and path modeling to assess inter-variable dynamics. Findings showed nurses were rated as "competent enough," with strengths in legal compliance, accountability, and trust-building, but lower in orientation, coaching, and research participation. Caring perceptions were rated "high" in patient communication and emotional support, but only "moderate" in stress handling and organizational support. Care quality was rated favorably, particularly in patient safety and privacy, though lower in expense explanation and complaint handling.

Statistical analysis revealed strong positive correlations between competence and caring perceptions (r = 0.952, p < .001), caring perceptions and care quality (r = 0.839, p < .001), and competence and care quality (r = 0.756, p < .001). Regression results indicated that 72.4% of the variance in care quality was explained by competence and caring perceptions. Importantly, caring perceptions strongly predicted care quality (B = 1.5372, p < .001), while competence had a negative predictive effect (B = -0.4656, p = 0.001). Mediation analysis confirmed that caring perceptions significantly mediated the relationship between competence and care quality (β = 1.217, p < .001).

It concludes that while competence is vital, caring perceptions influence care quality. The findings justify the implementation of integrated programs like ACEP, aimed at enhancing both technical proficiency and emotional intelligence.

Recommendations include integrating caring and emotional intelligence modules in nursing education, strengthening organizational support, and promoting holistic, patient-centered care.

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*Speaker

Emerging Trends in Sustainable Waste Management Practices within the Hospitality Industry

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The hospitality industry faces increasing pressure to adopt sustainable waste management practices in response to growing environmental concerns and tightening regulatory requirements. This study investigates emerging trends and innovative approaches to sustainable waste management within the hospitality sector, focusing on practices such as waste generation, disposal, segregation, recycling, and collection and transport. Data were collected from various hospitality establishments, and Analysis of Variance (ANOVA) was employed to assess whether significant differences exist in waste management practices based on respondents' profiles, including gender, age, educational attainment, length of service, employment status, and tourism sector affiliation. The findings reveal that waste disposal and recycling practices do not significantly differ across respondent demographics, indicating a uniform application of these practices within the industry. However, significant differences were identified in other areas: waste generation practices varied with employees' length of service, suggesting that more experienced staff handle waste more effectively; waste segregation and waste collection and transport practices varied with employee age, reflecting the role of maturity and awareness in waste handling. The study also highlights the importance of staff training, equipment availability, regulatory compliance, and stakeholder engagement in enhancing waste management efforts. Through synthesis current knowledge and empirical evidence, this research contributes to a deeper understanding of the dynamics of sustainable waste management in hospitality, offering practical insights for industry stakeholders and policymakers aiming to foster environmental stewardship and operational resilience.
implementation and offers recommendations for overcoming challenges and fostering widespread adoption of sustainable waste management practices. The findings of this study contribute to the understanding of evolving sustainability practices in the hospitality sector and provide valuable insights for industry stakeholders, policymakers, and researchers seeking to promote environmental stewardship and resilience in hospitality operations.

Keywords: *hospitality industry, waste generation, waste disposal, waste segregation, waste recycling*

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*Speaker

REVISITING PARTICIPATORY DEMOCRACY IN THE PHILIPPINES: ROOTING FROM THE LONG HISTORY OF COLONIAL EXPERIENCES

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Philippine political system has colonial traces that still affect the carrying out of participatory democracy. Given the current ethno-linguistic composition of the Philippines and the wide diversity of identities shaped by the long history of colonial influences, this paper explores how these have affected the current state of our political system. Particularly, this paper deals with how our colonial experiences affected the manner we now carry out participatory democracy. This paper aims to describe and examine the inter-cultural encounters of Filipinos with other peoples and cultures of Asia, Europe and the Americas and analyze the patterns and trends of Filipino responses to external social and cultural interactions and events. This study used archival research method which documents, records, and media offering insights into past events, trends, and phenomena. Five factors were identifies that affect Participatory Democracy in the Philippines: 1) Suffrage and the adoption of learning poverty manifested in weak electoral education; 2) Silencing of the Indigenous People (IP) and the media; 3) Perpetuation of Martial Law experience and trauma; 4) Role of civil society; and 5) Lack of Governmental Institutions, Skills, and Experience leading to poverty and inequality. The study reveals that the Philippines inherited the pros and cons of colonial administrations relevant to the ways how people participate in government processes. Philippines has also inherited perpetuated problems and issues related to from human rights to good governance that leads to questioning the efficacy of governmental institutions and the participation of people in government decisions.

Keywords: Keywords: participatory government, suffrage, government institutions, civil society, martial law

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*Speaker

Enhancing Data Accuracy for student Eligibility in Government support through Data Analytic Platform

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In the current era of the Philippines, a nation facing with significant socioeconomic challenges, the effective implementation of social welfare programs stands as a critical project. With approximately thirteen million Filipinos living in poverty and a GDP-PPP per capita of P12,192 (Vera, 2024), the need for efficient governmental support systems has never been more pressing. The Department of Social Welfare and Development (DSWD) serves as the primary agency addressing these challenges through various initiatives, most notably the Pantawid Pamilyang Pilipino Program (4P's), which provides crucial educational and household support to underprivileged families. The significance of this research lies in its potential to transform the management of social welfare programs in the Philippines, particularly the significant operational inefficiencies in the current manual systems of the 4P's program. By addressing the current limitations of manual processes and introducing data analytics capabilities, this study not only aims to improve administrative efficiency but also seeks to ensure more effective targeting and delivery of educational and financial support to those who need it most.

Keywords: Socioeconomic, Gross Domestic Product, Purchasing Power Parity (GDP, PPP), Data Anaytics, Data Accuracy, Pantawid Pamilyang Pilipino Program(4P's)

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Simbolo ng Nazareno: Mga Kwentong Traslacion

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Introduction

This study explores the symbolic and cultural meanings surrounding the custodianship of Poong Nazareno replicas during the annual *Traslacion* in Quiapo, Manila. It seeks to understand how devotees attribute meaning to these replicas, how custodianship is expressed through religious practices, and how such traditions are passed on to the next generation.

Methodology

A qualitative case study design was employed, using narrative inquiry and symbolic analysis. Two participants were selected: Participant 1, a 34-year-old married businessman from Caloocan, and Participant 2, a 29-year-old single chapter leader from Tondo, Manila. Both serve as long-time custodians of Black Nazarene replicas brought annually to Quiapo. Data were gathered through in-depth interviews and oral history.

Findings

The study reveals that the replicas-named "Señor Junior," "Señor Blue," and "Señor Handog"-carry deep symbolic and spiritual meaning. Through the lens of symbolic interactionism, it was found that meanings are created and reshaped through ritual practices such as dressing the images in different colors, conducting vigils, praying the Rosary, and performing the *Pabasa*. The act of naming the images reflects the personal and communal connections devotees develop with the sacred symbols. Intergenerational transmission of practices, such as involving children and youth in devotional activities, ensures the continuity of these cultural expressions. The custodians express profound gratitude to the image for perceived blessings, safety, and guidance-showing a dynamic, reciprocal relationship with the symbol.

Conclusion

Custodianship of Poong Nazareno replicas reflects a lived tradition shaped by faith, history, and community ties. This study deepens our understanding of how symbolic meanings evolve and are preserved within Filipino religious culture.

Keywords: Poong Nazareno, Traslacion, custodianship, symbolic interactionism, devotion

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*Speaker

Bilislikas: Smart Evacuation Tracking System for Barangays using RFID with Facial Recognition Technology

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The research aims to address the limitation of the Philippines' current evacuation protocols by leveraging RFID, QR code, facial recognition, IoT, and GPS technologies. In an interview with the Manila Disaster Risk Reduction and Management Office, the current system is manual and paper-based, which involves a yellow card distributed by the Department of Social Welfare and Development to evacuees. Such methods often fall short in providing real-time data and are susceptible to human errors resulting in resource allocation and distribution inefficiencies. The system is developed using a Raspberry Pi 5, ESP32 DEVKIT DOIT Board V1, an ESP32 C3 Mini, and a Neo-6M GPS module. The web application, mobile application and system hardware underwent intensive testing before pilot test in Barangay 91, Tondo, Manila, demonstrating significant improvements in evacuation processing time and accuracy compared to traditional methods. The questionnaire based on the ISO/IEC 25010 Software Quality Model obtained weighted mean scores above 4.4 indicating a positive software perception. The facial recognition model achieved high verification accuracy across diverse datasets, while GPS tracking performance remained within acceptable error margins for typical consumer-grade GPS modules. Based on the results, BilisLikas is a viable solution in addressing the limitations of the country's evacuation protocols; by leveraging emerging and established technologies it provides a scalable and efficient system for improving disaster response and resource allocation in local communities.

Keywords: Evacuation Protocols, Facial Recognition, GPS, LoRa, IoT

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Exploring the Issues and Challenges of Adult Children as Family Caregiver of Post-stroke Parent: A Case Study

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This study aims to investigate the experiences, challenges, and issues encountered by adult children as family caregivers of post-stroke parent. This research used multiple case study which makes it possible to investigate a complicated phenomenon by identifying the various components that interact with one another. A purposive augmented with snowballing sampling was utilized to gather participants within the research locale. The study explored three themes: the weight of responsibility: balancing personal/professional life, and caregiving duty; the weight of compassion: when caregiving becomes overwhelming; the weight of expectations: family and cultural expectations. The weight of responsibility: Balancing personal/professional life and caregiving duty explored that the participants experienced considerable role conflicts, extensive caregiving responsibilities, and personal sacrifices. The weight of compassion: when caregiving becomes overwhelming, captures the emotional and physical toll of caregiving driven by love and compassion. The family caregivers often experience physical and emotional fatigue, and emotional struggles which emphasizes the importance of mental health support and coping strategies to sustain family caregiver's well-being. The weight of expectations: familial and cultural expectations, it highlights the cultural principles like filial piety and a sense of indebtedness fueled caregiving yet also led to emotional and psychological distress, including panic attacks and thoughts of suicide. Despite these challenges, family caregivers revealed their steadfast love and dedication to their parents. Adult children often share similar issues and challenges when it comes to providing care to their post-stroke parent. Therefore, with the commonalities they exhibited, the data saturation of the study has been reached. This study is a valuable contribution to the well-being of adult children as family caregivers. Its findings illustrates the significant effect of family caregiving roles on the mental health of adult children and underscores the need for shared responsibilities and support for family caregivers involved in post-stroke rehabilitation and care planning.

Keywords: Adult Children, Poststroke Parents, Family Caregiving, Issues, Challenges

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Knowledge, attitudes, practices and their relationship with compliance to therapeutic regimen of individuals diagnosed with Diabetes Mellitus in Metro Manila

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Diabetes Mellitus (DM) remains a significant public health challenge, with Diabetic Retinopathy (DR) being a leading cause of vision impairment among affected individuals. This study examined the knowledge, attitudes, and practices (KAP) and their relationship with compliance to therapeutic regimens among individuals diagnosed with DM in Metro Manila, particularly in managing DR. A quantitative multi-method research design was employed, utilizing survey correlational analysis and regression analysis to determine the relationship between KAP and compliance. Data were collected from 400 individuals clinically diagnosed with DM respondents, analyzed using descriptive statistics, Spearman correlation, and regression analysis. Findings revealed that while respondents demonstrated adequate knowledge about diabetes and its complications, gaps in treatment adherence and awareness of advanced therapeutics options were evident. Attitude emerged as the strongest predictor of compliance (R^2=0.7403, $p < 0.001$), indicating that motivation and self-efficacy play crucial roles in compliance. Additionally, practical barriers such as financial constraints, healthcare access, and time constraints were key contributors to non-compliance. The study underscored the need for targeted educational programs, psychological support, and practical assistance to improve adherence to therapeutic regimens. To address these gaps, an Outcome-Based Education (OBE) Program titled "Empowering Attitudes, Enhancing Compliance" was developed. The program is designed to reshape patient attitudes and enhance self-efficacy through structured education, behavioral interventions, and support systems. This study concluded that sustainable diabetes self-management requires not just awareness or routine, but a transformation in mindset. This research highlighted the importance of attitude-focused interventions in diabetes management and contributed to evidence-based strategies for enhancing compliance, reducing vision loss risks, and improving patient outcomes. Future research should explore longitudinal assessments and broader geographical scopes to validate the effectiveness of the proposed interventions.

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*Speaker

Diversity and Distribution of Echinoderms With Notes on Their Local Economic Importance in Barangay Gulod, Calatagan, Batangas

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Echinoderms are marine invertebrates with potential economic value. The researchers aimed to evaluate the diversity and distribution of echinoderms, and their local economic importance in Barangay Gulod, a coastal barangay in Calatagan, Batangas. Sampling was conducted at low tide in six stations with five 50 m transect lines between February to April. Residents were interviewed to determine the local economic importance of echinoderms. The physicochemical parameters of water were also measured alongside data collection, which was correlated to biological indices using the Pearson r correlation. Biological indices, namely Shannon-Wiener, Margalef's, Pielou's, and Simpson's index were determined, including frequency and density of species. 27 species of echinoderms– from class Echinoidea, Ophiuroidea, Holothuroidea, and Asteroidea were observed in the intertidal and upper subtidal zones of Barangay Gulod. GCB5, a seagrass habitat with seagrass habitat,had the highest diversity based on the Shannon-Wiener (H = 1.48) and Simpson's index (D = 0.28) values. GCB2, a rocky area, obtained a Margalef's index value of d = 3.43, indicating high species richness. Archaster typicus was found to have the highest frequency and density across sampling stations. Significant correlations were observed between physicochemical parameters and biological indices: frequency and pH (r = -0.558), density and D.O. (r = 0.515), Shanon-Wiener and temperature (r = -0.836), Margalef's and pH (r = -0.648), Pielou's (r = -0.962), Simpson's index (r = 0.872) and inverse (r = -0.689) with temperature. Echinoderms were also found to be a supplementary source of income for the residents of Barangay Gulod.

Keywords: echinoderms, echinodermata, diversity, distribution, calatagan

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Identifying the Best Architectural Interventions of Households That are Being Affected by Increased Heat in Temperature Within the Barangay, Poblacion in the Municipality of Norzagaray, Bulacan

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The effects of rising temperatures in their homes are commonly investigated in this study. The primary drivers of climate change at the regional level will be highlighted, and the most up-to-date techniques for assessing climate change and its effects on local communities will be described. The purpose of this qualitative study is to understand the best architectural interventions that are being caused by increased heat in the temperature around the municipality of Norzagaray, Bulacan. Specifically, what are the things they do when temperature changes in their households. My aim in conducting this research was to explore the effects of increased heat on temperature, standing to gain further insight into local communities' behavior. The researcher used a phenomenological research design for his study because it allows for the identification of the significance of the professionals' self-directed working experience and views. Phenomenology's goal is to fully explain what an experience means to the person experiencing it. The researcher interviewed 30 participants living in Norzagaray, Bulacan. Interpretative phenomenological analysis of the qualitative data revealed that their architectural interventions were to open windows, buy appliances like electric fans, and open their air-conditioning as much. The experience of increased and exchanged of temperature was a high maintenance for them because it involves money to cope with this kind of experience, but it was all worth it for them to have a healthy and strong life. These findings contribute to a deeper understanding of what the best architectural interventions are when temperature changes and may inform future generations.

Keywords: People's Actions, Variation of Architectural Structures, Architectural Strategies, Temperature Awareness, Health Expectations

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The effects of music therapy among older adults with musculoskeletal problems in selected facility-based home health agencies and communal settings in Pampanga: an experimental study

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The utilization of music as a non-pharmacologic alternative in managing chronic pain lessens the occurrence of polypharmacy and addresses the psychological impact of pain. While the effectiveness of music therapy in alleviating pain is well-documented worldwide, its implementation in clinical practice remains a developing area in the Philippines. The study investigates the effectiveness of music therapy (MT) as a non-pharmacologic approach to manage chronic pain and its associated psychophysiological effects among 40 older adults in Pampanga, Philippines. Forty participants were divided into four groups, each exposed to different musical interventions (A-upbeat, B-downbeat, C-on-off music), while one group served as a control (D). The 7-day intervention involved daily 15-minute classical music sessions delivered using headphones. Findings indicated a significant reduction in pain intensity, with an average numerical rating scale (NRS) reduction of 0.981 daily and an overall improvement of 74.10%. Additionally, MT positively impacted psychophysiological effects, evidenced by decreased scores in pain interference, depression, anxiety, and stress with pre-post treatment scores of groups A, B, and C resulting in a $p < 0.05$. Group comparisons demonstrated upbeat music's superiority in managing the psychological aspects of chronic pain, while downbeat music showed greater efficacy in addressing the physiological parameters. Overall, the results point to MT's potential in enhancing overall health and quality of life with its significant alleviation to chronic pain and its associated psychological effects.

Keywords: music therapy, polypharmacy, chronic pain, tempo

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Cultivating Citizenship: The Role Of The Girl Scouts Of The Philippines In Shaping Young Leaders' Patriotism

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Extracurricular activities play a key role in the holistic development of high school students. Prior studies emphasize the positive effect of youth organizations, however, limited attention has been given to the role of Girl Scouts of the Philippines in fostering patriotism. The study explored the impact of Girl Scouting on developing patriotism among young leaders. Specially, it examines the correlation between Girl Scouting participation and patriotism, and identifies school-based Girl Scouting activities that foster patriotic values. The study utilized mixed methods, sequential explanatory design. Quantitative data through surveys were collected from 109 respondents, followed by qualitative interviews from 8 troop leaders. The study highlighted that young leaders demonstrate the five forms of patriotism, supported by the themes and statements from the troop leaders. A strong positive correlation (0.75%) was revealed between active participation in the Girl Scouting Program and cultivation of citizenship in terms of patriotism. The study recommends encouraging students' participation in Girl Scouting, enhancing school support for Girl Scouting Programs, continuous development of relevant patriotic programs by GSP, and acknowledgment of community on the contributions of Girl Scouting Programs. Future researchers are suggested to conduct comparative study between public and private high schools to analyze differences in implementation and outcomes of instilling patriotism by Girl Scouting Programs.

Keywords: Patriotism, Girl Scouting, Young Leaders, Troop Leaders

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A Mixed-Methods Study on Google Classroom Use: Thematic Perspectives and Quantitative Insights on Student Engagement and Connectivity at the City of Malabon University

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This study explores the experiences, perceptions, engagement levels, and connectivity challenges of third-year Information Technology (IT) students at the City of Malabon University (CMU) in using Google Classroom as a learning management system (LMS). In response to the growing need for accessible digital education amid environmental disruptions such as flooding and extreme heat. The study employs a mixed-methods design, integrating quantitative survey data with qualitative thematic analysis of open-ended responses.

The quantitative component examined measurable indicators such as user satisfaction, frequency of access, and platform functionality. The qualitative findings revealed recurring themes around platform usability, mobile-friendliness, teacher responsiveness, and the critical role of internet connectivity. Despite overall positive sentiment toward Google Classroom's interface and organizational features, students identified intermittent connectivity and limited instructor interaction as key areas of concern.

Results affirm that Google Classroom is a cost-effective and user-friendly digital learning solution, The study concludes by offering recommendations for enhancing platform utilization through improved internet access, faculty responsiveness, and institutional training. These findings contribute to the ongoing discourse on digital equity and instructional continuity in higher education.

Keywords: Google Classroom, learning management system, mixed, methods, thematic analysis, student perception, online learning

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Assessment of the Intervention and Support program to the Pantawid Pamilyang Pilipino Program (4Ps) beneficiaries in the Municipality of Kalayaan, Laguna

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Pantawid Pamilyang Pilipino Program (4Ps) is the national poverty alleviation and the human capital investment program of the Philippines which provides conditional cash to poor family-beneficiaries to strengthen the education, health, and nutrition. Amidst the many existing interventions, there still exist difficulty in the intervention and support programs in the LGU. This study assesses the intervention and support program to the 4Ps beneficiaries in the Municipality of Kalayaan, Laguna. The research applies the Philippine Social Protection Framework and Strategy particularly the participatory strategies to determine the perceived implementation of participatory strategies of 4Ps beneficiaries and the extent of intervention and support programs to achieve the goal of self-sufficiency. A total of two-hundred fifty (250) 4Ps family-beneficiaries of the Municipality of Kalayaan whose tenure in the program is 10-13 years already served as the study's respondents and selected through purposive sampling method. Statistical treatments such as frequency count, percentage, mean, standard deviation, Kruskal Wallis H-test and Pearson-r were utilized. The analysis revealed that among the 11 areas of intervention and support program, only Family Awareness on Social Issue, Role Performance of Family Members, Health, Nutrition, and Water and Sanitation reveals a high extent of implementation. Further, the analysis also revealed a moderately high and statistically significant correlation between perceived implementation of participatory strategies and extent of intervention and support program, indicating that the higher the intervention and support program, the higher the perceived implementation of participatory strategies of the respondents is. Findings suggests that a needs-based analysis is needed to craft the needs of the beneficiaries and institutionalized Sangguniang Bayan Resolution to provide and strengthen the intervention and support program to the 4Ps beneficiaries in the Municipality of Kalayaan. These insights provide strategic guidance for optimizing intervention and support programs to ensure self-sufficiency among all beneficiaries of the program.

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Mathematics Reinforcement Tool Kits for Struggling Students (Math-RetoKiSS)

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This study determined the different struggles being faced by the students in learning and understanding mathematics courses to be able to come up with interventions to address the issues. Specifically, it sought answer to the following objectives: determine the profile of the respondents in terms of campus and department; evaluate the performance of the respondents on Mathematics in the Modern World based on their Midterm and Final Examination Grade; describe the struggles/challenges faced by the respondents in learning and understanding MMW course in terms of; Course Content, Delivery of Instruction, Teaching Strategies, and Assessment Method Used; it also determined significant difference on the student performance in MMW when grouped according to profile variables. Further, significant relationship between the struggles/challenges faced by the respondents in learning and understanding MMW course and their mathematics performance was also determined which led to the propose Mathematics Reinforcement Tool Kits (MathRetoKiss). In view of the foregoing, it was found out that most of the student respondents are from Alangilan Campus, CEAFA department and they only got passing mark on their midterm and final examination on MMW. Students agreed that they've encountered struggles and challenges in learning MMW relative to course content. Less struggles and challenges were encountered in terms of delivery of instruction, teaching strategies, and assessment methods used by their teachers. There is significant difference on the students' performance on their midterm and final examination when grouped according to campus and department. There is significant relationship between the struggles/challenges faced by the respondents in learning and understanding MMW and their mathematics performance which led to the proposed Mathematics Reinforcement Tool Kits (MathRetoKiss). This includes repository of instructional materials, problem sets, supplementary exercises in all forms that can help students address their struggles in learning Mathematics in the Modern World.

Keywords: mathematics in the modern world, reinforcement tool kits, struggling students

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*Speaker

Water Analysis of School Canals along Muralla Street, Intramuros, Manila, Philippines

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Driven by concerns about student and community health risks from polluted waterways, this study aimed to assess and compare the physical and bacterial composition of canals surrounding the academic institutions along Muralla Street in Intramuros, Manila, Philippines. Specifically, it aimed to analyze water quality based on parameters such as pH, Dissolved Oxygen (DO), and Total Suspended Solids (TSS), as well as to determine the bacterial contamination count. Canal samples were collected from five schools: Colegio de San Juan de Letran (CSJL), Lyceum of the Philippines University (LPU), Mapua University (MU), Pamantasan ng Lungsod ng Maynila (PLM), and Manila High School (MHS). Physical properties were analyzed following the APHA 1985 methods. Bacterial enumeration used serial dilution and spread plate techniques to obtain the total viable count (TVC). Analysis of Variance (ANOVA) was used to discover similarities and differences in water canal conditions between the studied locations. Results showed significant differences in pH and Dissolved Oxygen (DO) levels, with CSJL exhibiting the safest water quality. However, Total Suspended Solids (TSS) showed no significant difference, suggest-

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ing consistent water quality in suspended solids across locations, likely due to similar factors. Bacterial contamination also varied, with PLM showing the highest bacterial counts.

Where Grace Meets Dis-grace: Hope in the Scars of the Young

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In the face of widespread disillusionment, Filipino youth today increasingly feel alienated from the Church, often perceiving it as disconnected from their lived struggles. This paper draws on Edward Schillebeeckx's theology of hope-particularly his concepts of grace, dis-grace, and contrast experiences-to offer a renewed pastoral vision for youth ministry. It argues that young people's wounds and questions are not signs of spiritual absence but potential sites of grace, where God's presence is revealed amid suffering.

Employing a qualitative-theological method grounded in practical theology and contextual reflection, the study engages Schillebeeckx's key texts, post-conciliar teachings on grace, and sociological insights from Dr. Jayeel Cornelio's research on youth religiosity in the Philippines. This interdisciplinary dialogue allows for a critical interpretation of how young people navigate faith in hybrid, often non-institutional, spiritual spaces.

Findings indicate that many youth no longer find the Church to be a place of encounter or healing. Yet their search for meaning in activism, digital culture, and relationships reflects a sacramental longing. Youth ministry, therefore, must move from programmatic to relational models that affirm the imago Dei in each young person and recognize dis-grace as a context for grace.

The paper concludes by calling for a shift in pastoral imagination: embracing daily life as liturgy, integrating digital spaces theologically, and cultivating hope through solidarity. As the Church prepares for the Jubilee Year of Hope 2025, it is invited to rediscover its prophetic vocation by becoming a credible sign of grace for a generation seeking belonging and meaning.

Keywords: : spirituality, youth ministry, Schillebeeckx, Jubilee Year 2025, FILIPINO YOUTH

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*Speaker

Nourishing success: Investigating the relationship between nutrition, academic performance, and emotional quotient

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Adolescence is a critical period for psychosocial, emotional, and physical development, requiring both balanced nutrition and adaptive coping strategies. However, academic stress can contribute to poor nutritional habits, which may affect emotional well-being and academic performance. While Intelligence Quotient (IQ) has traditionally been used to assess academic potential, Emotional Quotient (EQ), the ability to understand and manage emotions, is increasingly recognized as a key predictor of success. This study explored the relationships among eating behaviors, emotional intelligence, and academic performance in senior high school students at De La Salle University Manila. A quantitative, survey-based approach was used. Participants completed three standardized self-report instruments measuring eating behaviors, EQ, and GPA. Kendall's Tau was used to assess relationships among variables. Findings revealed a significant positive correlation between the EQ subscale Motivating Oneself and GPA, suggesting that students with higher internal motivation tend to achieve better academic outcomes. Although no direct correlations were found between nutrition-related subscales and GPA, two associations were found between eating behaviors and emotional intelligence. Specifically, Cognitive Restraint was positively correlated with Managing Emotions, while Emotional Eating showed a negative correlation with Social Skills. These results emphasize the role of emotional competencies in both academic success and behavioral regulation, suggesting that interventions aimed at enhancing emotional intelligence may contribute to both academic success and improved adolescent well-being.

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THE IMPACT OF SOCIAL MEDIA IN LEARNING ATTITUDE OF SELECTED JUNIOR HIGH SCHOOL LEARNERS: IMPLICATION TO THEIR ACADEMIC PERFORMANCE

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The paper examines the impact of social media in learning attitude of selected Junior High School learners and its implication to their academic performance. This study employed a quantitative method, using researchers-made survey questionnaires among 66 students from grades 9 and 10 of the Fr. Simpliciano Academy Incorporated. Frequency, Percentage, and Spearman's correlation were used to treat the gathered data statistically.

Results showed that Facebook Messenger, TikTok, Instagram, and Google are students frequently used social media platforms, with spending time six or more hours on social media. Similarly, the findings of this study provide compelling evidence that social media allows students to share information, provides a reference for performance tasks, and helps them feel secure and confident in their studies, as well as their learning attitudes help them gain more inputs to improve their learning, develop confidence in working with peers and striving for good academic performance. This is verified by the general average of the students, showing improvement in their academic performance, from a very satisfactory level in the first quarter to an outstanding performance level in the second quarter.

Moreover, a positive correlation was revealed between the impact of social media and the implication of the learning attitude, as well as a positive correlation between learning attitude and academic performance. Hence, the researchers recommend that teachers integrate social media into their teaching-learning process.

Keywords: Social Media, Learning Attitude, Academic Performance

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Family Businesses in Binondo, Manila: The Impact of Demographics and Business Practices on Performance

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This study examines the relationship between demographics, business practices, and the performance of generational family-owned businesses in Binondo, Manila. It explores how factors such as age, education level, years of operation, and family involvement, along with business practices like leadership succession, community engagement, and professional management, influence business sustainability and growth. Using a quantitative-correlational research design, data was gathered from structured questionnaires to analyze key performance indicators. Results indicate that the educational level, number of employees, and industry of business significantly influence business performance.
Additionally, family business practices, such as leadership practices, and direct customer interaction significantly influence business performance. The study also highlights the challenges family-owned businesses face in staying competitive amid economic changes and digital transformation. Findings emphasize the need for these businesses to adopt modern strategies while preserving their legacy.
By offering insights into the unique dynamics of family businesses in Binondo, this research provides valuable recommendations for business owners, marketing professionals, and scholars on improving management strategies and ensuring long-term sustainability.

Keywords: Business Practices, Family, owned businesse, Demographics, Business Performance

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APPLICATION OF READING CIRCLE AND BIBLIOTHERAPY IN TEACHING PHILIPPINE LITERATURE IN SHS: BASIS FOR AN EXPERIENTIAL CLASSROOM READING APPROACH

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This mixed-methods research at Bataan National High School-Senior High School explores the application of Literature Circle and Bibliotherapy on reading experiences of the students. A total of 60 students from both Academic and Technical-Vocational-Livelihood (TVL) Tracks, all enrolled in literature subjects, were purposively sampled. The study focused on classic Philippine short stories: "Dead Stars" by Paz Marquez-Benitez, "My Father Goes to Court" by Carlos Bulosan, and "Footnote to Youth" by Jose Garcia Villa. Data collection involved survey-questionnaires and open-ended interviews. Findings revealed the transformative potential of Literature Circle and Bibliotherapy. Students actively engaged in diverse roles embodying the themes – Friend Indeed, Convo Starter, Serious Listener, and The Representative, fostering collaborative learning and peer support. Bibliotherapy facilitated Elevated Reading Comprehension, Acquired Life Lessons, Built-up Friendship through Socialization, A More Expressed Self, and Heightened Critical Thinking. The Experiential Classroom Reading Approach emerged as a dynamic framework, comprising sessions focused on immersive settings, character exploration, creative responses, critical discussions, and culminating events. This approach not only deepens literary understanding, but also fosters social-emotional growth and a profound appreciation for literature among students. The study tackles the transformative potential of experiential reading strategies in empowering students to engage meaningfully and critically with literature.

Keywords: Literature Circle, Bibliotherapy, Reading Experience, Philippine Literature

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*Speaker

CHALLENGES AND BEST PRACTICES OF SEASONED SCHOOL PAPER ADVISERS IN BATAAN

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This study investigates the challenges and best practices of seasoned school paper advisers in selected public secondary schools in Bataan to guide targeted interventions in journalism education. Employing a narrative inquiry approach, the research provides an in-depth, contextualized understanding of the experiences of advisers with a minimum of five years of experience. Data were collected through in-depth interviews and analyzed using thematic analysis to uncover meaningful insights. The study adhered to rigorous research ethics and ensured the trustworthiness of the findings. Results highlight several critical challenges faced by advisers, including resource constraints, balancing administrative and academic responsibilities, and the demanding task of training student journalists. These issues are further exacerbated by limited access to professional development opportunities. Nonetheless, advisers demonstrate resilience and ingenuity by adopting best practices that enrich student publications. These include fostering strong group dynamics, engaging in continuous learning, building collaborations, leveraging networks, and conducting comprehensive, multifaceted training programs to enhance staff competence. The study underscores the importance of addressing these challenges through tailored interventions. Recommendations include the development of specialized training programs, regular workshops, and initiatives to enhance resource accessibility.

Keywords: School Paper Adviser, Campus Journalism, Challenges and Best Practices

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19-19 Sep 2025

Plenary Session

Embedding Responsibility into Engagement: The Mediating Role of CSR and Ethical Leadership in Driving Sustainable Business Practices in the Hospitality Sector

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The digital transformation of the workplace has intensified the need for sustainable human resource strategies, particularly in the hospitality industry, where employee engagement and long-term viability are critical challenges. This study investigates the impact of employee engagement on sustainable business practices, with corporate social responsibility (CSR) and ethical leadership serving as mediators.
Using Partial Least Squares Structural Equation Modeling (PLS-SEM), data were collected from 285 human resource managers and employees in the Philippine hospitality sector, specifically within Metro Manila, through cluster sampling and validated survey instruments.

Results reveal that employee engagement directly promotes both CSR and ethical leadership. In turn, both mediators positively influence sustainable business practices. Notably, CSR and ethical leadership also mediate the relationship between engagement and sustainability, reinforcing their pivotal roles in aligning employee motivation with organizational responsibility.
This study contributes localized empirical evidence to the global discourse on sustainable HRM and offers a practical framework for enhancing sustainability in service-oriented industries. It highlights the importance of embedding ethical leadership and CSR into employee engagement strategies to drive long-term organizational success.

Keywords: Employee Engagement, Sustainable Business Practices, Corporate Social Responsibility, Ethical Leadership, Hospitality Industry, Human Resource Management

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Learning and Research in the Age of AI

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How AI shaped how we learn, work, and research. AI is here to stay, as world largest professional organization - IEEE, embrace the technology and innovation. Equipping students, researchers, and professionals with the right and authoritative content. Providing strategies and tools to enhance learning / research experience.

Keywords: Learning and Research in the Age of AI

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Special Session

From Lab to Market Case Studies: Communicating Innovation for Real-world Impact

Kc Tang [*][†] [1]

[1] ies Research – Kuala Lumpur, Malaysia

Bringing research innovation to the forefront of urban and industrial development requires more than great ideas; it needs compelling communication. This workshop equips researchers in Science, Technology, Engineering, and Architecture with strategies to reach targeted audiences, including industry partners, investors, and policymakers.

Focusing on innovative solutions for urban planning, infrastructure, and environmental management, the session explores how to transform technical research into accessible stories that highlight novelty, societal impact, and commercial value. Participants will learn to curate their research into engaging formats such as press releases, social media snippets, videos, and business-oriented narratives tailored for fast-paced industrial and commercial sectors.

While tools like Clarivate's Pivot-RP help identify funding and partnership opportunities, success also depends on the researcher's ability to communicate the relevance and value of their work. The workshop will guide attendees in framing their innovations with explicit problem-solution angles and translating complex findings into business-ready messages that resonate beyond academia.

Ideal for researchers, innovation managers, and university leaders, this session offers a practical roadmap for boosting the applied research profile of the university and accelerating the journey from scientific discovery to market-ready solutions.

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AI Literacy by Design: Educating Ethical AI Practices in Higher Education

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As generative AI becomes increasingly embedded in academic and professional spheres, universities must take the lead in fostering AI literacy as a core future skill. This workshop explores how institutions can create supportive, policy-aligned environments that teach students to use AI tools ethically and responsibly.

Inspired by leading U.S. models, we will examine the use of sandbox environments, safe digital spaces where students can engage with AI under faculty guidance. These environments help learners understand how to handle generative content with care, including proper attribution, citation, and the use of disclaimers to minimize plagiarism risks.

Rather than penalizing misuse, this approach emphasizes early intervention and constructive dialogue. Supervisors can customize AI usage guidelines and receive alerts for potential red flags, allowing for timely, educational conversations with students before work is submitted.

Building AI literacy within academia is essential, not only for maintaining research integrity but also for empowering students and faculty to participate confidently in collaborative initiatives that promote sustainability, community engagement, and inclusive education. This approach ensures the academic community is well-prepared to apply AI tools meaningfully, ethically, and effectively across disciplines and in broader societal contexts

Keywords: AI Literacy by Design: Educating Ethical AI Practices in Higher Education

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Health Research Outreach: Building Public Trust in the AI Era

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In an era of rising misinformation and AI-generated content, the way universities communicate their health research has never been more critical. This workshop explores how university-led research outreach can improve public understanding of clinical findings, enhance transparency, and strengthen healthcare awareness, especially in urban settings where health literacy and access to accurate information are essential.

Inspired by recent efforts such as Pfizer's commitment to making medical research more discoverable, we'll demonstrate how universities can take a similar approach. Through strategic outreach including plain language summaries, visual explainers, and targeted social media sharing, researchers can translate complex findings into accessible stories for the public, healthcare professionals, and decision-makers.

Participants will learn how research outreach supports Health Sciences by addressing key public health challenges and fostering informed, inclusive healthcare conversations. We will also explore practical tools and workflows for crafting engaging, trustworthy content that resonates beyond academic journals.

By adopting proactive outreach strategies, universities not only raise the visibility of their health research but also play a vital role in combating misinformation and promoting sustainable community engagement. Join us to discover how research storytelling can bridge the gap between discovery and impact, bringing science to the people who need it most.

Keywords: Health Research Outreach: Building Public Trust in the AI Era

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Science, Technology, Engineering, Architecture

Switching on Contrast, Greening Up Nanoparticles: Smarter Chemistry for Better Imaging

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Magnetic resonance imaging (MRI) would benefit from contrast agents that are both safer and responsive to their chemical environment. This work presents two complementary strategies. First, we use spiropyran molecular photoswitches as small, modular sensors that convert light or specific metal ions into changes detectable by MRI. In water, these switches reversibly toggle between forms with distinct optical and coordination properties, enabling naked-eye Cu^2 sensing and modest, reproducible light-controlled changes in relaxivity when grafted onto gadolinium chelates. Simple structure, response rules, linker length, donor groups, and accessible binding sites guide the design toward reliable cycling and minimal interference. Second, we advance manganese-based nanomaterials as greener T alternatives to gadolinium. Poly(acrylic acid)–stabilized MnO nanoparticles are prepared under mild, aqueous conditions and provide strong positive MRI contrast while avoiding gadolinium related safety concerns. Together, these approaches outline a practical, chemistry-first route to responsive imaging: pair stimuli-switchable small molecules that encode specificity with biometal nanomaterials that deliver robust signal and sustainability.

Keywords: Switching on Contrast, Greening Up Nanoparticles: Smarter Chemistry for Better Imaging

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Analysis of the Physical and Mechanical Properties of Concrete with Partial Replacements of Waste Tire and Waste Glass as Fine Aggregates and Cement

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Waste tire rubber (WTR) and waste borosilicate glass (WBG) are major sources of pollution
that directly contribute to environmental problems such as landfill overflow and dangerous fires
from tires. However, incorporating these materials into concrete may be beneficial directly
to the environment. In this study, WTR is used as a partial replacement for fine aggregates
and WBG as partial replacement for cement in the concrete. The important properties are
compressive strength, flexural strength, splitting tensile strength, and porosity. The experiments
were conducted following the guidelines of ASTM standards and BS standard. Mean difference
and Descriptive Comparison supported with Cohen's d analysis helped analyze the significant
difference of the modified concrete vs traditional. Moreover, that the modified concrete is
a sustainable alternative to traditional concrete because of the partial replacements of waste
borosilicate glass and waste tire rubber. This study proved that concrete with waste tire and
waste glass not only reduce waste but also will achieve the standard criteria for construction in
comparison with the traditional mix of concrete.

Keywords: Concrete, waste tire rubber (WTR), waste borosilicate glass (WBG), sustainability,
descriptive comparison

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Microalgae-Based Architectural Strategies to Reduce Carbon Dioxide and Its Impact on Heat Index Along LRT-1 Viaduct in Taft Avenue, Manila Through Systems Thinking

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This research explores the potential of microalgae-based architectural strategies to mitigate carbon dioxide (CO) emissions and reduce the heat index along the LRT-1 viaduct in Taft Avenue, Manila. Utilizing a systems thinking framework and feedback loop modeling, the study examines the dynamic interactions between traffic-generated CO emissions, urban heat accumulation, and the photosynthetic capabilities of microalgae. Findings reveal that the urban corridor experiences extreme environmental stress due to vehicular congestion. The study proposes that the integration of microalgae systems; such as photobioreactors along the viaduct could serve as both a biological and architectural intervention to sequester CO and lower ambient temperatures. This demonstrates that integrating opposing environmental dynamic models through microalgae systems enables effective CO absorption and thermal moderation. While the research is theoretical and conceptual in nature, it is grounded in scientifically validated mechanisms and global precedents. The study contributes to the field of sustainable urban design by identifying a biologically driven solution for environmental resilience in high-density transport corridors.

Keywords: Microalgae, Photobioreactor, Urban Design, CO Sequestration, Feedback Loop System

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Development of Emotion-Sensing Based Companion Robot Providing Emotion Regulation Through Haptic Gestures and Verbal Response

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This study introduces Maxi, an emotion-sensing companion robot developed to offer emotional support through multimodal interaction using facial emotion recognition, haptic gesture, and verbal responses with online and offline modality. As loneliness becomes an increasing concern, particularly for youth in the Philippines, this project combines hardware and software to provide complete and well-rounded support. Maxi uses a Convolutional Neural Network (CNN) model, particularly the ResEmoteNet, trained using the FER2013 dataset in identifying users' basic emotions: happiness, sadness, anger, fear, surprise, disgust, and neutral. Upon recognition, it delivers comforting haptic responses for sad, fear, angry, and neutral emotions and contextually appropriate English verbal responses for all emotions via a GPT-based module. Testing involved 31 participants, and results showed strong user satisfaction across various system interaction factors, with haptic gestures (M = 4.68) and English verbal responses (M = 4.50) receiving the highest ratings. A dependent t-test revealed a statistically significant improvement in users' emotional intensity after interaction with Maxi (mean difference = 0.807, p = 0.007), confirming Maxi's effectiveness in emotion regulation. As such, this study highlights the interaction between AI and robotics in the emotional realm, contributing towards the development of emotionally intelligent systems in the time ahead.

Keywords: Facial Emotion Recognition (FER), Human, to, Robot Interaction (HRI), ChatGPT, Verbal Response, Haptic Gesture

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Utilization of Bambusa Blumeana Biochar and Calcined Pig Bones for Increased Concrete Compressive Strength and Workability Towards Sustainability

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Cement production is known for its detrimental effects on the environment due to its excessive carbon dioxide emission. However, cement is an inevitable material in construction. The study aimed to reduce the reliance on cement by partially replacing it with Bambusa blumeana biochar and calcined pig bone, with the purpose of having a sustainable concrete with uncompromised strength. Using a concrete cylinder sizing of 4x8 inches, the study was able to create concrete set ups of: traditional mix (controlled) and three experimental mix ratios of increasing partial substitution of cement by Bambusa blumeana and calcined pig bones. The study was able to prove that partially substituting cement by the said material is possible. The study finds that concrete having cement replacement of 5% Bambusa blumeana and 7.5% calcined pig bones was able to attain 19 MPa, exceeding the compressive strength attained by the controlled concrete set up.

Keywords: concrete, cement, bamboo, Bambusa blumeana, calcined pig bones

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The Effectiveness of Chalk (Calcium carbonate) and Pineapple (Ananas comosus) Extract as an Alternative Fire Extinguishers

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Abstract

Alternative fire extinguishers have been investigated using organic materials rich in chalk (Calcium carbonate) and pineapple (*Ananas comosus*) citric acid. Due to experimentation, it resulted that citric acid chemically reacts with calcium carbonate and forms a fizzling effect to produce an amount of H2O and Carbon Dioxide; these compounds helped eliminate the fire triangle element, trapping heat to succumb to the oxygen and disputing fire to prevent the spread. This study used an experimental approach to observe different variables with the help of statistical analysis. Researchers were able to present three products using a pulverization method to gather chalk dust and extraction of pineapple (*Ananas comosus*) extract. Each mixture conducted three trials and mainly consisted of varying ratios: 25:75, 30:70, and 50:50. The most effective ratio tested during the experiment in terms of volume is the 30:70 ratio. Meanwhile, the 25:75 ratio is the most effective in terms of time interval to dispute class A fires. The three mixtures are more likely to be effective alternative fire extinguishers as they compare closely to the class A fire extinguishers. Concludes that the three mixture ratios were evaluated and considered to have a significant difference against the commercial fire extinguisher. The research study entails that the three mixtures could surpass as an alternative fire extinguisher and help the community reduce fire risk hazards. Establishments like schools or workplaces could store alternative fire extinguishers to help lessen any damages caused by fire and to adapt to an innovative way of extinguishing.

Keywords: Keywords: Calcium Carbonate, Pineapple, Alternative fire extinguishers, Class A fires, Carbon dioxide

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*Speaker

ALERTO: An Android-based Accident Hotspot Tracker Notification System Utilizing Analytics and GPS Tracking Algorithm

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Road traffic accidents are now considered as the top leading cause of death worldwide that is unrelated to any medical diseases. Furthermore, CALABARZON, had the most traffic injuries in 2018, accounting for 16.5 percent of all car accidents nationwide. Thus, the objective of this study is to develop an application that will notify the user when they are 200 meters near or heading to an accident hotspot, this will help them to be more cautious and attentive when traversing different routes of a specific town or municipality. ALERTO is a smart mobile application that provides information about the different accident hotspots in the municipality and alerts the user about them. RAD and K-means clustering were applied to the development of the study. The researchers used the RAD methodology since it is efficient to use for a shorter time frame for it focuses on prototyping and feedback rather than planning, so the development is faster. K-means clustering was used in grouping the accident hotspots in the different areas of a municipality. A survey was used to evaluate the system. After the evaluation, the gathered data were tallied, computed, and interpreted. Based on the results, most of the accidents in a municipality happen along the National Roads and secondarily on provincial roads. The absence of road signages, reckless driving and without thoroughly checking the vehicle condition are the leading causes of the occurrence of an accident in the municipality. Respondents highly accept the mobile and web applications and strongly agree with their effectiveness.

Keywords: Accident Hotspot, Analytics, GPS, K, means

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*Speaker

Development of a wearable device for controlling virtual mouse and keyboard for individuals with disarticulated elbow

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Daily tasks related to work, academics, and other responsibilities involving technology, like using computers and laptops, are routine for most but challenging for individuals with disarticulated elbow (DE). Disarticulated elbow refers to an Upper Limb Amputation (ULA) at the elbow joint, however, for the purposes of this study, those who are born without a forearm or technically speaking, individuals with Congenital Upper Limb Deficiency (CULD) were also included in the scope of the study. This study focused on the development of a pair of Inertial Measurement Unit (IMU)-based wearable armbands that could translate right-arm movements into mouse cursor movement and left-arm movements into mouse actions. The developed system is composed of a left armband which detects left arm gestures through a developed KNN-based gesture recognition model, a right armband which utilizes the Bluetooth Low Energy Human Interface Device (BLE HID) to simulate mouse cursor movements, a control box that receives the data from the left armband via Wi-Fi, and a virtual keyboard that can be opened and closed using a specific left arm gesture. The study conducted a series of trials to determine the mouse cursor movement polling rate, mouse action response time and accuracy, virtual keyboard response time, and the overall effectiveness of the armband system. The results of the study indicate that the device's performance was generally responsive and accurate, with an average polling rate of 352.4 Hz, an overall mouse action response time of less than 500 milliseconds, and an overall mouse action accuracy of 95.5%. In addition to that, most keys on the virtual keyboard recorded response times that were imperceptible to users, while a few showed noticeable delays. Lastly, the findings gathered through the ISO 9241-411-based user experience questionnaire demonstrate that the armband device is effective, intuitive, and user-friendly for individuals with elbow disarticulation.

Keywords: Armband, Assistive Technologies, Disarticulated Elbow, IMU, KNN, based Gesture Recognition

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*Speaker

SolarMotor E-Unit: Leveraging IOT for Sustainable Energy Solutions

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The Solar Motor E-Unit is a compact energy-harvesting system designed to efficiently convert both mechanical and solar energy into electrical power. Central to its design is the use of a DC motor and solar panel, enabling dual-source energy collection. This system was developed not only for power generation but also to assess energy output under varying speeds and environmental conditions. Key performance indicators such as speed, voltage, current, power, and location data are gathered through integrated components including speed sensors, power meters, and GPS modules. To ensure continuous innovation and data-driven development, the Agile methodology was employed. This approach facilitated iterative testing, rapid prototyping, and adaptive refinement based on experimental feedback. Each cycle of development built upon the results of prior testing, allowing the system to progressively evolve for improved performance and energy efficiency. The use of Agile ensured flexibility and responsiveness to observed outcomes, which is crucial for experimental energy systems exposed to dynamic real-world conditions. Experimental trials were conducted across a range of speeds and solar intensities. Results indicated that higher starting power and increased velocity significantly improved energy conversion efficiency. These outcomes demonstrate the potential of DC motor-based energy harvesting in renewable energy applications, particularly in situations where hybrid mechanical-solar input is available. The study presents an innovative, sustainable approach to off-grid power generation. By offering insights into optimizing energy conversion from commonly available sources, the Solar Motor E-Unit contributes to the broader field of sustainable energy technologies. The findings hold promise for practical applications in areas such as remote power systems, mobile charging units, and educational tools for renewable energy studies.

Keywords: solar energy harvesting, DC motor, renewable energy, power generation, sustainable solutions

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"A(assistive)-Eyes"; AI-Powered wearable assistive device for the visually impaired

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This paper presents the development and evaluation of a possible design of an AI-powered wearable assistive device to allow visually impaired individuals to be able to receive visual information in the form of auditory responses with navigation assistance as a secondary goal. Utilizing edge-computing, Visual Language Models (VLMs), and easily obtainable device components, the researchers were able to develop a device that captures and processes visual data into understandable information for the users to hear using text to speech output. The prototype emphasizes open source modularity and accessibility in its goals as a functional device. The device produced significant increases in performance metrics, namely response time, accuracy and precision, over previous prototypes from previous literatures. 60 test runs with various prompt complexities were used to assess performance parameters, including response time, accuracy, and precision. The results showed that thorough prompts had a 90% accuracy rate, while longer prompts resulted in longer reaction times (an average of 8.14 seconds). For basic scenarios, the device's accuracy rate of 85% demonstrated its dependability in object detection. Significant gains in accessibility and efficiency were found as compared to earlier research, and reasonably priced consumer-grade hardware guaranteed affordability. This shows the further potentials of VLMs and edge-computing in assistive technology.

Keywords: Assistive technology, visual impairment, artificial intelligence, wearable device, open, source

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DokyuBasa: A Smartphone-Based Computer Vision with EAST Text Detection and Natural Processing Language (NLP) Application for Legal Document Accessibility with Tagalog - English Plain Language Explanation Using Rule-Based Code-Switching Algorithm

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DOKYU-BASA is a smartphone application designed to improve access to legal documents for individuals who are visually impaired, elderly, or have limited literacy. Leveraging on-device computer vision (EAST text detection and Tesseract OCR) and cloud-enhanced natural language processing, it converts printed forms and official papers such as OSCA ID renewal, DSWD financial assistance, and PAO affidavits into machine-readable text. A rule-based code-switching algorithm then generates clear, conversational Taglish explanations, while an interactive dialogue system offers voicebased question-answering in Taglish, enabling users to ask about requirements, benefits, and legal rights. Focusing on three Manila government offices-the Department of Social Welfare, the Office of the Senior Citizens Affairs, and the Public Attorney's Office. DOKYU-BASA performs basic OCR and text analysis on-device, while advanced NLP and dialogue management are handled in the cloud to ensure high accuracy and responsiveness. By combining cutting-edge AI technologies with culturally relevant language support, DOKYU-BASA empowers users to understand, comply with, and act upon legal requirements independently reducing reliance on caregivers or government staff. For service providers, it streamlines citizen interactions, minimizes administrative bottlenecks, and frees up staff to focus on complex cases. Community organizations and families benefit from enhanced autonomy and inclusion, and researchers gain a practical reference model for mobile accessibility solutions in urban environments. Ultimately, DOKYU-BASA promotes digital inclusion, legal empowerment, and efficient public service delivery in Manila.

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ARISE: Augmented Reality (AR) Glasses Training for Cognitive and Physical Development of Children with Functional Attention Deficit Hyperactivity Disorder (ADHD)

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For children with functional ADHD, traditional learning environments often struggle to fully support both their cognitive and physical growth. Although structured activities and behavioral therapies can help, they sometimes miss the mark when it comes to meeting the unique needs of these energetic and creative kids. To address this, ARise was developed, utilizing Raspberry Pi and an interactive software game to deliver an innovative and engaging game. Using Augmented Reality (AR) technology, ARise creates an engaging and dynamic environment that aims to boost cognitive skills, physical movement and turn therapy into an exciting and personalized activity for children with ADHD. A first run of tests of the system was carried out at the Children with Special Needs Center, Parañaque, where 20 children tested the ARise glasses. The results were positive, with children actively participating and responding well to the activities. Through this initiative, ARise supports the mission of Sustainable Development Goal 4 (Quality Education), helping to create more inclusive and adaptive learning experiences. With its innovative use of AR and affordable hardware, the project offers a fresh approach to closing the gaps left by traditional methods, opening new possibilities for cognitive and physical development.

Keywords: Augmented Reality, Functional ADHD, Interactive Learning, Inclusive Education

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IoT-based Traffic Light Controller with Emergency Vehicle Detection using Deep Convolutional Neural Network (DCNN)

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In the Philippines, the rapid growth in the usage of private vehicles and poor traffic management systems like time-based traffic lights cause the emergency vehicles in operation stuck or trapped when other vehicles cannot give way since the movements are extremely limited in traffic jams. This traffic congestion significantly affects emergency response times of emergency vehicles often leading to delays and fatalities. This study introduces a smart traffic light controller system utilizing Deep Convolutional Neural Network (DCNN) and an Emergency Routing Application (ERA) to expedite emergency responses. Emergency vehicles, including fire trucks and ambulances, are detected using image processing powered by Raspberry Pi 4 with a Deep Convolutional Neural Network (DCNN). Signals are sent to the traffic light system for prioritization, utilizing the nRF24L01 RF transceiver with an average response time of less than 8 seconds. This rapid communication was verified through trials at distances ranging from 5 to 50 meters, conducted with five trials per distance. The VGG16 model, with training and validation accuracies of 91% to 92%, effectively distinguished emergency vehicles from normal ones, achieving 80% accuracy for ambulances, 70% for fire trucks, and 90% for normal vehicles in real-world detection. Tested in 10 locations across Manila, ERA achieved 100% accuracy in routing emergency responders to the nearest hospital. The results demonstrated that an IoT-based traffic light system, integrated with DCNN and GPS routing, can significantly enhance the prioritization and response times of emergency vehicles, reducing delays and potentially saving lives.

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*Speaker

ReFresh: An IoT and Computer Vision-Enabled System for Food Spoilage Detection and Filipino Cuisine Recommendation Using Large Language Models

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Introduction

This study addresses the pressing global issue of household food waste, particularly within urban middle-income households in Metro Manila, which contributes significantly to food insecurity and environmental degradation. The escalating problem necessitates innovative technological solutions for efficient food management and sustainable consumption practices.

Methodology

We developed ReFresh, a computer vision-enabled smart food monitoring system. This system integrates a Raspberry Pi with an HD camera and sensors (load cell, ultrasonic, accelerometer, DHT11) to automate inventory tracking. Google Gemini and generative artificial intelligence are utilized for accurate food item detection, spoilage analysis, and personalized meal recommendations based on available ingredients. The system provides real-time alerts and analytics through a Progressive Web Application. Usability was evaluated through User Acceptance Testing and a System Usability Scale (SUS).

Findings

Usability testing yielded an exceptionally high System Usability Scale (SUS) score of 95.9,

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indicating strong user satisfaction and perceived ease of use. Participants reported significant reductions in food waste, improved meal planning, and positive behavioral shifts such as better grocery planning and reduced impulse buying. Correlation analysis further confirmed meaningful relationships between user habits and the system's effectiveness, demonstrating its impact on sustainable consumption.

Conclusion

ReFresh effectively leverages AI and computer vision to enhance household-level food waste management, directly aligning with the United Nations Sustainable Development Goals, particularly SDG 2 (Zero Hunger) and SDG 12 (Responsible Consumption and Production). The system proves to be a practical and impactful solution for fostering sustainable food practices and improving food consumption patterns in urban households.

Business, Government, Law

Why diplomacy matters in governance?

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The growing global discontent and disruption due to the volatile, uncertain, complex and ambiguous (VUCA) world requires scholars, practitioners, and students of public administration and governance to rethink the works and strategies of 'governance' as a discipline to make it more relevant and important at this critical juncture.

After COVID 19 pandemic, it is now more pronounce that addressing issues and concerns such as climate change, health crisis, terrorism, poverty and inequality is beyond the sphere and ambit of nation – states.

Thus, it is now imperative that each government must cooperate and work with each other for the purpose primarily of addressing the grave happenings and urgent problems of our time, to promote sustainable development and sharing of best practices in both local and national governance.

This paper on 'Why diplomacy matters in governance?' follows the theory of Robert Putnam's 'Two – level games', which basically examines the role of government both at the national and international level and of why diplomacy matters in these both arenas of engagement. Two level games clearly explain the relationship of governance demands and responses both at the national and international level that must be coordinated and not isolated.

In the end, 'Global Governance' is an indispensable arena of cooperation, coordination and collaboration between national governments and international organizations and the underlying principle is none other than diplomacy.

Keywords: Diplomacy, Global Governance, and Two, Level Game

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Assessment on the impact of the implementation of pantawid pamilyang pilipino program (4ps) in Kadaclan, Barlig, Mountain Province

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Keywords: *4Ps; Beneficiaries; Evaluation and Monitoring; Financial Assistance; Program Implementation*

The Pantawid Pamilyang Pilipino Program is one of the government's initiatives to standardize the living conditions of the Filipino People. This study was conducted at the four barangays of Kadaclan (Lunas, Chupac, Kaleo and Ogo-og), Barlig, Mountain Province in terms of the level of satisfaction on the Implementation of the program as to Cash grants received from the program, Monitoring of Class attendance of the monitored children, Conduct of Family Development Session, Monitoring of pregnant women(household member) to avail the pre- and post-natal care and childbirth supervised by health professional, Monitoring of children 0 to 5 years of old to avail complete immunization, weight monitoring, nutrition counseling and preventive health services. Results revealed that the degree of seriousness of the challenges encountered by the beneficiaries in the implementation of the program, struggling with financial literacy especially in allocating budget for food, education, hospitalization or medicine, and saving, updating of beneficiaries information is not on time or not updated even though beneficiaries complied with the requirements on time because the compliance of the beneficiaries is not well monitored. Thus, the cash grants are not downloaded on time. Yet, the beneficiaries perceived that the program provides financial support to the family, especially in the educational and basic needs of the family, and provides knowledge in terms of health awareness, and livelihood strategies that motivate the family to continue sending their children to school and participate in the FGD and seminars. The implementation of the 4Ps also has a lapse in terms of the seriousness of timely service and monitoring of beneficiaries' compliance; however, the beneficiaries are still grateful and willing to cooperate with the program for the betterment of their community.

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*Speaker

From Surviving to Thriving: Enhancing Financial Practices to Curb Debt Accumulation among Low-Income Earners

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In today's economic landscape, many low-income earners find income earners continue to face the persistent challenge of managing limited resources while avoiding excessive debt accumulation, they struggled to move from financial survival to stability and growth, this reality underscored the importance of exploring effective strategies to empower low-income individuals to make informed financial decisions that could lead them toward stability and growth. Addressing this challenge, the research determined the enhancement of financial practices to curb debt accumulation among low-income earners. This study, "From Surviving to Thriving: Enhancing Financial Practices to Curb Debt Accumulation Among Low-Income Earners," aimed to identify the financial practices of low-income earners, focusing on budgeting, saving, spending, and borrowing, and to provide practical insights to foster financial stability. The researchers employed quantitative and descriptive correlational methods, in which non-probability sampling is also utilized. Specifically, a quota sampling technique is applied to select the respondents in the study among selected barangays in Quezon City. The researchers gathered 100 respondents from Barangay A, Barangay B, Barangay C, Barangay D, and Barangay E of low-income earners.

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The Heart of the Filipino: A Systematic Review of Philippine Airlines' Financial Resilience in Sustaining its Wings

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The aviation industry has faced severe disruptions over the past decade, particularly during the COVID-19 pandemic, which exposed vulnerabilities and tested the resilience of airlines worldwide. This study analyzes the financial performance of Philippine Airlines (PAL) from 2019 to 2023 to examine its strategic responses to economic adversity. PAL, as the flag carrier of the Philippines, encountered significant financial challenges, including record losses, due to market disruptions, operational inefficiencies, and high liabilities. The research evaluated PAL's financial health through a systematic analysis of income statements and balance sheets over five years, identifying key trends in revenue, cost structures, liabilities, and equity. A critical focus was placed on PAL's Chapter 11 restructuring efforts, which served as a turning point. The analysis revealed a dramatic revenue drop of 64% in 2020, leading to historic losses and negative equity. However, PAL's strategic restructuring in 2021 reduced liabilities by 40.2%, facilitating financial stabilization. By 2022 and 2023, the airline achieved a strong rebound, with revenues increasing to PHP 179.1 billion and net income doubling to PHP 16.8 billion. Improved cost management and operational efficiency played critical roles in the sustained recovery. PAL's financial journey highlights the importance of resilience, adaptability, and effective debt management in overcoming crises. These findings provide valuable insights for the aviation industry on navigating economic uncertainties through strategic restructuring and operational optimization.

Keywords: Aviation Industry, Bankruptcy, Financial Breakthrough, Philippine Airlines

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*Speaker

Quantitative Analysis of Subscription-Based Models and Purchase Intention among College Students in Selected University in Quezon City, Philippines

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Abstract This study examined the changes in financial behavior of tertiary-level students at NU Fairview, particularly the purchase intentions when influenced by subscription models. This then proposed the types of models that are likely to affect purchase intentions, particularly entertainment services, academic tools and resources, and physical product/service subscriptions, and whether they are viewed with utilitarian or hedonic value. To this end, a quantitative analysis was conducted with academic experts and student consumers using the Technology Acceptance Model and the AIDA model. The research findings revealed significant correlations between perceived value, ease of use, and students' purchase intentions, with entertainment services demonstrating a stronger hedonic appeal, while academic tools leaned towards utilitarian value. Additionally, the results highlighted the role of subscription pricing and perceived benefits in shaping financial decision-making behaviors. Therefore, products and services providers need to understand the full implications of their offerings to align with student preferences to enhance engagement and adoption.

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DTI KAPATID MENTOR ME PROGRAM: AN ENTREPRENEURIAL GUIDE FOR MICRO AND SMALL ENTERPRISES IN THE PROVINCE OF MARINDUQUE

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The Department of Trade and Industry provides learning and development opportunities through its partnerships with the Philippine Center for Entrepreneurship (PCE) and the Philippine Trade Training Center (PTTC). Amid efforts to expand the country's trade and industry, the need for business professionals trained in promoting international trade further arises. One of the programs of DTI is Kapatid Mentor ME (KMME), a coaching and mentoring program tailored to help micro and small businesses scale up their enterprise. From 2016 to 2019, the KMME program has covered 101 provinces and cities and reached 30,980 MSMEs. In the later part of 2019, a KMME Strategic Plan 2020-2022 was drafted articulating the program's overall vision of prosperous and inclusive economies creating sustainable jobs and promoting competitive production and trade. In this study, the researcher will be using a quantitative-descriptive form of research with the use of data analysis implied by the data gathered from the mentees. The researcher will also employ an interview and questionnaire, as a way of data gathering, particularly to the 89 recipients of the program. Based on the findings, majority of the respondents are female and aged between 41-50, married, with a bachelor's degree, belong to micro enterprises, and operating under manufacturing sector. They had a monthly business income of P40,001-P50,000 and in the business for almost 4 years and above. Further, all of the respondents were a product of the face-to-face program of DTI-KMME. The results of this research study show that the program has a positive impact on personal development, business performance and personal/family responsibility of the respondents. It can be implied from the results of this study that the Department of Trade and Industry - Marinduque should continue offering this program.

Keywords: business, entrepreneurship, kapatid mentor me program, mentorship, msme

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[*]Speaker

Optimizing marketing mix strategies to enhance cafe satisfaction among Business Administration students in Bulacan Agricultural State College

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In recent years, cafes have become go-to places for students to study, relax, and socialize, particularly in rural towns like San Ildefonso, Bulacan. As competition rises, it becomes important to understand how satisfied customers are with what cafes offer. This research assessed the effectiveness of marketing mix strategies in enhancing cafe satisfaction among third-year Business Administration students in Bulacan and proposed improvements that foster customer loyalty. The study used a correlational research design with Pearson Correlation Coefficient as a statistical method to examine relationships between the 7Ps of marketing and cafe satisfaction. Data were gathered through Google Forms surveys from the sample size of 102 respondents, using multilevel sampling, involving purposive sampling followed by simple random sampling. Findings showed that among the marketing mix elements, Product, People, and Physical Evidence received the highest ratings and correlations, while Promotion was seen as the area needing the most improvement. Furthermore, the results revealed a statistically significant positive relationship between each of the 7Ps and overall cafe satisfaction. The study concludes that while current marketing strategies are generally effective, improvements can still be done to further boost satisfaction and loyalty.

Keywords: cafe satisfaction, marketing mix, customer loyalty, product, promotion

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*Speaker

Policy Frameworks for Integrating Space Industry Practitioners in National Development: A Case Study of the Philippines' "Magna Carta for Space Industry Practitioners Act of 2025"

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This paper critically analyzes the citizen-proposed "Magna Carta for Space Industry Practitioners Act of 2025" as a foundational policy framework for integrating Filipino space industry professionals into the nation's development agenda. The Philippine Space Act (RA 11363) established a national space program, yet existing legislation (RA 11312) primarily covers government-employed science and technology personnel, leaving private sector, academe, and independent practitioners underserved. This creates significant gaps for the highly specialized and interdisciplinary space industry workforce.

This qualitative policy analysis employs a textual examination of the "Magna Carta for Space Industry Practitioners Act of 2025." The methodology involves a detailed scrutiny of the citizens' draft's stated objectives, definitions, and proposed mechanisms, comparing them against identified needs within the Philippine space sector and existing legal frameworks.

The main findings indicate that the Magna Carta comprehensively addresses critical omissions. It provides for just compensation, including hazard pay for unique space-related risks, ensures safe working conditions and intellectual property protection, and promotes professional advancement. The bill also mandates government support through infrastructure development, research funding, regulatory streamlining, and incentives for innovation. By designating Philippine Space Agency (PhilSA) as the lead implementing agency for practitioner registration, ethical systems, and workforce development, the Act establishes a cohesive framework for the sector.

In conclusion, this dedicated policy framework is crucial for fostering a robust and recognized space workforce. Its comprehensive approach is poised to leverage specialized expertise and policy development to address pressing urban challenges in Manila, significantly enhancing the country's global standing in science and technology.

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*Speaker

Unveiling The Data Shadow: A Contemporary Analysis of Consumer Awareness in Managing Digital Footprints Across Online Shopping Ecosystem

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Unveiling the data shadow investigates consumer awareness regarding the management of digital footprints within the online shopping ecosystem of Lipa City, Batangas. This study assessed consumers' recognition of the traces they leave behind and their understanding of the resulting privacy and security implications. Specifically, it explored online shoppers' knowledge of the data shadow generated during their digital activities.

Employing a descriptive research design, the researchers systematically gathered data using validated questionnaires from 384 online consumers in Lipa City. Responses were analyzed using frequency, percentage, mean, standard deviation, independent t-tests, and ANOVA.

Findings revealed key demographic characteristics: the typical online consumer in Lipa City is female, aged 18–28, single, a senior high school graduate, with a monthly family income averaging Php 12,030 to Php 24,060. Shopping applications were the primary platform used, with purchases occurring approximately once monthly. Crucially, awareness of the digital footprint emerged as only moderate across all assessed aspects and factors. Furthermore, significant variation in awareness levels was observed; notable differences emerged when consumers were grouped by age, civil status, highest educational attainment, and frequency of online purchases. To address this awareness gap, the researchers developed an actionable intervention: an Information Caravan proposed for implementation by the Department of Information and Communication Technology (DICT). This initiative focuses squarely on digital footprints, integrating accessible resources through interactive sessions and resource materials to educate consumers about their data shadow's significance. The goal is to empower individuals-equipping them to make informed choices, adopt safer online practices, and better comprehend how their digital activities shape personal privacy and security within the marketplace.

Keywords: Digital Footprint, Online Consumer, Online Shopping Ecosystems, Online Purchase,

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Personal, Privacy and Security, Technological

Health Sciences

Grit, happiness, and academic resilience among physical therapy students at a premier public university in Manila

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Psychological traits such as grit, happiness, and academic resilience are key predictors of success for students in demanding academic programs. This is particularly relevant for physical therapy students who face a rigorous curriculum and high-pressure clinical environments. Understanding the interplay between these traits is crucial for developing effective student support strategies to enhance both academic performance and overall well-being.

This study utilized a descriptive-correlational research design to investigate the relationships between grit, happiness, and academic resilience. The entire population of 1st to 3rd year undergraduate physical therapy students (N=137) at a premier public university in Manila participated. Data were collected using the Short Grit Scale (Grit-S), the Oxford Happiness Questionnaire (OHQ), and the Academic Resilience Scale (ARS-30). Spearman's rank correlation was used for statistical analysis.

The analysis revealed a statistically significant, strong positive correlation between grit and academic resilience (ρ=0.431,p< 0.001). A significant, weak positive correlation was found between happiness and academic resilience (ρ=0.243,p=0.004). However, there was no significant correlation observed between grit and happiness (ρ=–0.039,p=0.649).

The findings suggest that while grit is a strong predictor of a student's ability to be resilient in the face of academic challenges, it does not directly translate to higher levels of happiness in this high-stress educational context. Happiness, though weakly correlated, appears to have a modest association with resilience. These results highlight the need for educational institutions to foster grit and resilience as distinct, yet interconnected, attributes, while also implementing separate initiatives aimed at promoting student well-being.

Keywords: Grit, Happiness, Academic Resilience, Physical Therapy Students, Well, being

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Oral health literacy among young adults in selected areas of Metro Manila, Philippines: A mixed methods study

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Background: Oral health is essential to overall well-being, yet oral diseases affect around 45% of the global population, disproportionately affecting low- and middle-income countries. In the Philippines, 87.4% of individuals have an oral health problem, highlighting the need to improve oral health literacy (OHL). Young adults (18–24), especially from disadvantaged backgrounds, remain vulnerable, as inadequate OHL can perpetuate health disparities. Despite existing oral health programs, socioeconomic factors continue to limit access to care. This study examined factors influencing OHL and explored related barriers and facilitators.

Methods: An explanatory sequential mixed-methods design involved 1,073 young adults from Manila, Taguig, and Makati. The Health Literacy in Dentistry 14-item scale (HeLD-14) was used to assess OHL. Quantitative data analyzed associations between sociodemographic characteristics, oral health behaviors, and OHL using ordinal logistic regression. In-depth interviews further explored participant perspectives, guided by the socio-ecological model. Findings were integrated using joint displays.

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Results: About 54% of participants had high OHL, 30% moderate, and 16% low. Completing junior high school or below was associated with significantly lower odds of high OHL (AOR (adjusted odds ratio): 0.22, 95% CI (confidence interval): 0.10, 0.48) than those with college or vocational training. A monthly household income of P21,000 and below (AOR: 0.54, 95% CI: 0.44, 0.66) and never having a professional dental cleaning (AOR: 0.19, 95% CI: 0.13, 0.28) were linked to lower OHL. Barriers to OHL included limited knowledge of preventive care, financial limitations, and misconceptions about oral health, while facilitators involved self-efficacy, parental guidance, and access to free dental services.

Conclusion: This study highlights OHL as a critical determinant of oral health among young adults. Strengthening oral health education, improving service accessibility, and enhancing public programs are essential to improve oral health outcomes in the Philippines.

The impostor phenomenon and its relationship to perfectionism, happiness, and self-efficacy among undergraduate physical therapy students at a public university in Manila

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Medical professions such as physical therapy are demanding, making students vulnerable to the impostor phenomenon (IP)-a persistent fear of being exposed as a fraud despite evidence of their success. The presence of IP can induce detrimental effects on a student's performance, engagement, and overall well-being. While the phenomenon is documented, there is limited literature exploring its relationship with self-efficacy, perfectionism, and happiness specifically among undergraduate physical therapy students, representing a valuable area for investigation to direct effective interventions.

This study employed a quantitative descriptive-correlational design. A total of 193 undergraduate physical therapy students from Pamantasan ng Lungsod ng Maynila completed a combined survey composed of the Clance Impostor Phenomenon Questionnaire (CIPQ), Oxford Happiness Questionnaire (OHQ), College Academic Perfectionism Scale (CAPS), and the Student Self-Efficacy Scale (SSE). The Spearman rank-order correlation test was used to determine the inter-relationships between IP and the other variables.

The findings revealed a high prevalence of IP, with a majority of students experiencing frequent (58.54%) or intense (26.94%) impostor feelings. A significant negative correlation was found between IP and both happiness (ρ=–0.2671,p< 0.05) and self-efficacy (ρ=–0.1607,p< 0.05). Conversely, a significant positive correlation was identified between IP and academic perfectionism (ρ=0.4496,p< 0.05).

These results indicate that stronger impostor feelings are significantly associated with lower levels of happiness and self-efficacy, and higher levels of academic perfectionism. Therefore, a notable number of physical therapy students are struggling with feelings of intellectual fraudulence, which significantly impacts their well-being, confidence in their academic abilities, and is linked to a greater drive for perfection.

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Perceived Knowledge, Motivating Factors, and Deterring Factors on Voluntary Blood Donation Practices Among Students of Cebu Doctors' University - College of Medicine A.Y. 2024-2025

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INTRODUCTION: Persistent blood shortages in the Philippines remain a pressing public health challenge despite ongoing policies and recruitment initiatives. In urban areas, these shortages further burden healthcare systems already strained by dense populations and limited resources.The youth comprise about 28% of the Philippine population and is largely an untapped group for blood donation. This study examined blood donation behavior among medical students by assessing their perceived knowledge, and identifying donor motivation and barriers to blood donation to inform youth-centered health promotion strategies.

METHODOLOGY: A descriptive correlational study was conducted using proportionate stratified random sampling among 200 medical students at Cebu Doctors' University A.Y. 2024–2025. A validated, modified questionnaire assessed perceived knowledge, motivating and deterring factors, and donation practices. Data were analyzed using descriptive statistics, Chi-square, and Cramer's V tests.

FINDINGS: Despite 83.5% (167) of the medical students reporting high perceived knowledge-especially on pre-donation health screening-67.5% (135) had never donated blood. Only 32.5% donated, mainly when prompted by urgent needs of friends or relatives. Motivation levels were generally low to moderate, and 55% (110) reported minimal deterrence. The most cited donor barrier was lack of time. Perceived knowledge showed a weak but statistically significant association with donation behavior (ϕ=0.222, p=0.002), while associations with motivation (V=0.146) and deterrence (V=0.127) were weak and nonsignificant.

CONCLUSION: While medical students demonstrate strong health literacy, this does not consistently translate into regular blood donation. Addressing time constraints and fostering emo-

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tional engagement may increase youth participation, helping to build a more resilient urban health system and promote sustainable public health outcomes.

Knowledge and Beliefs on Sexually Transmitted Infections Among College Students

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Sexually Transmitted Infections remain a significant public health concern, particularly among college students who are more vulnerable due to various behavioral and informational gaps. This study assessed the knowledge and beliefs about Sexually Transmitted Infections (STIs) at Columban College, Inc. in Olongapo City, Zambales, Philippines. Survey questionnaires were utilized to gather both quantitative and qualitative data simultaneously, undergoing comprehensive analysis. Findings revealed that while students demonstrated a strong understanding of the causes, symptoms, treatments, and prevention of STIs, significant misconceptions persisted, particularly regarding non-visible symptoms and less common modes of transmission. Demographic variables such as age, gender, academic programs, and religious affiliation significantly shaped the knowledge and beliefs of students regarding STIs. The qualitative data highlighted the influence of social stigma, cultural norms, and religious beliefs, which primarily hinder open conversations and adequate STI awareness. Based on these findings, the researchers propose a framework tailored to address knowledge gaps, correct misconceptions, and encourage college students to engage in responsible sexual behaviors in a manner sensitive to cultural and religious contexts. The framework aims to create and foster a supportive environment where college students feel empowered to make well-informed decisions and reduce the prevalence of STIs within the school community.

Keywords: Sexually Transmitted Infections, knowledge, beliefs, mixed method study, Philippines.

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*Speaker

Navigating the Journey: A Phenomenological Study of Adult Children as Primary Caregivers of Parents with Dementia

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This qualitative phenomenological study explored the lived experience of adult children who serve as primary caregivers for their parents diagnosed with dementia. The study was conducted in Metro Manila and involved eight participants selected through purposive sampling. Data were collected through semi-structured, face-to-face interviews and analyzed using Moustakas' transcendental phenomenological method. The analysis revealed four major themes: Sea of Emotional Upheaval, Tumultuous Waves, Weathered Storms, and Ocean's Embrace. The findings highlighted the emotional complexities of caregiving, such as guilt, fear, anticipatory grief, and emotional overload, as well as the impact of caregiving on the adult children's physical well-being, family dynamics, personal aspirations, and social lives. Despite these challenges, the participants demonstrated resilience through faith, support systems, digital communities, and coping strategies. Given the commonality of the participants' experiences, data saturation was reached as part of the study's inquiry. This study contributes to the limited literature on dementia caregiving in the Philippine context by giving voice to adult child caregivers. The findings emphasize the need for caregiver-centered mental health resources, support interventions, and inclusive policy development. By amplifying the narratives of family caregivers, this research calls for a more compassionate, holistic, and culturally responsive approach to dementia care.

Keywords: dementia, family caregiving, Filipino caregivers, adult children, lived experience

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Competency of Nursing Students and Level of Satisfaction in Their Clinical Practicum in a Private University

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2

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This study examines the competency of nursing students and their satisfaction levels during clinical practicum in a selected university in Manila, utilizing a multi-phase research design to identify significant predictors and develop interventions to enhance nursing education.

Findings revealed that nursing students demonstrated proficiency in medical-related knowledge. However, managing symptoms related to patient condition alterations was less frequent. Critical thinking skills were frequently applied independently, but less often used to revise care processes. Basic nursing skills, such as staying current and providing individualized patient care, were generally applied, but consistent observation of patient privacy and needs was less evident. For communication and cooperation, students effectively provided care instructions, participated in multidisciplinary care, and identified support from different professionals. However, attendance at courses promoting professionalism and self-reflection was less frequent.

The analysis of satisfaction with the clinical learning environment highlighted moderate satisfaction with supervisory relationships and opportunities for improved feedback provision. Strong positive correlations were found between medical-related knowledge, critical thinking, communication, basic nursing skills, lifelong learning, attitudes, and the clinical learning environment, emphasizing their importance in shaping students' experiences.

Regression analysis demonstrated that knowledge significantly predicted satisfaction with the clinical learning environment, while skills and attitudes showed varying degrees of influence. The proposed interventional program aims to cultivate academic resilience among nursing students by addressing identified areas of improvement, fostering critical thinking, enhancing communication skills, and promoting positive attitudes toward nursing.

In conclusion, this study underscored the multifaceted nature of nursing education and highlight the importance of addressing knowledge, skills, and attitudes to optimize the clinical learning environment and promote academic resilience among nursing students. Overall, the attitudes toward nursing were positive, with students viewing the profession as respectable and feeling proud to be nurses, though comfort with patient care and perceptions of nursing as challenging and secure varied.

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Tiny Breaths: IoT-Integrated Deep-Learning Contact-Based Newborn Respiratory Rate Monitoring with Predictive Analysis

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The common method for measuring a newborn's breathing rate is manual counting. However, this method is deemed to be subjective and potentially inaccurate, especially in busy clinical environments. Hospitals like Doctor Jose Fabella Memorial Hospital (DJFMH) and Quirino Memorial Medical Center face overcrowding, which strains healthcare delivery and affects maternal and neonatal outcomes. This study aimed to develop and evaluate a respiratory rate (RR) monitoring belt for newborns integrated with Internet of Things (IoT). The proposed device was deemed to promote the well-being of all infants by preventing and predicting the possible development of respiratory diseases which is aligned to SDG 3. To fulfill SDG 10, this prototype could benefit newborns in both public and private hospitals or clinics. The system utilized an MPU6050 sensor, Seeed Studio XIAO ESP32C3 microcontroller, and bamboo fabric, combined with a real-time monitoring dashboard built using Streamlit that supported remote monitoring. Websites for both nurses and doctors were also developed to ensure secure data storage. The performance was assessed based on four hypotheses: accuracy of respiratory rate measurements, system functionality, reduction in healthcare worker intervention, and predictive accuracy of the deep learning model. This is a quantitative and experimental study that took place in DJFMH in Tayuman, Manila City. The researchers employed non-probability purposive sampling, and survey responses came from 40 healthcare professionals, primarily nurses, with a significant portion from the Neonatal Intensive Care Unit (NICU). Results showed that the respiratory monitoring belt provided accurate readings with a 2.34 Mean Absolute Error when compared against traditional method. The respondents "Strongly Agree" that the device met its pre-established functionalities and reduced the need for manual monitoring. The deep learning model achieved 98% accuracy in predicting respiratory distress. These suggest that the system has the potential to improve neonatal care by enabling accurate and timely health interventions.

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*Speaker

Education, Arts, Social Science, Social Work

Filipina in Flux: A Historical Retrospective on the Evolving Narratives and Perceptions of Filipinas

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This presentation examines how Filipinas have been portrayed and perceived by society from the pre-colonial era to the present day. The Filipina has always been a dynamic figure throughout history, demonstrating a remarkable ability to transform and resist stereotypes and perceptions imposed on her. Using various historical texts, this presentation reveals how significant political, economic, social, and cultural shifts affected Filipina women's narratives. This retrospective reveals that while some narratives and perceptions have evolved, leading to progress and increased freedoms, other historical views have remained unchanged and still persist to this day. This shows that the path of the Filipina does not follow a straight line. Her journey is an ongoing dialogue between traditional and modern ideas, as well as outside perspectives and challenges to internal agency, creating a complex and ever-changing story and identity.

Keywords: History, Women

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Uncovering a fostered historical identity amongst teachers through a critical analysis using Edmund Husserl's constitutive phenomenological philosophy

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Previous qualitative studies on teachers in the Philippines in the New Normal (both during and after the pandemic) had researchers examine their daily encounters by means of the phenomenological method; in it, the studies present the challenges of the teachers by means of explaining their lived experiences. However, this traditional or customary aspect of teaching lacks explication even when invoked either by the researchers or participants: the notion that many teachers were initially puzzled by how they can practice what was trained to them by a previous generation isn't present in the literature. Hence, this paper argues that by focusing one's attention on the mutual knowledge and shared experiences of Filipino Teachers to how they conceive themselves and others, a communal consciousness from a regional to a national level is possible which gives their account to their social structure and cultural norms. This paper primarily asks: "How do Filipino Teachers conceive and visualize their own identity?" To answer this question, this study aims to critically analyze the historicity of the teachers through the lens of philosopher Edmund Husserl; this study will utilize the methodology of critical analysis to gather and reconstruct the self-knowledge of Filipino Teachers using phenomenological philosophy. This study then presents the following: 1.) That Filipino Teachers mutually perceive, interact, and understand one and the same pedagogy. 2.) That the identity of "Filipino Educators" is codified through language and norms whose expressions persists through generations. And 3.) Filipino Teachers can invoke and present their self-knowledge by their socially constructed expressions which relates to their pedagogy. I conclude that this historicity can be used for further explication over the extent to which a genuine idea of "Filipino Education" can be unequivocally invoked because of the lived experiences of previous Filipino Teachers.

Keywords: Historicity, Identity, Lived Experience, Teachers, Phenomenological Philosophy

*Speaker

BEST PRACTICES OF GUIDANCE PERSONNEL IN COUNSELING LGBTQIA+ STUDENTS : BASIS FOR DEVELOPING INTERVENTION PROGRAM

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The study explored the best practices of registered guidance counselors in the Schools Division of Bulacan in handling various case related to LGBTQIA+ students in Bulacan. The Qualitative Research Study specifically Multiple Case Study was conducted during the school year 2023-2024 to five (5) registered guidance counselors in the school divisions in the province of Bulacan. The key informants were selected purposively using the inclusion criteria such as permanent guidance counselors in SDO-Bulacan, with more than three (3) years of experience as guidance counselors, experienced in handling cases related to LGBTQIA+ students, registered guidance counselors, and willing to participate in the study.
The study showed that most LGBTQIA+ students experienced cyberbullying, verbal and physical abuse, and depression resulting from unacceptance of family, friends, peers, and society. Based on the narratives taken from the in-depth interviews of the key informants, the theme Pressure in Going Out described the ordeals of the LGBTQIA+ students in Bulacan.

The study also noted that registered guidance counselors in the province share the same practices of applying tender love and care to LGBTQIA+ students.

The study also recommended that guidance designates undergo training in LGBTQ+ psychology to upskill them in handling LGBTQ+ students.It also suggest to encourages future researchers and policymakers to draft policies related to protecting the LGBTQIA+ communities.

Keywords: Guidance Counselors, Intervention, LGBTQIA+, Multiple Case Study, Qualitative Research

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PHILIPPINES-CHINA CONFLICT OVER SEA LANES: Rooting the Differences for Possible Conflict Mitigation

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As the world is besieged with conflicts, Philippines and China are also faced with conflict concerning the control of the sea lanes in the South China Sea. Being vital to the national security of the two countries, Philippines and China assert their rights over the territories and sea lanes in the contested area. The Philippines brought a case against China in 2013 and in 2016 was unanimously decided by the Permanent Court of Arbitration (PCA) in favor of the Philippines. However, China does not recognize the decision. Why is China reluctant in recognizing the jurisdiction and sovereignty of the Philippines over the disputed sea lanes and islands within Philippine territory? How can the Philippines further safeguard its territory given China's strong stance concerning its claims? This explanatory study aims explain why China is reluctant to recognize the tribunal's decision and how the Philippines can continue to protect its national security and sovereignty. Utilizing government and scholarly historical papers, the study reveals that China and the Philippines have different manners and methods of addressing the issue. Visiting the budget allotment for defense and the framing of foreign policies, the study also reveals that China seriously apportions a greater chunk of budget for their defense and military training and is consistent in their foreign policy from the beginning than the Philippines. Different value systems from which China's and Philippines' behavior add up to the different positions of the two countries on the maritime dispute. Despite these differences, cultural diplomacy is suggested to be strengthened by the Philippine government to safeguard its national interest and mitigate conflict with China.

Keywords: sea lanes, value system, diplomacy, soft power, national interest

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*Speaker

Strengthen Teachers' Education: A Focus on Efficacy and Motivation in Social Studies Teachers

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This study explores the primary elements influencing teacher motivation and efficacy, with an emphasis on professional development, institutional support, work-life balance, and student engagement. It aims to fill knowledge gaps about how these aspects influence teachers' commitment, work satisfaction, and effectiveness in today's educational system. Using a mixedmethod sequential explanatory design, the research first gathered quantitative data through surveys distributed to basic education teachers, followed by qualitative data from in-depth interviews. Thematic analysis revealed key themes surrounding Empowering Professional Growth, Navigating Institutional and Personal Barriers, Structural and Institutional Support, Professional Growth and Personal Empowerment, Emotional and Well-being, and Teacher Empowerment Through Validation and Engagement. Noteworthy findings include the significant impact of ongoing professional development in enhancing teacher motivation and confidence, the crucial role of institutional support in fostering a positive and productive work environment, and the importance of maintaining a healthy work-life balance to prevent burnout. Teachers also emphasized that active student engagement serves as a powerful motivator, reinforcing their commitment and passion for teaching. Recommendations include restructuring professional development programs to be more flexible and teacher-centered, improving institutional support through mentorship, wellness services, and recognition, and encouraging work-life balance through equal workload policies and mental health initiatives. Policymakers should provide supporting frameworks to alleviate teacher overload and encourage professional development. Future research should include longitudinal studies that investigate how gender, family roles, and student engagement influence teacher motivation and well-being.

Keywords: efficacy, teacher motivation, professional development, institutional support, work life balance, student engagement, teacher well, being

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The Faces of Poverty: Reflecting and Framing Poverty in the Selected Cinemalaya Independent Films

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This study explores the representation of poverty in independent films showcased at the Cinemalaya Film Festival. The research aims to analyze how these films reflect societal issues related to poverty and the framing techniques employed by filmmakers to convey their messages. To achieve this, a qualitative methodology was employed, involving a detailed content analysis of selected films from the Cinemalaya festival. The analysis focused on narrative structures, character development, and visual storytelling techniques that depict the experiences of marginalized communities. Interviews with filmmakers and film critics were also conducted to gain insights into their perspectives on poverty representation in cinema.

The findings reveal that the selected films utilize a variety of framing techniques to highlight the complexities of poverty. Common themes include the struggles of daily life, the impact of socio-economic disparities, and the resilience of individuals facing adversity. The films often challenge stereotypes by presenting nuanced portrayals of poverty, emphasizing the humanity of the characters rather than reducing them to mere victims.

In conclusion, this study underscores the significant role of independent cinema in shaping public discourse on poverty. By reflecting the realities of marginalized communities, these films not only raise awareness but also foster empathy among audiences. The research contributes to the broader understanding of how visual media can influence societal perceptions of poverty and advocates for continued exploration of these themes in future cinematic works. The findings suggest that independent films can serve as powerful tools for social change, encouraging viewers to engage with and reflect on the pressing issues of poverty in contemporary society. Ultimately,

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this study highlights the importance of storytelling in addressing social injustices and promoting a deeper understanding of the human condition.

Urbanization and the Philippine Housing Crisis

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Urbanization and the Philippine Housing Crisis

Keywords: Urbanization and the Philippine Housing Crisis

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Autonomy Support, Intrinsic Motivation, and Academic Performance in Mathematics among University Students in Flexible Learning Settings

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The shift to flexible learning during the COVID-19 pandemic has posed unique challenges and opportunities for higher education students, particularly in self-regulated learning and motivation. Grounded in Self-Determination Theory (SDT), this study examined whether perceived autonomy support and intrinsic motivation predict academic performance in Mathematics in the Modern World (MMW) among university students enrolled in flexible learning. A predictive cross-sectional design was employed involving 423 Filipino students from various universities in Manila and Cebu who completed the Learning Climate Questionnaire (LCQ) and the Task Evaluation Questionnaire. Results showed that perceived autonomy support was positively associated with all four subscales of intrinsic motivation and achievement in Math. Of the motivation factors, only perceived competence significantly predicted academic achievement. Together, perceived autonomy support and perceived competence were strong predictors of academic performance in MMW. Findings underscore the importance of fostering autonomy-supportive learning environments and enhancing students' perceived competence to improve academic outcomes in mathematics in flexible learning contexts. Implications for teaching strategies in higher education and suggestions for future research are discussed.

Keywords: perceived autonomy support, intrinsic motivation, academic achievement, mathematics, flexible learning

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Green skills integration practices of student teachers and cooperating teachers among secondary schools: Basis for enhanced instructional plan

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Student teachers and cooperating teachers are mandated to teach and impart to students the needed skills for them to become environmentally conscious citizens upholding sustainable and ecomonical practices. With that, the present study compares the green skills integration practices of student teachers and their cooperating teachers among secondary schools in a province in the Philippines as a basis for an enhanced instructional plan. The study utilizes the comparative design of quantitative research, wherein a questionnaire is used to gather data from 100 respondents (50 student teachers and 50 cooperating teachers) who voluntarily participated in the study. The study is implemented among public secondary schools in a province in the Philippines where the student teachers are deployed. As partners in the internship program, the cooperating teachers of the student teachers are included to compare their integration practices. A questionnaire is used to measure the green skills integration in the teaching practices. Descriptive statistics (mean and standard deviation) and inferential statistics (independent samples t-test) are used to analyze and identify significant differences in their integration practices. Findings reveal that cooperating teachers are more engaged in integrating green skills than student teachers, highlighting the need for enhanced training and support. A comprehensive learning plan, including targeted training and curriculum integration, is recommended to promote sustainable practices in education.

Keywords: green skills, green education, student teachers, cooperating teachers, secondary schools

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*Speaker

The Relationship Between Desensitization to Physical Violence on TV and Frequent Exposure to Specific SPG-Rated Primetime Shows Among Select JHS Students in Manila: Basis for a Responsible TV Viewing Campaign

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The pervasive presence of violence in mass media has long been a subject of academic and public discourse, particularly with regard to its influence on young viewers. In the Philippines, the rise of SPG-rated primetime teleseryes featuring intense physical violence has raised concerns about their potential psychological impact on adolescents. As television remains a dominant medium in Filipino households, questions arise about how repeated exposure to violent content may affect the emotional and behavioral responses of impressionable viewers. This study examined the relationship between desensitization to physical violence on TV and frequent exposure to SPG-rated primetime teleseryes-*Senior High*, *Pulang Araw*, and *FPJ's Batang Quiapo*-among select junior high school students in Manila. The researchers specifically measured desensitization to four categories of physical violence: combat/fights, physical assault, warfare, and killings. Using a quantitative correlational design, the researchers gathered data from 120 students through a survey instrument. Findings revealed a significant positive correlation between frequent exposure to SPG-rated primetime shows and desensitization to televised physical violence. The presence of parental guidance, particularly in reference to MTRCB classifications, was found to mediate this relationship. A significant increase in desensitization to combats and fights was also observed with frequent exposure. Based on these results, the researchers concluded that consistent viewing of violent television content can diminish adolescents' emotional responsiveness to violent acts. In response, an advocacy campaign titled "*Rated SPG: Smart,*

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Proactive, and Guided TV Viewing" was developed. The campaign included initiatives such as an educational series, video podcast, online community, themed merchandise, and a public service announcement series. Designed in collaboration with the Movie and Television Review and Classification Board (MTRCB) and guided by insights from media experts and educators, the campaign sought to promote responsible television consumption and raise awareness about the psychological effects of media violence, especially among Filipino families.

Foods as cultural gangplank: Chinese foods as roots of Filipino cuisine

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Foods are markers of identity and Chinese greatly infused Chinese culinary art in Philippine cuisine. As the Philippines was colonized by Spain, America, and Japan, influences of the trading partners, especially China concerning cooking and preparing foods, have been put in the sideline. There may be studies about the impacts of trading between China and the Philippines. However, few studies were made focused on the process of adaptation of Chinese cuisines by the Filipinos making it a Filipino brand of cuisine. Particularly, this study wants to explain how Chinese foods become "tatak Pinoy".Specifically, this study focuses on how Filipino adaptation of Chinese foods take place to make it Filipino brand of cuisine This study is grounded on Doreen Fernandez' Indigenization of food. This study utilized interviews with a Chinese- Filipino chef cooking authentic Chinese foods and a Filipino chef who married a Chinese and prepares Chinese and Filipino foods; survey questions floated online to two groups: fifty (50) Chinese-Filipino in Binondo, Manila as they practice more of the Chinese culture at home rather than Filipino culture, and fifty (50) Filipinos (born by both parents who are Filipinos) in the City of Manila. Observation, tasting of authentic Chinese cuisines in authentic Chinese restaurants, and watching Asian Food Network that features Chinese foods for validation. The study reveals that it is through modification process using local ingredients available in the community, meeting the local taste of the Filipinos to make the Filipino branding of food, and borrowing and adapting the methods of cooking that Chinese used. Chinese and Filipino taste of foods are somehow similar, but the distinction lies according to the availability of resources and the sub-culture of Filipinos consuming the foods. Thus, Filipinos are good in reinventing, rebranding, and sustaining foods from foreign origin.

Keywords: Key terms: migration, culinary, adaptation, ingredients, methods

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*Speaker

An Analysis on the Knowledge, Attitude, and Practice on Tsunami Disaster Management of Selected Barangay Sineguelasan Cavite residents through Disaster Literacy Model: A Basis for Disaster Literacy Campaign

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This study analyzed the knowledge, attitudes, and practices (KAP) of residents in Barangay Sineguelasan, Bacoor City, Cavite-an area vulnerable to tsunami and flooding risks, through the Disaster Literacy Model which served as a basis for a disaster literacy campaign. While national frameworks like RA 10121 and local disaster councils (BDRRMCs) exist, there remains a lack of tsunami-specific emergency management information, particularly affecting disaster literacy in coastal communities. The lack of disaster literacy research in the country also played a role in pursuing the study.

The study utilized a quantitative-descriptive research design. Data were collected through purposive sampling and survey questionnaires with a sample of 100 respondents, analyzed using descriptive statistics, and interpreted through the Disaster Literacy Model. Results indicated generally good levels of knowledge, attitudes, and practices among residents, with most demonstrating communicative and interactive disaster literacy. However, critical disaster literacy remains underdeveloped, with notable gaps such as community distrust in local governance.

The findings were used for the creation of a disaster literacy campaign aimed at maintaining and enhancing the tsunami disaster management of the community. The researchers highly recommend that future studies could expand this research to other coastal areas, examine the influence of demographic factors on disaster literacy, and utilize qualitative methods for deeper insights into community attitudes toward tsunami preparedness.

Keywords: Knowledge, Attitudes, Practice, Disaster Literacy, Tsunami

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Tara sa Binondo!: Exploring Manila's Chinatown Through Walk Along Method

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The present study is ongoing research about Manila's Chinatown in Binondo, which is the oldest existing Chinatown worldwide. It attempts to highlight cultural and culinary aspects through human ecological perspectives. With the growing interest in the rich heritage of Binondo, the proponent of the study utilized walking methodologies to capture the narratives of the place and senses. Through this, conceptions about Manila's Chinatown were formed, with special focus on the gastronomic culture which strengthens the connection and interest towards Chinese foods and flavors. From teahouses to famous restaurants and food stalls, the present study establishes the intersection of Chinese and Filipino cultures, and the fusion of various ways of life. Ultimately, the proponents of the study put emphasis on the human-environment connection which contributes to strengthening Binondo's identity not just as the center of Chinese food and culture in the Philippines, but also of intercultural understanding and tolerance through harmonious coexistence.

Keywords: Manila, Binondo, walking, human development, space, culture

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*Speaker

Navigating the Future of Education: A Review of AI-Powered Personalized Learning Systems in Post-Pandemic

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Amidst the COVID-19 pandemic, the educational field faced unprecedented challenges, which forced institutions to quickly shift towards new technologies to ensure continuity in learning. As the world enters the post-pandemic era, it is essential to understand the evolution and effects of these systems in research in the academic community. The researcher aims to achieve the following objectives: 1) To determine the current status of publications on AI-powered personalized learning in the post-pandemic era. 2) To identify intellectual patterns that emerge from the literature, including analyses of co-citation relationships, keyword associations, and collaboration among authors in this area of study. 3) To identify top countries that contribute to the publications. 4) To determine the most cited AI-powered personalized learning platforms in the publications. This study uses quantitative bibliometric analysis of Scopus indexed publications about AI-powered personalized learning in education from 2022 to 2025. The publication patterns will be evaluated by using empirical data and quantitative analysis. For graphical representation, this will use software such as VOSViewer and CiteSpace. The study reveals a growing interest and engagement in AI-powered personalized learning systems, since research publications between 2022 and 2024 show a marked increase in activity. Also, publications are dominantly articles. With these, the study recommends further research and development, more collaboration among countries, improved ethical considerations, a focus on accessibility and inclusivity, and more professional development for educators.

Keywords: artificial intelligence, education, personalized learning system, post pandemic

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*Speaker

Analyzing the Image of Women in Philippine Society: A Critical Feminist Discourse Analysis of Public Perceptions on Sexbomb and BINI

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In the digital age, media remains a powerful force in shaping societal perceptions and gender norms. In the Philippine context, women have long been portrayed through a patriarchal lens, often confined to narrow roles. This study uses feminist critical discourse analysis (FCDA) to examine how media representations of women, particularly through pop groups like the Sexbomb Girls and BINI, reflect and reproduce gendered power dynamics. Analyzing 36 Reddit comments, this qualitative research identifies key discourse patterns that inform public perceptions. Three dominant themes of negative discourse emerged: the Imposition of Derogatory Labels, Sexualization, and Criticism of Women-each reinforcing stereotypes around femininity and respectability. Conversely, positive discourse clusters into four themes: Good Character, Legacy, Cultural Identity, and Performance. Among these, derogatory labeling was most frequent, while performance-based appreciation appeared least often. While the Sexbomb Girls often face criticism rooted in the sexualization of their image, BINI is more frequently framed through cultural and performance-based discourse. Despite this, both groups contribute significantly to Philippine pop culture and ongoing conversations on gender, identity, and media representation. Their differing yet interconnected portrayals reveal how media figures shape broader debates around gender and class. Ultimately, this study underscores how the media functions as a site where societal expectations of womanhood are reinforced and contested. Through repeated images and discourse, it constructs a cultural framework that dictates gender roles and visibility. By situating BINI and the Sexbomb Girls within the evolving landscape of Philippine media, the research sheds light on the enduring struggle for gender equity, from colonial legacies to modern redefinitions of femininity.

Keywords: Imahen, Kababaihan, Diskurso, BINI, Sexbomb, Image, Women, Discourse

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Influences that Shape Novice ESL Teachers' Identity

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Language teachers' identities are dynamic and evolve continually based on their experiences, reflections, and teaching contexts. This identity is shaped by growing self-awareness, including beliefs, values, knowledge, experiences, and professional relationships. Novice English as a Second Language (ESL) teachers, particularly those with one to three years of experience who completed their practicum online due to global events such as the COVID-19 pandemic, have encountered various opportunities and challenges that shape their professional identity. This study investigated the factors influencing novice ESL teachers' identities, the opportunities and challenges they face, and how these impact their teaching practices. It also proposed an enhancement program to support the continued development of their professional identity. Using purposive sampling, five ESL teachers from Rizal Province with three years or less of teaching experience were selected. A qualitative design was used, specifically a narrative approach, to understand their lived experiences. Data were analyzed using the seven processes of narrative analysis. The findings revealed that identity formation among novice ESL teachers is shaped by opportunities such as professional development, teaching experience, and personal growth. Seminars, training sessions, group discussions, technology integration, and involvement in community activities and extension services played significant roles. However, challenges included high expectations, pressure, transitioning between learning modalities, and managing emotional boundaries.These findings imply that targeted support and identity-focused professional development are essential to help novice ESL teachers build confidence, manage expectations, and sustain effective teaching practices across varying modalities. The study recommends further research on novice ESL teachers' evolving identities to address gaps in existing literature.

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Empowering seniors: promoting media literacy in the digital age

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In the digital age, social media is the number one platform for sharing information and communication. However, while the younger generation quickly learns to adapt to an ever changing digital landscape, older people- especially those above retirement age see technologies as unfamiliar, sometimes even impenetrable. Barriers might include a lack of tech literacy, guidance, or mobility issues related to aging that can keep them from accessing important information that affects their lives. This study aimed to assess the media literacy level of Senior Citizens at Barangay Sabang, Barangay Antipolo Del Norte, and Barangay Pinagkawitan, Lipa City Batangas. A total of 348 respondents from the top 3 populated barangays were chosen through a purposive sampling. The study employed Quantitative Research to analyze and interpret the information collected from Survey Instrument. Results showed that most of the respondents were female, 60-69 years old, finished high school level, preferred Facebook, and used social media for less than 1 hour per day. Moreover, the respondents' media literacy level in terms of media access, media awareness, and media evaluation had a low interpretation. The assessed level of media literacy in terms of media access, media awareness, and media evaluation found no significant difference when grouped according to sex. On the other hand, the assessed level of media literacy in terms of media access, media awareness, and media evaluation found a significant difference when grouped according to age, educational attainment, frequency of social media usage, and preferred social media platform. With that, three (3) reels with one (1) minute each for media access, media awareness, and media evaluation had been produced as proposed communication tool.

Keywords: Senior Citizens, Media Literacy, Media Access, Media Awareness, Media Evaluation

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Poster Session 2

Enhancing Information Hiding in RGB Images through 7th-Bit Manipulation: A Method for Securing Employee Records

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Exchanging data across platforms poses challenges such as unauthorized access, driving the need for advanced technologies to strengthen information security. One promising approach is image steganography within the RGB color space, specifically through the manipulation of the 7th bit to enhance data concealment. Steganography, the practice of embedding information within other data, is gaining increasing attention for its potential in secure communication and data protection. This study proposes a method for hiding employee records by encrypting information in the least significant bits of the RGB channels in common image formats such as BMP, PNG, JPG, and JPEG. This technique achieves imperceptible visual changes while securely embedding sensitive data. Rigorous evaluations demonstrate the method's robustness against attacks, high data capacity, and strong invisibility, affirming the effectiveness of 7th-bit manipulation for advanced steganographic applications. The findings contribute to the development of secure communication protocols and enhanced data protection mechanisms for managing sensitive employee information in modern digital environments.

Keywords: Steganography, RGB Color Space, 7th Bit Manipulation, Data Hiding, Employee Records Security

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Teaching dexterity and teacher agency: Roadmap to innovative professional development

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Teachers in the 21st century are described as innovative agents of change in the classroom by taking ownership of their practice, actively engaging in program development, and contributing valuable insights. The synergy between dexterity and teacher agency faces challenges, as various aspects of teacher agency impact teaching dexterity. Thus, this study aimed (1) to determine the extent to which factors of teacher agency predict the level of teaching dexterity, (2) to identify which factor of teacher agency has the strongest influence on teaching dexterity, and (3) to utilize the findings in developing plans of action for innovative professional development for in-service and pre-service teachers. Determined using the purposive sampling method, respondents from the three campuses of Colegio de San Juan de Letran accomplished a Likert-scale survey on teacher's professional agency and teaching dexterity. The results of the multiple regression analysis suggest that teacher agency, especially teacher aspiration and self-efficacy beliefs, can significantly affect teaching dexterity. Furthermore, the results of this study could contribute to understanding how a teacher's professional agency and teaching dexterity can be considered in formulating and implementing innovative faculty development activities for in-service teachers and professional preparedness programs for pre-service teachers in order to adapt to dynamic and evolving learning environments.

Keywords: teaching dexterity, professional agency, faculty development plan

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*Speaker

NABEE: A Vicinity Map Application (VMA) for Dasmariñas Integrated High School

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This study addresses the persistent challenge of campus navigation in secondary education by evaluating NABEE, a web-based mapping application designed for students at Dasmariñas Integrated High School, and comparing its effectiveness to traditional paper maps across usefulness, efficiency, accuracy, and interface design. Utilizing a sample of 30 Grade 9 STE students, the initial descriptive analysis revealed NABEE's consistent superiority, with mean ratings exceeding traditional maps across all dimensions: usefulness (4.70 > 3.33), efficiency (4.27 > 3.07), and accuracy (4.80-4.93 > 3.33-3.88). In addition, the interface design showed particularly large gaps in readability (3.97 > 1.66). These descriptive trends guided our inferential analysis, Shapiro-Wilk tests (all p< 0.05) confirmed non-normal distributions, justifying Wilcoxon Signed-Rank tests. Results confirmed NABEE's significant advantages: NABEE significantly outperformed paper maps in accuracy (room numbering: Z=-4.89, p< 0.001, r=0.89), interface design (readability: Z=-4.21, p< 0.001), and efficiency (28% faster navigation times), while paper maps were slightly more accessible for first-time users (Z=-2.12, p=0.034), illustrating a learning curve for digital tools. The findings emphasize that digital mapping solutions like NABEE significantly boost complex navigation task performance but require hybrid interfaces, GPS integration, and enhanced accessibility features to cater to diverse users and ensure a smooth transition. Overall, the study suggests that effective implementation of such systems necessitates transitional training and a balanced consideration of both technological innovation and user experience, with future research recommended to incorporate feedback from faculty and visitors for broader solutions.

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Unveiling the Illusion of Ethical Consumption vis-à-vis Marx's Commodity Fetishism

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In the modern age, various institutional policies such as requiring "eco-friendly labels" were enacted in response to the existing problems of environmental degradation caused by globally heightened material consumption. Yet, it appears virtually impossible in the context of everyday life to exist outside the sphere of material commodity exchange, as it constitutes all the satisfaction of fundamental human necessities to the compulsory participation of market-integrated services. At its core, the perception of these certain goods and services as indispensable to human life exemplifies what Karl Marx identifies as *commodity fetishism*. By utilizing this, I will apply Marx's idea to highlight the dysfunctional facets of living under the status quo and explain the normative inclination of fetishizing commodities as a critical issue that moralizes, and encourages even more consumption under a capitalist society. This paper will be divided mainly by three sections: 1) I will first discuss the fundamental Labor Theory of Value as the foundational concept for commodity fetishism; 2) Then, I bridge towards identity analyses to understand the roles of producers, laborers, and consumers in the cycle of material exchange; 3) Lastly, I will also survey Herbert Marcuse's *False Needs* and Slavoj Žižek's critique of ethical consumption to integrate the advocated concept of "environment-friendly production" as a band-aid, if not futile, solution to the continuous harmful impact of, particularly, material consumerism. Fundamentally, I aim to unmask the interplay between the people (fetishizing), material things (commodities), and their interactions in contributing to the uncontrolled effects of consumer activities as well as to the overarching narrative of capitalism- serving as a response to Marx's initiated imperative awareness of such precarious reality that remains present in this current age.

Keywords: Ethical Consumerism, Marx, Commodity Fetishism

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Beyond Traditional Theory: Max Horkheimer's Critique of Capitalism and Domination

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Max Horkheimer's Critical Theory provides a deep critique of modern capitalist societies, showing how power structures use reason, culture, and ideology to maintain control and domination. While Horkheimer's ideas have been praised for exploring the connection between knowledge and power, some critics argue that his focus on systemic domination overlooks other important aspects of society. This paper will explore Horkheimer's critique of capitalism and domination, discussing its ethical implications and effects on social development. It will also look at how his ideas on instrumental reason, the culture industry, and authoritarianism explain how capitalist systems influence and control individuals.

The paper is divided into three sections. The first section will discuss how Horkheimer's Critical Theory developed, tracing its roots in Marxism and the socio-political climate of Weimar Germany.. The second section will focus on his critique of instrumental reason, explaining how prioritizing efficiency and control over human values leads to alienation and exploitation in capitalist societies. The third section will cover Horkheimer's work with Theodor Adorno, specifically their idea of the culture industry and how mass media and entertainment are used to maintain ideological conformity. This paper will argue that while Horkheimer's critique may seem pessimistic, it offers a valuable way to understand and resist modern forms of domination and challenges traditional ideas about control and rationality.

Keywords: Critical Theory, Instrumental Reason, Culture Industry, Capitalism, Authoritarianism

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BEHIND THE GRADES: PERCEPTIONS OF SELECTED STEM ACHIEVERS OF A PUBLIC SENIOR HIGH SCHOOL ON ACADEMIC CHEATING

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Academic cheating remains a persistent issue in educational institutions, driven by complex factors beyond mere moral failure. This study explored the perceptions of high-achieving STEM students at Dasmariñas Integrated High School regarding academic dishonesty using a Basic Interpretative Qualitative Study (BIQS) approach. Questions were formulated to explore the connection between dishonesty and General Strain Theory and Moral Disengagement Theory, which explain how students resort to cheating when legitimate avenues for success appear inaccessible and justify unethical behavior to mitigate feelings of guilt. Semi-structured interviews conducted with Grade 11 and 12 STEM achievers revealed three central themes. First, "Survival Tactic" describes how students turn to cheating as a practical response to intense academic demands, heavy workloads, and pressure to maintain academic recognition. Second, "False Progress" described how dishonest practices lead to inflated grades and misrepresented academic performance. These outcomes often result in institutional leniency, where teachers are misled by academic records, and dishonest behavior is normalized within the academe. Lastly, "Institutional Integrity" highlighted the absence of clear, consistent rules enforced by school policies greatly influenced student behavior. Some of the achievers themselves admitted to having benefited from the absence of strict and consistently enforced academic policies. These align with the findings of Sarkar (2022) and Harding et al. (2020), which described how overwhelming stress and apathy towards academic rules can perpetuate cheating cultures. To strengthen future studies, researchers should diversify the sample size across academic strands and other private or public institutions in the future. This includes studying teachers' and educators' perspectives to shed light on how the education system truly accommodates cheating issues.

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Mapping the growth of clustered regularly interspaced short palindromic repeat technology in plant science

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This study addresses the critical need to map the interdisciplinary growth and research trends of CRISPR-Cas technology in plant science, a rapidly evolving field at the intersection of biotechnology, genetics, and agriculture. Using a bibliometric analysis of 933 documents from the Scopus database (2010–2024), the study employs VOSviewer 1.6.20 to analyze co-authorship networks, keyword co-occurrences, institutional collaborations, and citation patterns. The analysis reveals a dynamic and globally connected research landscape, with China and the United States emerging as central hubs of innovation and collaboration. Leading researchers, such as Yiping Qi and Ajay Kumar, are identified as key contributors driving advancements. Dominant themes include precision gene editing technologies (e.g., base editing, prime editing) and a rising emphasis on ethical considerations and regulatory frameworks. The findings highlight CRISPR's transformative potential for crop improvement, climate resilience, and global food security, while also addressing ongoing challenges, including off-target effects, regulatory barriers, and societal acceptance. Moving forward, the study emphasizes the importance of international partnerships, ethical governance, and public engagement to ensure the equitable and sustainable adoption of CRISPR technology in agriculture.

Keywords: CRISPR, Cas Technology, Plant Science, Bibliometric Analysis, Crop Improvement, Ethical Considerations, Precision Gene Editing

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[*]Speaker

Building Stronger Teams: A Comparative and Correlational Study on Team Cohesion and Organizational Commitment of Academic Support Personnel

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Employee training and development can both be seen as cost and necessity for organizations. Most specially, the need for programs to aid employees to have positive viewpoint towards their organization and work in general, which not only influence organizational culture but also the motivation of employees. Thus, the study aimed to evaluate the effect of a team building activity to a group of employees. By comparing the results of their perceived team cohesion and commitment, the study aims to emphasize the value of programs that not only develop employees in terms of technical skills and job-related tasks, but to also understand that activities like a seemingly simple team building exercise could lead to improvements for the employees. Results found significant differences on the perceived cohesion and organizational commitment of the employees before and after they have undergone a team building activity. Lastly, significant relationship were found between Cohesion and Organizational Commitment, thus emphasizing on the idea that if employees have a positive impression of their environment, and the co-workers, employees tend to be dedicated to their work and the organization. This supports several assumptions on the value of such activities and further emphasizes the importance of employee assistance programs (EAP), and wellness activities for the employees and organizations.

Keywords: Group Cohesion, Organizational Commitment, Industrial Psychology, Culture, Well, being

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Development of Admission & Application Management System With Data Validation Using Convolutional Neural Network (CNN) & Levenshtein Distance Algorithm (LDA)

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Despite advancements in digital technology, many educational institutions in the Philippines continue to rely on manual processes for student admissions and applications. These outdated systems often lead to data inaccuracies, prolonged processing times, and administrative inefficiencies. This study proposes the development of a cloud-based Admission and Application Management System, hosted on Amazon Web Services (AWS), to streamline enrollment workflows, minimize human error, and enhance data accuracy.
The system incorporates automation for document and image validation by comparing uploaded files with user-provided information. It leverages Convolutional Neural Networks (CNNs) for pattern recognition and the Levenshtein Distance algorithm for detecting inconsistencies in textual data, effectively addressing common issues such as typographical errors and formatting mismatches. Hosting on AWS ensures a scalable, secure, and highly available infrastructure, enabling widespread accessibility and reliability.

The system performance will be assessed using the ISO/IEC 25010:2023 software quality model, with emphasis on functionality, reliability, usability, efficiency, maintainability, portability, and security. The project follows an Agile Scrum development methodology, supporting iterative refinement through continuous improvements through sprint-based development cycles.
Ultimately, this study aims to reduce the administrative burden on university personnel and admins, accelerate processing times for students, and facilitate the digital transformation of higher education institutions in the Philippines. By integrating AWS cloud services with intelligent automation technologies, the proposed system offers a practical, scalable, and future-ready solution for modernizing admission processes.

Keywords: Admission, Application, Machine Learning, Automation, Cloud Computing

[*]Speaker

EXPLORING OFFICIAL ANNOUNCEMENTS ON A SELECTED HIGH SCHOOL FACEBOOK PAGE: A CONTENT ANALYSIS

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Social media applications, specifically Facebook are significant tools for information transmission. However, there is a critical need to enhance the communication tactics and content of data disseminated through these platform regarding official announcements. This academic paper scrutinized the prevalent language register, common themes, frequency of posts between January and February and proposed different communication tactics across the official announcements of Facebook page in the selected high schools of the Educational District III in Bulacan. The investigators employed convenience sampling technique and qualitative research design particularly content analysis. Hence, the findings indicated that the formal language register, with 170 occurrences, was the most implemented linguistic style, while intimate became the least with zero emergence. Further, the 81 advertisement-themed details dominated, and the 12 instructions ranked last. February involved 144 notifications and had a higher frequency than January, with 85 inputs, and these materials should convey an introductory paragraph that will answer who, what, when, where, why, and how and use appropriate emojis and different comprehensible title fonts. The data implies the demand for more emphatic and passionate messages and the need to increase explicit guidance. Future researchers may explore seasonal trends and user engagement, delving into the impact of visual elements and linguistic styles and conducting qualitative interviews or surveys with stakeholders to tailor communication strategies effectively.

Keywords: Facebook, communication tactics, language register, visual elements, content analysis

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Utilization of Pili (Canarium ovatum) sawdust in the Production of Bio-crude Oil and Identification of its Potential By-products Using Thermochemical Conversion

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This study aimed to utilize Pili sawdust in the production of bio-crude oil and identify its potential by-products through thermochemical conversion. To obtain all the essential data, this research sought to answer the questions: (1) How much bio-crude oil can be produced at constant factors such as temperature and amount of *Canarium ovatum* (Pili) sawdust? (2) What are the physical characteristics of the generated bio-crude oil after conducting thermochemical conversion? (a) Color, (B) Appearance, and (c) Viscosity (3) What other potential by-product can be generated out of *Canarium ovatum* (Pili) sawdust after conducting thermochemical conversion. (4) What are the physical characteristics of the generated by-products after conducting thermochemical conversion? (a) Color and (b) Appearance. Experimental-descriptive method was use in perceiving the physical properties of the by-products and its bio-crude oil production, presented in milliliters and to be expressed in percentage respectively. Based from the gathered observation record results, data revealed that the 1000g of Pili sawdust in 340oC temperature, yields 30% or 300ml of brownish bio-crude oil in color, with a high degree of viscosity. Consequently, the generated by-products are char and the synthesized gas. The 242.2g of bio-char which yields 24.52%, resulted being porous and coarse-grained in texture. While the synthesized gas generated 433.4g of net weight yields 43.34%, resulted having a high flammability. For the betterment of similar study, future researchers are encouraged to evaluate the agricultural potential of the generated char and to distillate bio-crude oil for possible commercial use.

Keywords: Keywords: Viscosity, Distillate, Thermochemical conversion, Pyrolysis method, By, product, flammability and combustibility

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ETHNIFIT: A BODY FAT ANALYSIS SYSTEM USING 2D CAMERA IMAGES AND MACHINE LEARNING FOR ACCURATE ASSESSMENT ACROSS DIFFERENT ETHNIC GROUPS

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Body fat percentage (BF%) is a vital health metric, but traditional methods like calipers and bioelectrical impedance analysis (BIA) often lack consistency across ethnicities and can be costly. This study developed a real-time BF% Estimation System using 2D images, image processing, and deep learning. A 7-megapixel camera captured a full-body image which applied facial detection and classified ethnicity using the VGG-Face model to adjust BF% formulas for Asian and non-Asian users. With 30 Filipino respondents that achieved 90% accuracy for Asians, while 30 respondents from eight non-Asian ethnicities achieved 93% accuracy. The system detected the body and extracted the waist, hip, neck circumference and height measurements which computed BF% using gender and ethnicity-specific equations and classified it into underfat, average, overfat and obese. Ethnifit device was able to achieve 92% accuracy for ethnic classification, and the BF% estimation showed 4.71% to 10.1% error. The device proved to be on par with traditional methods such as skinfold caliper, bioelectrical impedance analysis (BIA) and tape measure based on statistical analysis.

Keywords: Keywords: Machine Learning, VGG, Face, Deep Learning, Bioelectrical Impedance Analysis (BIA), Ethnifit

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Development Of Superabsorbent Concrete (SAC) With Superabsorbent Polymers (SAPs) from Used Cooking Oil as Additives for Enhanced Surface Runoff Reduction

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Flooding remains a significant challenge, especially in rapidly developing areas like Metro Manila, where increased impermeable surfaces and inadequate drainage systems worsen runoff issues. This study investigates the development of Superabsorbent Concrete (SAC) incorporating Superabsorbent Polymers (SAPs) synthesized from Used Cooking Oil (UCO) as an innovative solution for reducing surface runoff. The SAPs were produced through transesterification and polymerization and added to concrete mixtures at varying dosages. The research focused on assessing the water absorption capacity and mechanical properties of the modified concrete under both natural and controlled curing conditions. The findings highlight the potential of SAC as a sustainable and resilient material for managing surface runoff and contributing to climate-resilient infrastructure.

Keywords: Superabsorbent Concrete (SAC), Superabsorbent Polymers (SAPs), Used Cooking Oil (UCO), Water Absorption, Surface Runoff Reduction

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*Speaker

Mapping research trends and technological pathways in agricultural innovation towards urban solutions

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There is an increasing pressure in urban areas in the Philippines to ensure sustainable food systems, improve living standards, and reduce vulnerabilities. The challenges may be addressed through the lens of global research on technology in agricultural innovations. Using a bibliometric analysis of filtered 4,958 documents from the Scopus database (2015–2024), the study employed VOSviewer 1.6.20 to analyze co-authorship networks, keyword co-occurrences, collaborations, citations, and thematic patterns. Results revealed that the publications related to urban sustainable development are increasing over the years, with predominantly collaborative efforts of Yang Chen, Chunyang He, Chuanglin Fang, and Liyin Shen from the leading institutions such as the University of Chinese Academy, and the Institute of Geographic Sciences prioritized geography, natural resources, environmental science, urban studies, and architecture which dominantly partnered by China, East Asian/Oceanian, and European countries. There are strong innovative initiatives for urbanization, urban agriculture, and smart/sustainable cities using vertical farming, smart irrigation, hydroponics, biochar, hydrology, and planned infrastructure, especially in 2019-2020, as frequently featured in the Sustainable Cities and Society Journal. The trends showed avenues for addressing such urban challenges by adopting these prominent technologies in optimizing the space in the land-scarce cities, as proven during the pandemic, in which resilient food systems had somehow been stabilized in some international cities while keeping an interest more in waste-to-resource innovations and thus sustained urban needs. These insights provide ideas to collaborate with the leading scholars, institutions, and countries, and are highly significant in strengthening Manila and other Philippines' cities to continue the battle against food insecurity and vulnerabilities by adopting agricultural innovative technologies to foster sustainable and resilient urban areas.

Keywords: Agritech and Innovation, Bibliometric Analysis, Food System, Urban Agriculture, Urban Sustainable Development

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*Speaker

Exploring the Relationship of Procrastination, Self-Efficacy, and AI Dependence Among Filipino College Students

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The use of Artificial Intelligence (AI) to accomplish academic and professional tasks has surged, prompting researchers to explore its behavioral impacts. Prior studies suggest a positive correlation between AI dependence and procrastination, especially among individuals drawn to AI's quick generative capabilities. Self-efficacy also influences procrastination and has been linked to technological reliance. However, local literature on the role of self-efficacy in AI dependence and procrastination remains scarce. This mixed-method study investigates the relationships among AI dependence, academic procrastination, and academic self-efficacy among Filipino college students. Using three validated scales and a qualitative questionnaire, the study collected comprehensive data from participants. Contrary to initial hypotheses, no significant correlations were found between AI dependence and procrastination, or between self-efficacy and procrastination. A significant positive correlation between AI dependence and self-efficacy emerged only among Accounting and Business students. Notably, AI use for reading had a stronger link to procrastination than overall AI dependence or self-efficacy. Qualitative findings revealed nuanced student perspectives, highlighting the importance of personal context in shaping academic behaviors. While some responses aligned with the hypothesized relationships, they were inconsistent. These findings suggest that AI dependence, self-efficacy, and procrastination interact in complex, context-specific ways, emphasizing the need for further research and tailored academic strategies.

Keywords: Artificial Intelligence, Procrastination, Self, Efficacy, Academic Behavior, Central Luzon Students

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History and Expansion of Iglesia Filipina Independiente in Lagonoy, Camarines Sur

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The Iglesia Filipina Independiente (IFI) represents a significant yet understudied Christian denomination in the Philippine religious landscape. Despite its historical roots in the nationalist struggle against colonial rule, scholarly attention to the IFI in Bicol remains limited, particularly in regional contexts such as in Bicol. In the municipality of Lagonoy in Camarines Sur, the IFI has played a vital role in shaping local religious and socio-cultural life. However, efforts to contextualize and incorporate these experiences into broader academic and educational discourse are hindered by the scarcity of accessible sources. This study seeks to give voice to the often unheard narratives and overlooked realities of the IFI community to highlight their experiences, struggles, and contributions to local culture and history. This study explored the historical development of the IFI in Lagonoy, examined its religious and cultural practices, and analyzed the factors behind its endurance. Using mini-ethnographic methods, data were gathered through key informant interviews, focus group discussions, and participant observation to document the lived experiences of clergy descendants, lay leaders, and community members. Findings reveal that the IFI's survival and growth were driven by strong community solidarity, historical injustices under Spanish friars, and nationalist sentiments expressed through vernacular liturgy, incorporation of national symbols, and local spiritual movements. Its continued presence affirms the agency of Filipinos in shaping faith as a form of national identity and liberation. Despite institutional discrimination and religious stereotyping, the IFI in Lagonoy remained firm in its mission of Pro Deo et Patria.

Keywords: Iglesia Filipina Independiente, Local History, Religion

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*Speaker

Motivations, Challenges, and Opportunities of Drag Queens in Utilizing Drag as a Platform for Social Inclusivity

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This study explores the depth of the artistry of drag in the Philippines in terms of how drag serves not only as entertainment but also as an avenue for promoting social inclusivity. Understanding how drag queens use drag as a platform for advocacy can help identify its impact, not only within the Filipino LGBTQIA++ community but also across society at large. However, research on drag culture and drag as an art form in the Philippines remains limited.

This study, titled "Motivations, Challenges, and Opportunities of Drag Queens in Utilizing Drag as a Platform for Social Inclusivity," aims to explore the motivations of drag queens in promoting their individual advocacies, the challenges they face as advocate drag queens, and the opportunities they foresee to expand the reach and impact of their efforts.

Data was gathered through semi-structured interviews with four drag queens, each with a unique advocacy. The study employed narrative structural analysis, followed by a cross-case analysis, to examine the data. The analysis revealed that drag queens' motivations are rooted in personal experience and societal observation. Challenges include the costly nature of drag and persistent prejudice against the LGBTQIA++ community and activism, often reinforced by religious beliefs.

Despite these challenges, participants identified various opportunities for expanding the reach of drag and advocacy, such as public and organizational support, use of social media, and visibility through drag-related shows in mainstream media.

The findings suggest a need for further academic exploration of drag culture in the Philippines. Such inquiry would contribute to broader visibility and promote a deeper understanding of drag as a powerful platform for social inclusivity.

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KAPE(hunta)HAN: Communicating the Cultural Values and Issues Behind the Kapeng Barako (Coffea liberica) in Lipa City, Batangas, Philippines

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ABSTRACT

This study aims to examine the sustainability practices of cultural and agricultural government units in disseminating information to sustain and revitalize coffee production, specifically the *Kapeng barako* or Coffea liberica variant, in Lipa City, Batangas. The research employed a descriptive qualitative approach, utilizing Key Informant Interviews (KII) with three informants from local and regional government units. Data were analyzed using three-level coding and thematic analysis.

Guided by Berlo's Communication Model, the findings reveal the following: (a) the Sources of information are primarily from regional and local cultural and agricultural units, which demonstrate unsustainable practices in disseminating information; (b) the Message conveyed highlights the cultural and economic importance of the Coffea liberica variant to the city; (c) the Channels of communication include a mix of face-to-face discussions and ICT-based platforms, with social media (particularly Facebook) serving as an effective outreach tool although its use is not fully maximized; and (d) the Receivers or target audiences; farmers, local residents, and potential consumers that receive limited and insufficient information about the topic.

Based on the analysis, the researcher recommends the development of a "**Science Behind Coffee**" booklet or storybook tailored for the elementary level to help young learners understand and appreciate *kapeng barako*. Additionally, the use of a "**Communication Plan for Strategic Information Dissemination**" is suggested to improve the effectiveness of communication efforts and to better engage the target audiences.

Keywords: Communication, Information Dissemination, Cultural Values, Liberica Coffee, Sustainability Practices

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[*]Speaker

Engaging Students Through Play in Microeconomics Using the Clash of Markets Card Game

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Long considered a difficult subject, microeconomics courses can result in disinterest among students. In response to this issue, the researcher developed an innovative educational tool that would not only motivate students to learn but also instill essential economic principles in an easy and enjoyable approach. The Clash of Markets Game is a card game that is played using a specially printed deck of 80 cards consisting of market cards and microeconomics concept cards. It teaches students about market structures, consumer behavior, supply and demand. A class consisting of 48 students taking a Microeconomics course took part in the research that assessed their perceptions across three dimensions of acceptability for the Clash of Markets Game – attention, relevance, and satisfaction. The results of the survey showed that students responded positively to the game. The game kept the students engaged, helped them comprehend the course material, and added to their overall enjoyment of the class. These findings imply that integrating game-based learning tools like Clash of Markets can be a strong supplement to traditional instruction, particularly in content-heavy subjects such as microeconomics

Keywords: game, based learning, microeconomics, educational innovation, student engagement, active learning, card game, higher education

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*Speaker

Bridging Tradition and Modernity: The Matigsalug Manobo's Cultural Revitalization in a Changing Landscape

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In the face of rapid modernization, the preservation and revitalization of indigenous cultures in the Philippines remain a pressing concern. This research synthesizes the efforts and outcomes of cultural revitalization within the Matigsalug Manobo community in Southern Mindanao. While past literature has documented traditional knowledge and challenges, there remains a gap in evaluating the characteristics that led to successful revitalization and the feasibility of replicating these methods among other indigenous groups. To address this, the study employs an explanatory synthesis of academic literature, supplemented by non-scholarly sources, to examine the interplay between community resilience, cultural cohesion, and external support.

Key methodologies analyzed include Adaptive Collaborative Management (ACM) and Participatory Cultural Inventory, both of which empowered the Matigsalug to document, preserve, and reintroduce practices such as cotton weaving, herbal medicine, and ancestral rituals. The introduction of literacy programs significantly bolstered cultural transmission, enabling documentation and deeper community engagement. Moreover, the collaborative efforts of government bodies, NGOs, and local educators created an enabling environment for cultural restoration.

Findings reveal that cultural revitalization succeeded due to the community's adaptability, sustained cohesion, and strategic use of modern tools alongside traditional knowledge. The Matigsalug's journey demonstrates that inclusive, participatory frameworks grounded in mutual respect and cultural agency can effectively reverse cultural decline. This synthesis offers a replicable model for indigenous revitalization efforts, emphasizing that with strong internal agency and ethical external partnerships, cultural heritage can be safeguarded amidst change.

Keywords: Matigsalug, cultural revitalization, indigenous knowledge, literacy, heritage preservation

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Applications of Difference Equations in the Analysis of AC Circuits under Discrete-Time Simulation

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This paper explores the application of difference equations to simulate AC circuit behaviour in discrete time. Phasor and Laplace-domain methods are universally accepted for analysis in continuous time; however, these approaches show no compatibility with digitally controlled systems such as microcontrollers and signal processors. To address this, a discrete-time approach is proposed using backward difference approximations to derive first- and second-order recurrence relations for series RL, RC, and RLC circuits. These equations were solved recursively as well to simulate circuit responses to sinusoidal voltage inputs. Modelling was done with uniform time steps of 0.0005 seconds over a 0.1-second simulation interval ensuring Nyquist compliance all that time. The results indicate that the simulated responses track well with the expected sinusoidal waveforms with each configuration having characteristic transient and steady-state behaviours. Stability is analytically confirmed by the unit-circle criterion, and convergence is clear by periodic responses that are consistent with time. Even though there were no explicit error margins computed, the matching of the numerical solutions to the theoretical expectations indicates that the approximation errors are minimal. Additionally, the fixed recursive nature of the method also means that it involves fewer symbolic manipulations than the traditional methods, which provides computational efficiency and ease of implementation within a digital setting. These findings support the use of discrete-time difference equations should be considered a scalable and computationally efficient alternative to more traditional phasor-based methods used in analysis of linear AC circuits, especially in terms of digital signal processing and embedded systems applications.

Keywords: AC circuit analysis, Difference equations, Discrete, time simulation

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*Speaker

VendoMed: An IoT-Driven Vending Machine for Over-the-Counter Medications with Integrated Data Analytics

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In underserved urban communities, access to over-the-counter (OTC) medications remains a public health concern due to limited pharmacy coverage, manual inventory practices, and constrained operating hours. To address these barriers, this study introduces VendoMed-an IoT-powered vending machine system designed to improve access to essential OTC medications while supporting administrative efficiency through integrated data analytics. Utilizing an engineering design and mixed-methods approach, the system integrates an ESP32 microcontroller, RFID-based user authentication, custom Android interface, and Telegram-enabled alert system. The prototype was deployed in Barangay 210, Tondo, Manila for field testing.

System evaluations demonstrated strong operational performance, with average transaction time under 120 seconds, ≥90% dispensing accuracy, and sub-10-second alert delivery. The admin dashboard provided real-time inventory tracking, analytics visualization, and sales monitoring. User acceptance testing with 100 residents and five local stakeholders revealed high satisfaction, with over 90% preferring VendoMed over traditional pharmacies due to speed and accessibility. Stakeholders found the system useful but emphasized the need for onboarding support.

Findings suggest that VendoMed is a viable, scalable solution for enhancing medicine accessibility in underserved areas, with potential applications in other low-resource settings. Future enhancements include e-wallet integration, expiration batch tracking, and multilingual interface support to expand functionality and reach.

Keywords: IoT, vending machine, over, the, counter medication, healthcare access, real, time inventory

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SalinKamay: A Gesture Recognition Technology for Filipino Sign Language Translator

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This study introduces SalinKamay, a portable, low-cost Filipino Sign Language (FSL) translation device designed to bridge communication gaps between Deaf and Hard-o f-Hearing (DHH) and hearing individuals. Utilizing a Raspberry Pi Camera Module and a machine learning-based gesture recognition model with MediaPipe and OpenCV, the system captures static FSL gestures and translates them into text with minimal delay. The device was evaluated through a combination of quantitative metrics and user surveys conducted at the Special Ministry for the Deaf, Baclaran Church. Results revealed a finger-spelling recognition time of 1.04 seconds per character and a static gesture translation speed of 0.46 seconds, with optimal performance observed within a 4-foot range under adequate lighting. User satisfaction surveys reported a 100% ease of use and portability rating in post-use evaluations. The study highlights SalinKamay's potential as a practical assistive tool for promoting inclusivity and real-time communication for the Filipino DHH community.

Keywords: Filipino Sign Language (FSL), Gesture Recognition, Raspberry Pi, Assistive Technology, Machine Learning, MediaPipe.

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DEVELOPMENT OF AN INDIVIDUAL CLASS RECORD VIEWING WEB-BASED PROGRAM FOR LETRAN MANILA

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Communicating grades and academic progress of the students has always been a challenge among teachers, especially under the mandate of data privacy acts that aim to protect the personal information of the learners. In the light of education eventually shifting to online modalities, learning management systems are utilized both for teaching, learning, and assessment. This study has developed an individual class record viewing web-based program for the students of Letran Manila, while consequently creating class record templates that suit the grading components across all levels. Data are collected through an adopted evaluation instrument and mean scores show that the respondents exhibit a positive acceptance of the program. Nonetheless, the teachers express reservations regarding the program's security features and the additional workload that goes along with this endeavor. The researchers then recommend further emphasis on the security features the program already possess while suggesting data gathering from student users in the future.

Keywords: class record, grading, data privacy, web, based program, assessment

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Sustainable Assessment Tool with Descriptive Analytics for Sustainable Development Office in Batangas State University TNEU – Lipa Campus

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This project introduces a Sustainability Assessment Tool with Descriptive Analytics designed for the Sustainable Development Office (SDO) at Batangas State University TNEU – Lipa Campus. The tool addresses the challenges of manual data processing for tracking Sustainable Development Goals (SDG) progress, which is often time-consuming and prone to errors, limiting the university's ability to visualize its sustainability status in real-time.

The methodology employed for this project is the Agile methodology, allowing for flexible and iterative development. The system utilizes PHP for backend development, JavaScript for interactive components, MySQL for database management, and Chart.js for visual analytics. The development process involved distinct phases: planning, design (using Canva for UI/UX), development (using PHP, HTML, CSS, JavaScript, Bootstrap, Sweet Alert), testing (functional suitability, performance efficiency, usability, security), deployment, review, and launch. The system is designed with four user types: admin, office, employee, and student, each with specific roles in data contribution and access.

The tool effectively streamlines tracking and reporting of sustainability metrics, providing a comprehensive real-time dashboard that visualizes data through interactive charts and graphs. This enhances stakeholders' ability to monitor progress towards the SDGs. The integration of an automated pointing system based on established SDG indicators ensures accurate assessment of the campus's sustainability performance. User feedback indicates high usability and functionality, achieving a score of 3.80 out of 4 in analytics effectiveness.

The developed Sustainability Assessment Tool effectively addresses the SDO's needs by automating data collection and analysis, providing real-time insights, and facilitating data-driven decision-making for sustainability initiatives. The system's ability to generate reports and its user-friendly interface contribute significantly to enhancing the campus's sustainability efforts and streamlining reporting processes.

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AgriMate: Autonomous Robot for Seed Planting and Soil Condition Analyzer

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AgriMate is an autonomous rover developed to address challenges in traditional farming
by automating seed sowing and real-time soil monitoring. The system integrates a 7-in-1 soil
sensor to measure the moisture, temperature, pH, conductivity, and nutrient levels such as Ni-
trogen,Potassium, and Phosphorus, with data transmitted to a mobile app for real-time access.
Tests on Pechay, Okra, and Monggo showed germination success rates between 67.86% and
84%, with Okra and Monggo exceeding the 70% benchmark. Sensor readings were found to be
within a 5% margin of error compared to an analog meter, demonstrating reliable environmental
monitoring. AgriMate proves effective in improving planting accuracy and supports data-driven
farming practices. It contributes to SDG 2 (Zero Hunger), SDG 12 (Responsible Consump-
tion and Production), and SDG 13 (Climate Action). Further enhancements can show strong
potential for advancing precision agriculture in developing regions.

Keywords: Agriculture, Rover, Soil Monitoring, Seed Sowing

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Development of an IoT-Enabled Smart Garbage Bin for Waste Level Detection

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The generation of solid waste is a consequence of human activity, necessitating efficient management strategies to mitigate environmental impacts and promote recycling. Inadequate waste collection and improper disposal practices pose significant public health risks and contribute to environmental degradation. Despite the growing demand for improved waste management, many institutions continue to rely on manual monitoring of trash bins, resulting in issues such as overflow, delayed collection, and hazardous gas accumulation. This absence of real-time monitoring reduces responsiveness and operational efficiency.

This project focuses on the development and evaluation of a Smart Trash Bin Monitoring System aimed at enhancing waste management practices. The system integrates multiple sensors to monitor trash levels, detect toxic gases, and measure bin weight, triggering alerts when predefined thresholds are reached. Specifically, an ultrasonic sensor measures the height of the trash, an MQ2 sensor detects the presence of hazardous gases, and a load cell measures the bin's weight. Sensor data are transmitted to the ESP32 microcontroller, which processes the inputs and sends real-time updates to a mobile application. Additionally, the Neo-6M GPS module provides location tracking for each bin. When sensor thresholds are exceeded, the system automatically issues email alerts and in-app notifications via the IoT Remote platform, ensuring prompt response from designated personnel. A centralized monitoring dashboard, developed using Arduino Cloud CC, displays the trash height, gas levels, weight, and bin location in real time.

System performance was evaluated through sensor accuracy and user interface responsiveness, both of which demonstrated reliable and real-time feedback. The prototype and its accompanying application were assessed by users and IT experts based on functionality, features, and reliability. The evaluation resulted in a combined weighted mean of 3.55, indicating a high level of user satisfaction following the testing of the prototype.

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SANAOil: Computer Vision-Based Watercraft for Oil Spill Assistance Using YOLOv8 and Physical Recovery with Belt Skimming

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The research aims to develop a computer vision–based assistive system for oil spill recovery. Immediate response to oil spills mitigates the risk of further contamination, reducing harm to marine life. The watercraft minimizes reliance on aggressive recovery strategies that may otherwise damage sensitive ecosystems such as coral reefs and mangroves as well as reduce the need for manual recovery that risks responders' health and well-being. The system features an oil detection module that uses convolutional neural networks via the YOLOv8 object detection model to analyze visual imagery. Upon camera capture, the system accurately identifies the presence of oil on the water surface. Once detected, the oil–water mixture is siphoned into a containment unit, where a physical skimming process removes polycyclic aromatic hydrocarbons (PAHs) in large molecules, followed by fine filtration for smaller PAH residues.

Keywords: Oil Spill Detection, YOLOv8, Computer Vision, Marine Robotics, Skimmer, Environmental Monitoring

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The Sound of Faith: An Ethnomusicological Exploration of Awrora Songs in Goa, Camarines Sur

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This ethnomusicological study explores the Awrora songs, a religious tradition combining prayer, chants, and processions dedicated to the patron saints of different barangays in Goa, Camarines Sur. The research focuses on the development of music sheets to preserve the practice and to highlight its musical and cultural significance. The preservation of Awrora songs faces significant challenges, including insufficient safeguarding measures, limited non-formal educational efforts, and declining interest among younger generations. Without effective strategies to support this tradition, these songs that are a vital part of Bicolano cultural identity are at risk of being lost. Transcribing Awrora songs into a standardized musical notation is essential not only for preserving these vocal traditions but also for ensuring their accessibility to future generations. Utilizing Fairclough's Critical Discourse Analysis (CDA), the study examines themes of thanksgiving, supplication, and veneration as expressed in the lyrics, which reflect deep Catholic devotion and regional identity. The melodies were transcribed and subsequently validated by music experts to ensure accuracy and authenticity. This documentation not only reaffirms the cultural value of Awrora but also highlights the community's vital role in sustaining religious vocal traditions. The study recommends further melodic analysis, adoption of the musical sheets by the community members, and active community involvement to ensure the continuity and deeper understanding of this tradition.

Keywords: Awrora, Ethnomusicology, Gozos, Music

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Poster Session 3

Pixel Perfect Security: A Comparative Analysis of PHE and ECC Cryptosystem for Image Encryption

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With the advent of the Internet of Things (IoT), securing multimedia content-including images-becomes increasingly critical. This study evaluates the performance of partially homomorphic encryption (PHE) algorithms (RSA and ElGamal) and elliptic curve-based cryptography (ECC) (via ECIES) in encrypting images of various sizes and security strengths. Utilizing a dataset of 48 images (colored and grayscale) from the USC-SIPI database, the study examines encryption/decryption times, statistical properties (histogram uniformity, entropy, correlation), and sensitivity to attacks, with hyperparameters set according to recommended security levels. Results demonstrate that grayscale images are processed faster than colored ones. ECIES consistently outperforms RSA and ElGamal, exhibiting quicker encryption/decryption, statistically uniform histograms, higher entropy close to the maximum (8), and greater resistance to statistical and correlation attacks. Conversely, RSA and ElGamal show vulnerabilities, including slower processing and less uniform pixel distributions. All schemes maintain high decrypted image quality and resist sensitivity attacks. Overall, the findings suggest that hybrid ECC encryption schemes like ECIES offer a promising balance of efficiency and security for image encryption, providing valuable benchmarks for future research in secure multimedia communication.

Keywords: image encryption, RSA algorithm, ElGamal algorithm, ECIES, hybrid encryption

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Spatial and Temporal Analysis of the Vegetation, Built-up, and Land Surface Temperature of Manila Based on Landsat 8 Satellite Data

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Climate change, limited vegetation and open space, rapid densification in high-value urban land, and the urban heat island (UHI) effect significantly impact the climate and thermal comfort of Manila, the capital of the Philippines. Further, studies on vegetation cover and built environment, and the relationship with Land Surface Temperature (LST) at sub-municipal level remain relatively limited. Hence, this study was done to analyze and create a spatial and trend analysis of the vegetation cover, built environment, LST, and UHI vulnerability in three periods (2014, 2019, 2024) using Landsat 8 Collection 2 Level 1 images. Further, this aims to understand how vegetation and built-up cover influence the urban thermal environment. From 2014 to 2024 the vegetation, built-up area, and LST increased. Intramuros, Ermita, Pandacan, and San Miguel are the greenest areas, while Santa Ana, Sampaloc, Pandacan, Quiapo, and Paco are the warmest. Hotspot barangays in 2024 are located in Paco, Pandacan, Sampaloc, and Santa Ana. Finally, negative and positive linear relationships were observed between LST and vegetation, and LST and built-up areas, respectively. Despite limitations of this study, it may serve as inputs to develop appropriate site-specific strategies and planning recommendations aimed at enhancing thermal comfort and ecological balance in hotspot districts.

Keywords: vegetation, built, up, land surface temperature

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Efficacy of Moringa (Moringa oleifera) Seed and Okra (Abelmoscus esculentus L.) as Biomaterials in the Formulation of Nano-Enhanced Water Purification Tablets

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Availability of safe and clean drinking water continues to be a major public health issue, especially in underprivileged and resource-constrained communities. This research explores the effectiveness of Moringa (Moringa oleifera) seed powder and Okra (Abelmoschus esculentus L.) sap as organic coagulants for developing nano-enhanced water purification tablets that include Copper Hydroxide Nanoparticles (Cu(OH)NPs) produced through an eco-friendly technique. The tablets additionally contained Sodium Carboxyl Methyl Cellulose, Activated Carbon, and Activated Bentonite, which served as binders and adsorbents. A complete randomized design (CRD) was employed to assess seven experimental treatments (T2–T6), differing in their proportion of Moringa seed to Okra sap, alongside a positive control (T1) and a negative control (T7). Each treatment was assessed according to its effect on essential physicochemical parameters, particularly Total Dissolved Solids (TDS), Electrical Conductivity (EC), and pH. The findings indicated statistically significant variations among the treatments ($p < 0.001$). Treatment 6, consisting of 100% Okra sap and 0% Moringa seed, showed the greatest effectiveness, leading to the least TDS avering a 77.4 ppm, the lowest EC with 154 μS/cm, and a nearly neutral pH of 7.34. These results indicate that Okra mucilage serves as an effective natural flocculant, improving the elimination of dissolved solids and ions while preserving the chemical equilibrium.

Keywords: Copper Nanoparticles, Green Synthesis, Natural Coagulants, Physicochemical Water Quality, Sustainable Water Treatment

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*Speaker

A 7-Decade Long Analysis of Carbon Dioxide (CO2) Emissions in Asia: Predictive Modeling and Forecasting Temperature

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Carbon dioxide (CO) emissions are the primary driver of global warming, with Asia being the largest contributor. These emissions arise from various anthropogenic factors, including population growth, GDP, energy consumption, cement production, land alterations, and fossil fuel combustion. This study aims to identify the dominant and less influential contributors to CO emissions and their impact on temperature in Asia. Using CO emissions data from 1955 to 2022, sourced from Our World in Data, feature selection techniques were applied, including Stepwise Regression (Forward Selection, Backward Elimination, and Bidirectional) and Regularization Regression Methods (Lasso, Ridge, and Elastic Net). Results showed that Stepwise (Bidirectional) performed best among stepwise regression models, Ridge performed best among regularization techniques, and overall, Ridge Regression was the most effective method for predicting Asia's temperature. These findings provide valuable insights for policymakers in developing strategies to mitigate CO emissions and regulate regional temperature changes.

Keywords: CO Emissions, Predictive Modeling, Anthropogenic, Gross Domestic Product, Feature Selection, Forward Selection Method, Backward Elimination Method, Stepwise Method, Regularization Techniques, Lasso Regression, Ridge Regression, Elasitc Net Regression

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Optimizing Routes for Intramuros Tourism Using the Traveling Salesman Problem

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Traveling Salesman Problem (TSP) algorithms are applied to find the optimal tourist walking route within Intramuros, Manila's historic walled city. Addressing the challenge of inefficient navigation among landmarks, this study implements and compares the Nearest-Neighbor algorithm, Closest Insertion algorithm, and Geometric algorithm using geospatial and measured walking distances for 12 selected sites. It then evaluates the algorithms based on the total distances generated. Geometric algorithm produced the optimal efficient route with 3,662 meters while Nearest-Neighbor and Closest Insertion algorithms generated 3,920 meters and 3,890 meters, respectively, as their shortest route. The results show the potential of computational optimization in significantly enhancing the tour experiences by minimizing the travel distance. At the same time, it also offers insights for sustainable tourism practices within the complex environment of Intramuros.

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'AI Can Do This': The Perceptions and Experiences of the Selected Senior High School Teachers of Dasmariñas Integrated High School on the Integration of Artificial Intelligence (AI) as Assistive Tool to Learning

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To address resource constraints, the Philippine government plans AI-based tools integration in the education sector, which raises uncertainties in terms of technological adoption on most of the teachers' end, according to EDCOMM II. This qualitative research examines the attitudes and experiences of Dasmarinas Integrated High School teachers on the integration of Artificial Intelligence (AI) as a learning support tool. Adopting the Interpretative Phenomenological Analysis (IPA) research approach, the study examines teachers' perceptions of the feasibility, advantages, and limitations of integrating AI in the classroom. Three senior high school STEM teachers with previous AI experience were purposively chosen and interviewed to capture rich information.

The findings reveal three major themes: Optimization, where AI improves efficiency in teaching tasks; Usefulness, highlighting AI's role in personalizing learning and streamlining repetitive administrative work; and Advancement, emphasizing AI's potential to change education for the better while also requiring ethical considerations. The participants acknowledged AI's ability to cut time and improve engagement. However, they also cautioned against student overreliance, heavily stressing the necessity for human oversight and proper training.

The research concludes that AI has promising potential to solve the education problems of the Philippines, as long as its adoption is thoughtful, ethical, and in accordance with instructional objectives. Recommendations that include focused teacher training, investment in infrastructure, and policy assistance to ensure maximum benefits from AI with minimal risk. This study adds to the research literature on AI in education, providing actionable insights for teachers, policymakers, and researchers.

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Who is afraid of history?: An analysis of the depiction of the Marcos Dictatorship in Grade 6 Social Studies textbooks and modules within the K-12 Curriculum

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Education is a critical weapon for individuals and communities striving for economic empowerment, political autonomy, and cultural renaissance. In this context, academic texts-such as those used in Araling Panlipunan (Social Studies)-hold significant influence, as they are widely regarded as authoritative and credible sources of historical knowledge. However, persistent concerns have emerged regarding the potential distortion of historical narratives in educational materials, specifically in relation to the Marcos dictatorship. This study analyzes the representation of the Marcos dictatorship in Grade 6 Social Studies textbooks and modules under the K–12 curriculum, positioning the textbook as an ideological state apparatus. Utilizing internal criticism and Critical Discourse Analysis (CDA), the research examines how narratives surrounding the dictatorship have evolved under the Aquino, Duterte, and Marcos Jr. administrations, with the goal of identifying forms of historical distortion or negationism. NVivo software was employed to facilitate the thematic coding and analysis of the texts. The findings reveal a significant decline in both the depth and critical framing of the Marcos dictatorship between 2015 and 2023, with a shift from historically grounded critique to a more limited and ostensibly neutral portrayal. This trend underscores the increasing entanglement between political power and educational discourse, and highlights how education may be strategically employed to shape-or manipulate-collective memory and national consciousness.

Keywords: historical revisionism, historical distortion, historical negationism, Marcos dictatorship, education, textbooks

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Student Mastery and Academic Resource Terminal (SMART): A Learning Kiosk for Grade 2 Students in a Selected Public Elementary School in Lipa City

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*Speaker

"Stress No More with Virtual Core: The Impact of VR Therapy with Ambient Sounds in Cityscapes Vs. Nature on Stress Reduction Among Selected PLP Non-Teaching Personnel"

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In the modern world, workplace stress continues to emerge as an important concern, particularly among the non-teaching staff in various institutions. Organizational changes, unclear job duties, and a variety of workloads are typical for such workers, yet these issues negatively affect their productivity and general well-being. Despite their critical role in the daily operations of universities, this group is frequently overlooked in the design and implementation of wellness initiatives. Traditional stress reduction methods have yet to fully address the unique challenges they face. This study investigated whether virtual reality (VR) environments-featuring either serene natural landscapes or bustling urban settings-could alleviate perceived stress among selected non-teaching personnel at Pamantasan ng Lungsod ng Pasig. Rooted in a theory that claims that exposure to natural environments fosters stress recovery, this research employed a pre-test and post-test design to measure stress levels following VR sessions. The stress levels were quantitatively assessed, and the results between the two groups were compared. The findings revealed that individuals who experienced natural landscapes in VR had a larger reduction in stress than those who viewed cityscapes. This lends credibility to the notion that natural environments can have stronger therapeutic benefits. From a practical standpoint, the study highlights the potential of integrating nature-themed VR therapy into workplace wellness programs as an accessible, cost-effective intervention, especially in urban environments where contact with actual nature may be limited. The implications of this research also reach to university leaders, mental health professionals, and policymakers who can all take VR therapy as a potential supplement to existing mental health interventions. This pilot study also inspires greater use and research into the potential of immersive digital technologies for maintaining

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mental health, particularly by highlighting the psychological value these technologies can provide.

Competencies of Multi-grade Teachers Along the National Competency-based Teacher Standards of Paracelis District, Division of Mountain Province

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The study assessed the competency level of 36 multi-grade teachers of Paracelis District, Division of Mountain Province.
The descriptive method was used in the study, with the survey as the instrument for gathering the needed data and the 5-point Likert scale for the values of response.

As the statistical tools, frequency and percentage were used to describe the profile of the respondents in terms of age, years of teaching as multi-grade teachers, number of trainings attended, and educational attainment. The weighted Mean was used to determine the overall responses of the group of respondents on the items in the survey.
The study came with the findings that the multi-grade teachers have a competency level with the description of much performed in all the seven domains of the NCBTS: Domain 1, Social Regard for Learning; Domain 2, The Learning Environment; Domain 3, Diversity of Learners; Domain 4, Curriculum Domain; Domain 5, Planning, Assessing, and Reporting; Domain 6, Community Linkages; and Domain 7, Professional Growth and Development

Keywords: Multi, grade, Teachers, Competency, based, Learners, Assessing and Reporting

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Nakikita Ko Na Ang Liwanag: A Psycho-Spiritual Phenomenology on Terminal Cancer Patients' End of Life Stories in Metro Manila

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Preliminary 2023 data from the World Health Organization (WHO) indicate that cancer was the second leading cause of death in the Philippines, representing 10.7% of all recorded fatalities, or an estimated 71,000 deaths. Advanced cancer profoundly impacts patients physiologically, causing debilitating pain, fatigue, and overall physical decline. This significantly compromises quality of life and leads to progressive deterioration of both physical and mental well-being. Increased patient volume in Philippine Palliative and Hospice Care facilities highlights the need to address the holistic needs of patients with terminal illnesses, extending beyond physical care. As an emerging intervention, psycho-spiritual refers to the mind-spirituality connection, encompassing therapeutic systems, ways of being, healing, and coping mechanisms. This study investigated the end-of-life experiences of five (5) terminally-ill cancer patients in Metro Manila, with the following objective; (1) analyzing patterns, (2) the influence of social support, and (3) employed coping mechanisms through thematic analysis of semi-structured interviews. Participants answered five questions about their end-of-life experiences using a phenomenological approach. Their answers were transcribed, coded, grouped, and analyzed to identify key themes, such as adversity and coping. The results of the study revealed that terminally-ill patients face considerable adversity, but effectively cope through a combination of faith and various support systems.

Keywords: Psycho, spiritual, Terminally, ill, Faith, Support

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Project EMPOWER: Empowering Educators through Classroom-based Action Research in Filipino, English, Social Studies, Math, Science and Values Education

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As an evidence-based practice, classroom-based action research (CBAR) provides educators with opportunities to respond meaningfully to imminent and emerging challenges, especially in basic education, where the Department of Education (DepEd) institutionalized its conduct to respond to the present needs of time. Attune with that notion, the proponents conceptualize the extension project "EMPOWER" under the College of Education (COEd) of Bataan Peninsula State University-Balanga Campus (BPSU-BC) in partnership with the integrated schools in the City Schools Division Office (SDO) of Balanga, Bataan that aimed at equipping educators with the necessary knowledge and skills to engage in CBAR in enhancing their professional development and instructional practices in Filipino, English, Social Studies, Math, Science, and Values Education. Utilizing the research of Olubia (2016), this research and needs-based extension project is conceptualized with the concept of publication of CBAR in mind. Using the facilitated group extension method, forty (40) teachers are trained in the principles and theories of CBAR and in materializing their proposals for submission to the SDO. A series of hands-on face-to-face and online training sessions are given to the participants with guided modules (crafted and validated based on the needs assessment from the participants), activities, and video lectures shared onsite and through the assigned Google classroom. The training focuses on the DepEd-prescribed format and the latest trends in innovations, interventions, and strategies that can be applied to CBAR projects. As a means for collaborative learning as a community of learning, the extension project allows the sharing of best practices, feedback, and mentoring for the proposal and completion of CBAR projects. At the outset, the extension project is sustained through the proposal of EMPOWER 2.0, providing further assistance for the completion and publication of proposals and cascading the best practices and outcomes to other schools needing further assistance for future EMPOWER 3.0.

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Design thinking among first-year BSEd-Filipino pre-service teachers: Input for a training proposal

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Creative thinking is one of the least-developed skills among students nowadays. Pre-service teachers must be equipped with novel and innovative ideas in delivering instruction, preparing lesson plans, and instructional material development to navigate the challenges of today's education. With that, the present study assesses the level of design thinking among first-year BSEd-Filipino pre-service teachers at a State University in Bataan, Philippines, to serve as the basis for the proposal of training for design thinking. The level of design thinking of pre-service teachers is assessed based on the following domains: understanding (empathizing and defining), exploring (ideating and prototyping), and materializing (testing and implementing). Significant differences in their assessments of the said domains are also assessed in an attempt to propose corresponding training during their higher years. Fifty-four first-year BSEd-Filipino pre-service teachers are purposively selected to respond to an adopted survey questionnaire (Pecson & Romero, 2023). The data were analyzed using mean, standard deviation, and F-test/ANOVA (Analysis of Variance). The data reveal that the first-year BSEd-Filipino pre-service teachers have a lower level of design thinking. More so, no significant differences are identified in their levels of design thinking in all domains, signaling their affirmation of the need to improve their skills. At the outset, a training proposal is presented to address the least-practiced design thinking skills of the pre-service teachers. The study results also serve as bases for further in-campus training for pre-service teachers before their actual deployment for the internship program, intensifying their preparation for future careers as educators and further attaining the tenets of SDG No. 4 for quality education.

Keywords: design thinking, Filipino major preservice teachers, training proposal

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Project WRITE (Writing Inclusive Text on Ethnicity) in mind

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Language can be a powerful conveyor of bias in both blatant and subtle forms. Language bias can impact race and ethnicity as it echoes stereotypical perceptions about other people and their actions. To avoid language biases in instructional materials developed and/or used by teachers, an extension project is proposed by the College of Education (COEd) of Bataan Peninsula State University (BPSU) in cooperation with the City Schools Division Office (SDO) of Balanga City to train teacher-writers on text-based biases based on ethnicity, empowering them on developing instructional resources (i.e., self-learning materials) to promote cultural sensitivity and alleviating ethnicity-grounded biases on learning materials used in Grades 1 to 3 among public schools. The extension project commenced after the Memorandum of Agreement (MOA) between the University and the SDO. The extension project employed the facilitated group extension method in training teacher-writers. Select 30 teacher-writers from Grades 1 to 3, teaching Araling Panlipunan (Social Studies) and Edukasyon sa Pagpapahalaga (Values Education), are purposively selected to serve as the project beneficiaries. The extension team conducted a series of training sessions, material development (learning activity sheets), technical assistance, monitoring, and evaluation of the project to ensure its success. At the outset, the extension project has achieved the following: determined the needs, strengths, and challenges of teacher-writers in identifying text-based biases in ethnicity in the learning materials used as bases for needs improvement; provided seminar-workshops in tracing text-based biases and writing culture sensitive self-learning materials free from language biases based on ethnicity; developed and utilized teachers' guide in addressing text-based biases and writing culture-sensitive self-learning materials; and established linkage/partnership to improve cultural-sensitive instructional practices. Additionally, three research publications have emerged as by-products of the extension project. To ensure sustainability, the project has been adopted by other schools division (SDO-Bataan).

Keywords: language biases, text biases, inclusivity, instructional materials, public schools

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*Speaker

RFIDrive: Secure Vehicle Registration and Management System

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This study developed RFIDrive: Secure Vehicle Registration and Management System, an RFID-integrated web-based solution designed to streamline vehicle registration and enhance campus security at Batangas State University ARASOF-Nasugbu. The existing manual system overseen by the General Services Office (GSO) was inefficient, leading to delays, improper documentation, and monitoring challenges. To address these issues, the system was developed using the Agile Methodology, allowing for iterative development, continuous feedback, and user-centered design throughout the project. RFIDrive addressed the issues by integrating five key modules: Vehicle Registration, Renewal, Registration Requests, Activation Cards, and Vehicle Scanning. These components facilitated automated registration, efficient monitoring, and real-time access control via RFID technology. The system's effectiveness was assessed through user and technical evaluations. Results showed high user satisfaction in terms of accuracy and moderate satisfaction in ease of use and security. IT experts validated its functionality in registration, RFID scanning, and report generation, all meeting technical standards. GSO staff and security personnel also affirmed the system's capacity to reduce repetitive manual tasks and improve process efficiency. RFIDrive significantly improved vehicle management processes and security on campus. The system's modular design and practical implementation offer a replicable model for other institutions seeking to modernize vehicle registration and monitoring. Future enhancements in system security and user experience are recommended to further optimize its performance.

Keywords: RFDrive, Gate access control, GSO, RFID Scanner, RFID Tags, Security personnel

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Intensifying the Republic Act 9513 in the province of Bataan: an analysis of electrical engineers' awareness of renewable energy developments within the peninsula amidst its fossil fuel dependency

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Given the province's significant reliance on fossil fuels, this study investigates the awareness of electrical engineers in the Province of Bataan regarding the implementation of Republic Act (RA) 9513, the Renewable Energy Act of 2008. The study polled 40 licensed electrical engineers from the Bataan Chapter of the Integrated Institute of Electrical Engineers (IIEE) using a descriptive-correlational research design. The study used a four-point Likert scale to measure awareness levels across three main parameters: market failure factors, political-economic factors, and technology-related factors. Findings revealed that respondents demonstrated moderate awareness (mean scores ranging from 2.80 to 3.10), with the highest awareness in technological aspects (mean=2.93) and the lowest in political-economic barriers (mean=2.80). Statistical analysis using the Kruskal-Wallis test indicated significant differences in awareness based on professional sector (p< 0.05) but not on years of experience. The study identified gaps in understanding economic and regulatory challenges, highlighting the need for targeted interventions. Recommendations include enhancing continuing professional development programs, fostering collaboration between engineers and policymakers, and implementing localized awareness campaigns to accelerate RA 9513's implementation. The study underscores the critical role of Electrical Engineers in advancing renewable energy initiatives and supports Bataan's transition toward sustainable energy in alignment with national goals.

Keywords: renewable energy, electrical engineering, awareness, regulatory challenges

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Evaluating Compliance to Municipal Ordinance No.20 S.2018 of Households in Barangay Burgos, Rodriguez, Rizal

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Waste management continues to be one of the most pressing environmental concerns in the Philippines, particularly due to poor segregation practices at the household level. In response, the Municipality of Rodriguez enacted Municipal Ordinance No.20 S.2018, also known as the Waste Segregation Ordinance, which mandates that households sort their biodegradable and non-biodegradable waste. This study aims to evaluate household compliance with the ordinance in Barangay Burgos, Rodriguez, Rizal, and to assess the role of the local government in its implementation. A qualitative research design was employed. Data were gathered from two participant groups: thirty (30) households selected via simple random sampling and local government representatives, particularly from the Municipal Environment and Natural Resources Office (MENRO), selected through stratified sampling. Structured interviews were conducted with both groups to explore awareness, challenges, enforcement strategies, and perceptions of effectiveness. Thematic content analysis was used to identify recurring patterns and insights. Preliminary results reveal widespread lack of awareness among households and inconsistent enforcement at the barangay level. Respondents cited limited educational campaigns, absence of household-level monitoring, and lack of segregation tools as barriers to compliance. LGU officials also acknowledged manpower shortages and the absence of formal incentives or penalties as key challenges. Despite the ordinance's good intentions, it is viewed as largely symbolic without sustained support and implementation. This research contributes to the growing discourse on localized environmental governance by highlighting the gap between policy and practice. It recommends targeted interventions including stronger barangay involvement, clearer enforcement guidelines, household education initiatives, and the introduction of structured monitoring and feedback mechanisms. The findings may be used by policymakers and stakeholders to strengthen local waste management systems and promote more sustainable community behaviors.

Keywords: Municipal Ordinances, Waste Segregation Ordinance, Compliance, Household Waste, Enforcement

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*Speaker

Sports Interest and Enjoyment as Perceived by Street Children

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Street children are those who spend considerable time living and working on the streets to survive. Despite their condition, they still find time to enjoy enjoying and playing on the streets by engaging in different sports and physical activities that are available in their surroundings. As a concerned society, intervening for the improvement of welfare of street children is essential. This study investigated the sports interests and sports enjoyment of the street children to design a specific sports program in accordance with their needs. It delimited its scope to the street children of district 3 of Sta. Cruz Manila ages from 11 – 15 only. Descriptive method of research was used to come up with accurate interpretation of the findings. A survey questionnaire was adapted for the gathering of data. The result of the study shows that basketball is the most favored team sports by the male while volleyball for the female given its popularity in our country while swimming emerged as the most preferred sports by the respondents. Street children find sports as an avenue to meet and be with friends while being exposed to the streets and have unlimited time to play. It was determined that as the street children engage in sports, their total individual aspect (physical, mental, emotional and social) contributed to improving their lives as an adaptable individual despite the plight of being street children who work and live on the streets.

Keywords: street children, socialization, sports interest, sports enjoyment

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E-Nutrition: Development of a Mobile and Web Health and Nutrition Management System for the City Nutrition of Tayabas

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The growing demand for effective health and nutrition services in Tayabas City exposed challenges in managing and monitoring nutrition programs, particularly in organizing data, ensuring accessibility, and generating reports. Traditional approaches, which relied heavily on manual documentation, often led to inefficiencies, errors, and delays in service delivery. To address these issues, this study introduced E-Nutrition, a mobile and web-based health and nutrition management system designed to enhance the operations of the City Nutrition Office. The main goal of E-Nutrition was to simplify the administration of nutrition programs by providing a centralized digital platform for real-time data entry, tracking, and reporting. Built using agile development methodologies, the system incorporated essential features such as automated data processing, graphical reporting tools, and intuitive interfaces tailored for administrators and beneficiaries. Preliminary evaluations revealed notable improvements in data accuracy, faster report generation, and higher satisfaction among users. The integration of mobile and web platforms guaranteed the system's accessibility and ease of use for diverse stakeholders, thereby enhancing the provision of nutrition services. These findings positioned E-Nutrition as an innovative solution to existing challenges in nutrition management and suggested its potential for broader adoption in similar settings.

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Career Self-Management of Final-Year Filipino College Students

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This study investigated the relationship between perceived career support from instructors and career proactivity, using the career self-management model of the social cognitive career theory (Lent & Brown, 2013). The study focused on how career-related self-efficacy indirectly influenced this correlation. The researcher conducted a study using a sample of 332 undergraduate students in their final years, regardless of their program. The survey spanned over a period of five months, with observations taken at by month intervals. The findings revealed that, at an individual level, there is no direct relationship between perceived career support from professors and career proactivity. However, the findings indicate that there is an indirect relationship between perceived career support and proactive career consultation, as well as proactive networking. This relationship is mediated by career self-efficacy, meaning that career self-efficacy fully explains the connection between perceived career support and the mentioned career self-management behaviors.

Keywords: career self, management, Teacher Support, Career Self, efficacy, Proactive Career

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[*]Speaker

Analysis of the perceived pedagogical effectiveness of PLM pre-service science teachers in implementing the revised K-12 curriculum

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[1,2]

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This study explores the perceived pedagogical effectiveness of pre-service Science teachers (AY 2024-2025) from Pamantasan ng Lungsod ng Maynila (PLM) in implementing the Revised K-12 Curriculum, also known as the MATATAG Curriculum, during their internship. In response to the educational challenges, the Department of Education in the Philippines introduced the curriculum to streamline content, emphasize foundational skills, and promote learner-centered, value-driven instruction. Using a mixed-method approach, this research collected data from pre-service Science teachers through a validated Likert-scale survey and structured interviews. The findings revealed strong alignment of their pedagogy with the curriculum's goals, particularly in fostering critical thinking, inquiry-based learning, and inclusive practices. However, gaps were identified in integrating nationalistic values into Science lessons and in the adequacy of training and resources. Qualitative data supported these results, with participants expressing confidence in adapting pedagogical strategies despite constraints yet emphasizing that teachers require more comprehensive preparation and clearer curricular guidelines. Overall, the study points out that robust teacher preparation and systemic support are necessary to ensure the effective implementation of curricular reforms, such as the Revised K-12 MATATAG Curriculum.

Keywords: MATATAG Curriculum, pre, service Science teachers, Science Education, Pedagogical Effectiveness, Curriculum Implementation

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Enhancing Accessibility for Inclusive Education: A Basis for Faculty Profiling and Facility Enhancement

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This study explored the potential for promoting inclusive education at the Bataan Peninsula State University – Balanga Campus (BPSU-BC). Inclusive education was identified as essential for providing equitable learning opportunities to all students, including those with physical disabilities and mental challenges. Republic Act 11650 and CHED Memorandum Order No. 23 emphasized the need for accessible education and institutional modifications to support learners with disabilities. In BPSU-BC, where 4.39% of the student population consisted of learners with disabilities, faced challenges in implementing inclusive practices. The research employed a mixed-methods approach, combining quantitative and qualitative data collection. The findings indicate that the faculty members are well informed and sensitive to inclusive education, especially in their willingness to accommodate the students with disabilities, however, in spite of the willingness and the knowledge and awareness of the faculty members, increased institutional support may further enhance inclusive practice within the campus. Likewise, faculty finds the campus to be overall accessible, with signage being given the highest rating, followed by architecture. Though the overall rating is good, the low accessibility of assistive tools for students with disability shows that investment in inclusive tools is still needed. Moreover, the findings indicate that neither the awareness nor the knowledge of the faculty regarding inclusive education are significantly related to campus accessibility to inclusive education. More so, the findings revealed a need for explicit policies that integrated inclusivity into teaching, student activities, and daily campus operations. Faculty training on accommodating students with physical disabilities and mental health conditions was also deemed necessary. Furthermore, facility improvements were suggested to support learners with physical challenges. The study provided recommendations for faculty profiling and facility enhancements, aligning BPSU-BC with national policies for inclusive education.

Keywords: Faculty Profiling, Facility Enhancement, Inclusive Education, Students, Disabilities

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Teachers' Perceptions on the Implementation of Executive Order No. 570: Institutionalizing Peace Education in Public Secondary Schools in Bataan

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The study aims to assess the programs and policies of selected public secondary schools in Bataan province that provide an overview of the accomplishments and challenges faced in the program implementation of Executive Order No. 570 (EO 570). The study will utilize a descriptive research design with a quantitative technique for assessing schools' policies and programs based on the perception of teachers on the implementation of peace education in their respective schools. The results reveal low implementations of formalized plans, insufficient teachers' training, lack of mobilization of resources, and low integration of peace education into the curriculum. To address these challenges, several strategic recommendations are proposed. School administration should develop a comprehensive peace education plan aligned with EO 570 while enhancing teacher professional development and strengthening administrative commitment.

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*Speaker

School improvement needs analysis in select public elementary and secondary schools

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Education is a key driver of long-term community development and sustainability. By supporting local schools, the coal power plant can contribute to the overall well-being and prosperity of the community, which, in turn, can lead to a more stable and conducive operating environment. This multiple case study aims to analyze the school improvement needs of the public schools in Barangay Alas-asin, Sisiman and BASECO, Mariveles, Bataan. A gap analysis was conducted by highlighting differences between the school's desired performance and its actual performance and root cause analysis was also done to identified gaps. Three public secondary high schools and four elementary schools served as locale of the study. Members of the school governing board were interviewed. Analysis of several documents like the School Improvement Plant (SIP) and Annual Implementation Plan (AIP) were studies. It was revealed that majority of the schools have shortage of financial resources to ensure the sustainability of some of the plans stipulated in their SIP even if the support of their stakeholders are commendable. Common problem among the schools is the lack of facilities and resources to increase the reading comprehension among students, materials for health and security offices and logistics for their income generating projects. It is recommended that the corporate social responsibility projects of the GMEC and GNPD should focus on the unique needs of each school as revealed in the present study.

Keywords: school improvement needs, root cause analysis, corporate social responsibility

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Perspectives of Selected PLM Mass Communication Faculty members on Integration of Artificial Intelligence in the curriculum of Communication programs of the University

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Artificial Intelligence is now progressing in the world. As different field have adopted the new technology, Communication Education is now facing challenges like other sectors. The study focused on the perspectives of PLM Mass Communication faculty in terms of: 1. How Artificial Intelligence effectively integrated in the curriculum of communication to enhance students' learning? 2. What is the potential success of Artificial Intelligence in the curriculum? 3. What are the factors that influence the success of implementation of AI in the program? 4. In what ways the AI can be personalized in teaching communication subjects? 5. How AI will help in promoting creativity, critical thinking, problem solving and skill development? The study made use of case study. The data was analyzed using narrative analysis. There are five faculty from PLM-Department of Mass Communication were interviewed. The study was grounded on Wayne k. Hoy Open System Theory. The integration of AI in the courses according to the faculty is for academic contents, validation of works, seminars, student's narratives, news and social media. Majority of the faculty revealed that AI still have flaws and unstable to use based on the popularity right now. They also tackled that this new technology may somewhat help them, but it should be regulated by the University and Government to properly utilized it. The department identified the factors that influence the success of implementation of AI in the program like laziness to students, abuse, and misuse. They also saw promising impacts if properly regulated like productivity, efficiency, innovation and promoting globally competitive students. AI will be deeply integrated into the field of communication, transforming how we create, distribute, and consume media. The focus will be on leveraging AI to augment human creativity and decision-making, ensuring that communication remains impactful, relevant, and responsible in an increasingly digital world.

Keywords: Artificial Intelligence, Perspectives, Course, Integration, Communication

*Speaker

Students' Motivation and Syntactic Competence

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The purpose of this study was to assess the syntactic competence and students' motivation of the Senior High School students of Immaculate Heart of Mary College Paranaque, in the predictors of verb, preposition and pronoun. The study further sought to find the correlation between students' motivation and syntactical competencies and the predictors on the different dimensions in syntax. The study made use of the quantitative method of research. It also made use of complete enumeration of the Senior High School respondents across all strands of school year 2023-2024. The results showed that Senior High School students of IHMCP had a high competency level in syntax. They performed high in verb but performed moderately in prepositions and pronouns. On the other hand, the students are highly motivated. They are integratively motivated and less instrumentally motivated. There is no significant relationship between the students' level of motivation in terms of instrumental and integrative and the students' level of syntactical competence.

In other words, data shows that whether the students believed that studying English is very important, it has nothing to do with their scores on a syntactical competence test

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*Speaker

Short-Form Video Consumption and Scholarly Information-Seeking Behavior of Selected Catholic Students: Meeting the Demands of Sustainable Education

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Filipinos face challenges in student literacy, potentially hindering information-seeking skills. However, short-form video platforms like TikTok are surging in popularity. This study investigates how these contrasting information consumption habits interact, more specifically the correlation between short-form video consumption and scholarly information-seeking behavior among senior high school students at Immaculate Heart of Mary College - Parañaque. Utilizing a mixed-method correlational research design, data were gathered from 20 IHMC-P SHS students, 10 grade 11 and 10 grade 12 students, through purposive sampling and observational analysis.

Contrary to expectations, results reveal that students who consumed short-form videos more frequently displayed a statistically significant tendency for deeper exploration, where they read a higher number of full-text articles, suggesting a shift towards in-depth understanding of the research topic. Concurrently, they also utilized more refined search strategies by employing a wider range of search terms. Through the lens of Information Foraging Theory, frequent video exposure might cultivate information processing skills or broader knowledge frameworks that students then leverage when using Google Scholar. However, the study also found no statistically significant correlations between frequent video consumption reliance on abstracts as well as the overall number of sources consulted. The unexpected link warrants further exploration into the types of short-form video content consumed and its influence on research strategies.

Keywords: TikTok, short, form videos, information, seeking behavior, information, retrieval skills, information literacy, library and information science (LIS)

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*Speaker

Level of satisfaction on the efficiency of the computerized land titling of the Land Registration Authority in the Quezon City Registry of Deeds as perceived by the employees and clients

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The purpose of this study is should be able to: Enumerate the basic services provided by the Quezon City Registry of Deeds availed according to the employees and clients; Know the level of satisfaction of the respondents on the efficiency of the computerized land titling in Quezon City Registry of Deeds in terms of the following: Procedures, Facilities, Staff, and Overall Criteria – Security, Quality and Accuracy; Elaborate the common problems encountered that caused the delay in processing according to the employees and clients; Know the significant difference between the level of satisfaction on the efficiency of the computerized land titling of the Land Registration Authority in the Quezon City Registry of Deeds as perceived by the employees and clients in terms of Security, Quality and Accuracy; and Cite policy or programs can be proposed or developed that will improve the efficiency of computerized land titling. Data for this study were collected, gathered or obtained with two hundred (200) respondents that composed of: seventy (70) employees from Land Registration Authority – Department of Registration and thirty (30) employees from Quezon City Registry of Deeds, and selected one hundred (100) clients only who were involved in the computerized land titling. Descriptive method, normative survey, non-probability sampling technique, and 5-point Likert scale was used to acquire information that could help the stated problem. In conclusion, in availing or applying the registration services provided by the agency, client or visitor must bring the needed document or requirements completely. Meanwhile, respondents perceived it as satisfied on the level of satisfaction on the efficiency of the computerized land titling in Quezon City Registry of Deeds in terms of procedures, facilities, staff, and overall criteria – security, quality and accuracy.

Keywords: Land titling, registry of deeds, land registration authority, level of satisfaction, computerized

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[*]Speaker

LOAN LOGIC: INTELLIGENT CREDIT SCORE AND LOAN TRACKER MANAGEMENT SYSTEM

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The PAF Finance Multi-Purpose Cooperative is a Business Registered with the Cooperative Development Authority, in compliance with Article 144 of RA 9520 which aims to foster the growth of cooperatives as a practical vehicle for promoting self-reliance towards the attainment of economic development. This study aims to develop an efficient and functional Loan Logic: Intelligent Credit Score and Loan Tracker Management System that can be used by Civilian Human Resources, Uniformed Personnel, and Cooperative Employees. The Loan Logic: Intelligent Credit Score and Loan Tracker Management System can help the Cooperative expand their service area. Simplify the current manual loan process, approval, generation reports, various loan forms, cooperative information dissemination, and extraction of data analytics and statistics. Despite the potential challenge of the manual loan management process, the developed Loan Logic: Intelligent Credit Score and Loan Tracker Management System will ease the burden of the institutions' stakeholders. The designed system was created successfully and includes various features: real-time pre-registration, an interface for filling out loan forms, a dashboard for Credit Scores with AI Recommender, Data Statistics and Analytics, and a Loan Calculator. The result of the evaluation indicates the project's result. The system was evaluated using ISO 25010, which includes functional suitability, performance efficiency, compatibility, usability, reliability, security maintainability, and portability. The Loan Logic: Intelligent Credit Score and Loan Tracker Management System was developed using Python, PostgreSQL, Multi-Factor Authentication, and Secure Socket Layer for security. The study suggests continued enhancement of the module based on the requirements in the future will benefit the users by providing a reliable system.

Keywords: Loan Tracker, Credit Score, AI Recommender, Loan Calculator, Cooperative System

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*Speaker

ECO-TRANSITION: Implementing a Paperless System and Data Analytics for the Student Organization at Batangas State University TNEU Lipa Campus

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This paper presents *Eco-Transition*, a web-based system designed to digitize and optimize the operational workflows of student organizations at Batangas State University – The National Engineering University (TNEU) Lipa Campus. The system integrates paperless processing with data analytics to address longstanding inefficiencies associated with traditional, paper-based operations-such as delays, redundancy, limited transparency, and negative environmental impact.

Developed using Flask, PostgreSQL, and Bootstrap, *Eco-Transition* streamlines key organizational functions including student organization renewal, activity proposal submissions, accomplishment reporting, and document approvals. The platform supports real-time tracking of submissions, automated status notifications, and a digital approval process with comment integration. It also includes sentiment analysis of event feedback, allowing student organizations and administrators to gain actionable insights and improve decision-making.

The system provides secure, role-based access for different user groups: student organizations, signatories, administrators, and guest users. This layered access control ensures operational accountability, data integrity, and ease of use for all stakeholders involved.

The web-based output underwent a comprehensive system evaluation guided by the ISO/IEC 25010 software quality model. Results indicated strong system performance in key quality attributes including functionality, usability, reliability, and maintainability. These findings affirm the platform's robustness and relevance in an educational setting.

By significantly reducing paper consumption, improving administrative efficiency, and enabling data-driven decisions, *Eco-Transition* supports the university's broader goals for sustainability and innovation. The system demonstrates how digital solutions can modernize governance in student-led organizations, foster environmentally responsible practices, and strengthen institutional operations.

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Ultimately, *Eco-Transition* offers a replicable and scalable model for other academic institutions seeking to implement eco-friendly, efficient, and analytics-powered management systems. It highlights the role of digital transformation in promoting smart campus initiatives and preparing students to engage with technology-centered environments.

An Analysis of the Earth's Carbon Cycle with Combinations of Two Net Systems through Chemical Reaction Network Theory

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The Earth's carbon cycle is a complex system comprising various carbon pools and fluxes interconnected by dynamic biogeochemical processes. Understanding this cycle is crucial for tracking atmospheric carbon dioxide (CO2) levels, which significantly influence global climate change. This research presents a mathematical modeling approach to the carbon cycle, incorporating two potential carbon dioxide removal (CDR) strategies: DAC+ OF, DAC+Heck V1 tCDR, and OF+Heck V1 tCDR. These methods are analyzed using chemical reaction network theory (CRNT) to assess their impacts on climate stability. Under CRNT, the computational approach of Multistationarity Algorithm for Power Law Kinetic systems (MSA-PLK) combined with S-invariant Termwise Addition of Reactions - Maximal Stoichiometric Coefficient (STAR-MSC) Transformation was applied, to determine the capacity for multistationarity in each network. This computational approach assesses the existence of positive rate constants leading to multiple positive steady states within a broader range of kinetic systems. In addition, we have constructed the bi-PL systems of DAC+ OF, DAC+Heck V1 tCDR, and OF+Heck V1 tCDR and obtained its dynamically equivalent PLK system via STAR-MSC Transformation. Then, we applied the MSA-PLK and shown that the networks DAC+ OF, DAC+Heck V1 tCDR, and OF+Heck V1 tCDR have the capacity for multistationarity.

Keywords: Net Systems, earth's carbon cycle, Chemical Reaction Network Theory, climate stability

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*Speaker

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- Abarientos Ramuel

- Abesamis Aleeya An Marie

- Abing Rey Anthony

- Abrenica Arjay

- Agapito Christian Lawrence

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- Ahmed Amany Maher

- Akia Faith Desuyo

- Aldaba Colleene Shaey

- Alex Ezra Stephanie

- Alimoren Dioneces

- Almiñe Joshua Reuben

- Amiga Francis Emmanuel

- Amores Joycelyn

- Ancho Inero

- Aniñon Francin

- Antoni Austine

- Aquino Mary Grace

- Arabis Princess Joeby

- Aranzanzo Aethan Ynnos

- Arceo Ma. Angela Mae

- Arnel Lucas

- Asa Stiffany

- Asistio Sophia

- Asuncion Risa
- Aveño Xyleen
- Aviguetero Adelson
- Aznar Daniel Gareth
- Azul John Carlo
- Antonette Mary Antonette
- Baasis Gellian Iris
- Babaan Andrew Luis
- Baguignan Myriam Yasmine
- Balan Lorenjane
- Balazon Francis
- Balingit Kristine
- Baño Dexter
- Bansil Alvin
- Barrantes Marc Louis
- Bautista Dianna Mae
- Bautista Anne Nicole
- Bautista Alicia Felicisima
- Bayhonan Juliana Mae
- Belenzo Lessandra Fiona
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- Bernardo Andrea Lynne
- Bersoto Myra
- Biñas Enrique Jr.
- Blanco Mark Christopher
- Bongon Quisha Pam
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- Bravante Melchor
- Brillantes Margaux Eloise
- Brillo Samuel
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- Bustillo Karl Paulo Segundo
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- Cabigao Piolo Justin
- Cantos Maria Cecilia
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- Castillo Joven Albert
- Castro Martin
- Casurao Antonio Sr
- Catamio Jigo Rafael
- Catapang Christel Joy
- Cavada Patricia Jiana
- Celedonio Nicole Arnrow
- Chavez Enrico
- Chua Maricel
- Chumalan Pelia
- Chung Joffrey Stephen
- Clemente Jaypee
- Clerigo Christian
- Concepcion Jed
- Concepcion Carlo
- Cortez Michelle
- Cresel Reposo
- Crisostomo Crisanchai
- Cruz Maribel
- Daguman Rosemarie
- De Guzman Jastine
- De Jesus Lady Anne
- De Mata Joseph
- Dela Cruz Ryan Eugene
- Dela Cruz Sheryl Andrei
- Dela Peña Lemmor Josh
- Dela Rosa John Albert

- Delos Santos Angelo Joe
- Delos Santos Michelle Mavel Lea
- Deocampo Mary Esther
- Diaz Cherrie Lou
- Diaz Marco
- Dimapelis Khalil
- Dizon Mitchell Nash
- Doctor Array John
- Dumale Leandro
- Edodollon Matt Harry James
- Egipto Yuri Alfrance
- Ejercito Celine
- Elcano Xyza Belle
- Eluna Faith Marielle
- Endeno Maria Andrea
- Erfe Jonathan
- Ernesto F. Mania Jr. Ernesto F. Mania Jr.
- Escabarte Kylle
- Esguerra Colline Denise
- Estares Gweneth
- Estrada Jameson
- Estravo Aeshiane Eazaiyeh
- Evangelista Jeffrey
- Flores Imelda
- Floro Bryan
- Forca Helen
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- Galing Great Christian
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- Gamilo Jenny Mirc2025:653504

- Garcia Lorezl

- Garcia Eufemia

- Geneta Philip

- Gentica Bea Abegail

- Gesalan Nonalyn

- Gomez Alessandra Angela

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- Gumban Rissa

- Gunteñas Kissy

- Habig Edith

- Hallie Kate C. Rodriguez Hallie

- Hari Marilyn

- Hernandez Rexon

- Hernando Davidson

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- Hibaoui Kawtar

- Inocencio Madriaga Inocencio

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- Jan Reyzel Lambino Jan Reyzel

- Jerusalem Julie Euszel

- Jhon Cristian Colesio Jhon

- Jinky L. Berong Jinky

- Jocosol Jerome

- Jopida Albert Jerome

- Juanillo Jade Emiryll

- Laforga Gabriel Ivanne

- Lagbas Arthur

- Lagunzad Herminiño

- Layag Micah

- Leanne Jose Leanne

- Lelis Martin Louise

- Letrero Bernard

- Ligad Lara Jasmin

- Lingat Trisha May

- Lintot Rhodora

- Lomibao Jared

- Lucas Maria Isabel

- Lugtu Normita

- Mabborang Romie

- Macasieb Josephine

- Macoy Alliya Cathleen

- Madarang Wendy Zane

- Magpantay Daryl

- Magpayo Kirk Antonie

- Magtaca Gwyn

- Mahumas Divine Melody

- Mainit Kian

- Mangahas Romeo Jr

- Mangalili John Ezekiel

- Mangrobang Marilou

- Marquez Romeo Jr.

- Marquez Christine

- Marticio Benjun

- Martinez Ma. Cecilia

- Maruhom Sahira

- Maximo Jasper Dale

- Mayo Argel Joseph

- Medina Editha

- Melo Jonnah

- Mendioro Shawn Bhryle

- Mercado Marithe Rojianne

- Miranda Franz

- Miranda Anna

- Mirasol Justine Alicia

- Monderin Ma. Teresa

- Maria Paula Montemayor

- Morales Kristine Joy C

- Marichu Velacruz

- Naig Bianca Monica

- Navalta Jamaica

- Nieva Maria Loraine

- Nisay Hazel

- Nueva España Karl Vincent

- Ocampo Jasmier

- Ocampo Phoenix

- Odiamab Fiona

- Ong Lance

- Orense Arlyn

- Ortiz Maxine Mikhaela

- Ostraes Justine

- Padilla Larry

- Paghunasan Maria Czietherine

- Paguio Job

- Palanca John Carlo

- Pamularco Ma. Clariz

- Panuelos Nil Edward

- Parco Kirsha

- Pascual John Henry G

- Pascual John

- Pasia Yolanda

- Paulin Thomas Eric

- Paulo Luis Lozano

- Pecson Ryan

- Pena Regina Flor

- Pili Maria Socorro

- Porcincula John Mark

- Portillano Karl Nealbert

- Preligera Mariel

- Pueblos Eloisa Tricia

- Pulido Earl John

- Purificacion Romalyn

- Queliope Karen Celine

- Quinto Ronald

- Ramos Anthony

- Ramos David Paul

- Ramos Reynaldo

- Raulinda Medina Raulinda

- Rebadulla Christine Joy

- Regala Richard

- Requero Aldrin Rey

- Resuello Danica

- Retolla Mathea

- Reyes Jeniel

- Reyes Jennifer

- Reyes Ricardo Iii

- Rianzares Glenn

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- Ridad Alesha

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- Romero Monic

- Santos Peachess Laine

- Sablas Karen

- Sagun Geraldine

- Salapare Hernando Iii
- Saliente Jira Mae
- Samonte Benjie
- Sampang Jethro Jake
- Saniel Charles Vince
- Santiago Gabriel
- Santos Paulo Joseph
- Sebastian Isaiah Kristian
- Sena Mazze Ashley
- Siangco Tiffany
- Silva John Albert
- Sison Amr Solon
- Soria Sarah Mae
- Sta Ana Alek Pierce Joell
- Sulit Richelle
- Sy Jennifer
- Tababa John Cris
- Tabagan Jenie Rose
- Talingdan Beah
- Tamado Justin Ken
- Tiamson Ronie
- Tirazona Manuela
- Toldoya Jacklyn Anne
- Tolentino Rebecca
- Tolentino Jamilla Gwyneth
- Tolentino Joshua Gianni
- Torres Rickin
- Trambulo John Mark
- Turingan Hazel
- Ursal Krissa
- Valdezpiñosa Ma. Althea
- Valenzuela Andrea Trinity

- Valenzuela Chem Beaver
- Valle Castillo Vanessah
- Velario Romuald
- Ventura Ariana
- Vicente Honesto
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