



Rey Y. Capangpangan, Ph.D., R.Ch.

Professor VI

Vice Chancellor for Research, Innovation, and Global Engagement

Registered Chemist

PRC License No: 0008670

A result-driven and a goal-oriented professional. An active faculty and a researcher working on the wide applications of nanotechnology.

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<https://www.researchgate.net/profile/Rey-Capangpangan>



<https://tinyurl.com/ReyCaps>



Department of Physical Sciences and Mathematics

College of Fisheries and Marine Sciences (CFMS)

MSU at Naaawan, Naawan, Misamis Oriental

Scopus Author ID: 55343609000

WoS Researcher ID: AAX-7641-2021

EXPERTISE

Sensor

Proteomics

Nanoscience

Polymers

Material

Characterization

Green Synthesis

Environmental Monitoring

HIGHLIGHTS OF QUALIFICATIONS

- Citations = 1139, h-index = 21, i10-index = 40
- 2024 PFCS Outstanding Achievement Award in Chemical Research**
- Outstanding Faculty Researcher Award (2023)**
- Photon Loyalty Award** (Samahang Pisika ng Visayas at Mindanao)
- Excellence in Project Implementation and Completion (EPIC) Awardee** – DOST PCIEERD
- JSPS HOPE Fellow**
- Future Science Leaders (FSL) Alumnus**
- Technical Committee Member, DA Biotech R&D Program**
- 1st Place Paper Award during the 10th Philippine National Health Research Systems (PNHRS)**
- Regional Winner, Regional Invention Contest (RICE), LIKHA Award**
- Best Research Presenter Award** (Tangerang, Indonesia)
- Best Scientific Paper Award**, during the first International Nanotechnology Conference
- Presidential Award for Excellence in Research (2016)** by the President of Caraga State University
- Presidential Citation Award for Promoting Research Culture, 2018** (Caraga State University)
- Cost Economy Measure Award** for the contribution by receiving a research grant (2018)
- Cost Economy Measure Awards - 2019** (for generating Two Research Projects with External Funding)
- Special Presidential Citation Awards for Promoting Research Culture - 2019** (Caraga State University)
- Best R&D Award - 2019** (for the Nanoparticle-decorated Sensor Project)
- Publication Awards (for Publishing ISI/Scopus Indexed Publications)
- Best Employee Award – with Administrative Designation - 2019** (Caraga State University)
- Best Employee Award – with Administrative Designation - 2020** (Caraga State University)
- Presidential Award for Excellence in Resource Generation – 2020** (Caraga State University)
- Recognition of Innovation and Patent Application – 2020**
- Special Presidential Citation, Volunteerism during COVID-19 Pandemic**
- Best Research Paper on Environment Award during the 2011 CHED UPLB Zonal Research Symposium**
- Review Editor, Frontiers Homogeneous Catalysis

- Board of Editor, Marine Reports (Canakkale Onsekiz Mart University, Turkiye)
- Associate Editor, Journal of Environment and Aquatic Resources (JEAR)
- Associate Editor, Annals of Studies in Science and Humanities
- Associate Editor, Journal of Ecosystem Science and Eco-Governance
- Reviewer, ACS Omega
- Reviewer, Arabian Journal of Chemistry
- Reviewer, Emerging Materials Research
- Reviewer, Energy and AI
- Reviewer, Environmental Pollution
- Reviewer, Fishes (MDPI)
- Reviewer, Industrial Crops & Products
- Reviewer, International Journal of Polymer Science
- Reviewer, Journal of Cleaner Production
- Reviewer, Journal of Hazardous Materials
- Reviewer, Journal of Hazardous Materials Advances
- Reviewer, Journal of King Saud University: Science
- Reviewer, Journal of Physics and Chemistry of Solids
- Reviewer, Marine Pollution Bulletin
- Reviewer, Materials Chemistry and Physics
- Reviewer, Microchemical Journal
- Reviewer, Mindanao Journal of Science and Technology
- Reviewer, Nanoscience and Nanotechnology - Asia
- Reviewer, Next Nanotechnology
- Reviewer, Philippine Journal of Science
- Reviewer, Proceeding of International Symposium on Green Technology for Value Chains 2019
- Reviewer, Results in Engineering
- Reviewer, Results in Physics
- Reviewer, Solid State Communications
- Reviewer, Surfaces and Interfaces
- Reviewer, The Palawan Scientist
- Reviewer, Water (MDPI)
- Regular Member, National Research Council of the Philippines (NRCP) – Chemical Sciences Division
- Director and Principal Investigator, Center for Microplastic Research and Innovation (MicroPlastics Center)
- Director and Principal Investigator, Research on Environment and Nanotechnology Laboratories (REY Labs)
- Regular Member, the Chemical Society of Japan
- Lifetime Member, Kapisanang Kimika ng Pilipinas
- Regular Member, Philippine Association of Research Managers, Inc (PHILARM)
- Member, Samahang Pisika ng Visayas at Mindanao (SPVM)
- Member, Mindanao Consortium on Advanced Functional Materials and Nanotechnology
- Member, International Association of Advanced Materials
- Supervised graduate students (MS in Chemistry, MS in Physics, Ph.D. Physics, Master's in Environmental Management, MS in Environmental Science) and undergraduate students (BS in Chemistry, BS in Mining Engineering, BS in Environmental Science and BS in Biology)

PROFESSIONAL EXPERIENCE

- **2021 – Present (Professor VI)**
Mindanao State University at Naawan (MSUN)
 Functions:
 1. Oversee the operation and implementation of research and extension activities, as well as international engagement of the university.
 2. Handles undergraduate and graduate chemistry (and environment-related) subjects.
 3. Supervise graduate students.
 4. Facilitate internationalization and global engagements.
 5. Assists in the preparation and packaging of documents for the AACUP Accreditation

Designations:

1. **Vice Chancellor for Research, Innovation, and Global Engagement** – F.Y. 2025
2. **Director for International Affairs and Linkages** – F.Y. 2022; 2023; 2024; 2025
3. **Center Head and Principal Investigator, Research and Nanotechnology Laboratories (REY Labs)**
4. **Center Head and Principal Investigator, Center for Microplastic Research and Innovation**
5. **AACCUP Coordinator** – A.Y. 2021-2022; 2022-2023
6. **Chairperson – MSUN Bio-Chem and Medical Hazard Waste Technical Working Group (TWG)**

- **2019 – 2021 (Professor I)**
Caraga State University

Functions:

1. Handling undergraduate and graduate chemistry and environmental science subjects
2. Supervising graduate and undergraduate students

Designations:

7. **RDIE Center Director** – Mineral Resources Management Research and Training Center – A.Y. 2016-2017; 2017-2018, 2018-2019, 2019 – 2020, 2020-2021
8. **RDIE Center Director** – Center for Nanoscience and Technology for Research and Entrepreneurship – A.Y. 2019-2020, 2020-2021
9. **Focal Person** – DENR's review and monitoring of the designated Taguibo River Water Quality Management Area (TRWQMA) – A.Y. 2018-2019, 2020-2021
10. **Co-Chair**, College Research Committee (CRC) and College Extension and Training Committee (CETC) – 2016-2017
11. **Coordinator** – CARAGA Center for Environmental Studies and Management (CCESM) – A. Y. 2009-2010; 2010-2011
12. **RDE Core Group Member - Team Leader for Responsible Mining Program** – A.Y. 2009-2010; 2010 - 2011
13. **Coordinator** – Chemistry Division – A. Y. 2008-2009; 2010-2011
14. **Regional Coordinator** – PATLEPAM (Philippine Association of Tertiary Level Institutions for Environmental Protection and Management) – A.Y. 2010-2011

- **2015 – 2019 (Associate Professor I)**
Caraga State University

- **2015 (Assistant Professor IV)**
Caraga State University

- **2004 – 2014 (Instructor I)**
Caraga State University (formerly Northern Mindanao State Institute of Science and Technology), Butuan City

- **2001-2004 (Laboratory Chemist)**
TECHNOLAB Laboratory Services, Cebu City, Philippines

Functions:

1. *Physico-Chemical Analyses of Water and wastewater samples*
2. *Microbiological Analyses of Potable Water samples*
3. *Material Testing*

EDUCATION

2024 - Ongoing

Doctor of Management, University of the Visayas, Cebu City

Field of Specialization: Application of Strategic Foresight in RDE Management for Institutional Success

2011-2015

Ph.D. in Chemistry (Molecular Science and Technology), National Tsing Hua University, Taipei, Taiwan

Field of Specialization: Nanomaterial Fabrication/Material Science (Synthesis and Characterization) for Bioanalytical Application

Scholarship: Taiwan International Graduate Program (TIGP) Scholarship

Ph.D. Dissertation: Architecting Magnetic Nanoparticles for Efficient Enrichment and Sensitive Detection of Disease Biomarkers

2005-2008

MS in Chemistry, University of the Philippines, Diliman Quezon City

Field of Specialization: Sensor Development (Electroanalytical – Organic and Polymer Chemistry)

Scholarship: Commission on Higher Education-Faculty Development Program (CHED-FDP)

MS Thesis: The Determination of the Analytical Potential of Synthesized Macrocyclic Diamides as Ionophores for Metal Ions

1997-2001

BS in Chemistry, Mindanao State University-Iligan Institute of Technology

Field of Specialization: Natural Product Chemistry/Toxicology

Scholarship: Commission on Higher Education-Center of Excellence (CHED-COE) Scholarship

Undergraduate Thesis: Evaluation of the Brine Shrimp, *Artemia salina* Leach as a Test Species in the Determination of Acute Median Lethal Concentration (LC_{50}) after 24 hours of Exposure to the Extract of Some Medicinal Plants.

BOOKS/ BOOK CHAPTERS

2025

1. Arnold C. Alguno, **Rey Y. Capangpangan**, Gerard D. Dumancas, Arnold A. Lubguban, Roberto M. Malaluan, Rolan Brian P. Rivera, (2025). *Metal Nanoparticles-Based Nanoplatfroms for Colorimetric Sensing: Mechanisms, Applications, and Future Directions*, Springer Singapore, ISBN: 978-981-96-6770-3
2. Arnold C. Alguno, **Rey Y. Capangpangan**, Gerard D. Dumancas, Arnold A. Lubguban, Roberto M. Malaluan, Rolan Brian P. Rivera, (2025). *Gold Nanoparticles: Green Synthesis, Characterization, and Multifaceted Applications*, Springer Singapore, ISBN: 978-981-96-6564-8

2024

1. Muhammad Aamir Iqbal, Nadia Anwar, Muqarrab Ahmed, Saher Javeed, Bushra Anwar, Raice Ahmad, **Rey Y. Capangpangan**, Arnold C. Alguno, *Nanophotonic Biosensor*, In: (Eds) Muhammad Imran Malik, Dilshad Hussain, Muhammad Raza Shah, Dang-Sheng Guo, *Handbook of Nanomaterials, Volume 1*, Elsevier, Amsterdam, Netherlands, 2024

2022

1. Varela, R.P., Balanay, R.M., **Capangpangan, R.Y.**, Halog, A.B. (2022). Biofuel Economy, Development, and Food Security. In: Bandh, S.A., Malla, F.A. (eds) *Biofuels in Circular Economy*. Springer, Singapore. https://doi.org/10.1007/978-981-19-5837-3_2
2. Balanay, R.M., Varela, R.P., Halog, A.B., **Capangpangan, R.Y.** (2022). Techno-economic Aspects and Circular Economy of Waste Biorefineries (Chapter 39). In: Jacob-Lopes, E., Queiroz Zepka, L., Costa Deprá, M. (eds) *Handbook of Waste Biorefinery*. Springer, Cham. https://doi.org/10.1007/978-3-031-06562-0_39

JOURNAL PUBLICATIONS/IP PUBLICATIONS

2025

1. Muhammad Aamir Iqbal, Siti Sarah Maidin, HassabAlla M.A. Mahmoud, Ivan D. Arellano-Ramirez, **Rey Y. Capangpangan**, Wen-Cheng Lai, Tailoring Broadband Near-Infrared Response in Doped Zinc Oxide, *Inorganic Chemistry Communications*, **183**, Part 1, 115800, 2025 (DOI: [10.1016/j.inoche.2025.115800](https://doi.org/10.1016/j.inoche.2025.115800))

2. **Rey Y. Capangpangan**, Arnold C. Alguno, Yuri U. Pendon, Rosemarie Cruz-Español, Artificial Intelligence and Marketing Strategies: Systematic Insights on Predictive Analytics, Segmentation, and Personalization, *International Journal of Basic and Applied Sciences*, **14**(7), 58-68, 2025 (DOI: [10.14419/negfns98](https://doi.org/10.14419/negfns98))
3. Rolan Brian P. Rivera, Ryan M. Lumod, Romnick B. Unabia, Renzo Luis D. Reazo, Archie G. Ruda, Melbagrace A. Lapening, Jahor L. Omping, Amyzz P. Ceniza, Noel Lito B. Sayson, Felmer S. Latayada, **Rey Y. Capangpangan**, Gerard G. Dumancas, Roberto M. Malaluan, Arnold A. Lubguban, Gaudencio C. Petalcorin, Arnold C. Alguno, Paper-based colorimetric sensor for histamine detection using dopamine-functionalized, size-varied gold nanoparticles, *Scientific Reports*, **15**, 36148, 2025 (DOI: [10.1038/s41598-025-15873-1](https://doi.org/10.1038/s41598-025-15873-1))
4. Aries P. Valeriano, Farley G. Bondaug, Irelie O. Ebarido, Marybeth Hope T. Banda, Penelope P. Almonte, Michelle Amor P. Sabugaa, John Riz V. Bagnol, Mary Joy R. Latayada, Jay Michael R. Macalalag, Brian Dominic Paradero, Maricris I. Mayes, Mannix P. Balanay, Arnold C. Alguno, **Rey Y. Capangpangan**, Utilizing Machine Learning Algorithm for Accurate Prediction of Nanomaterials Cytotoxicity, *Letters in Applied NanoBioScience*, **14** (4), 134, 2025 (DOI: [10.33263/LIANBS143.134](https://doi.org/10.33263/LIANBS143.134))
5. Jared Deve P. Delicana, Aldrin R. Ialem, Jay C. Dulog, Ryan M. Lumod, Rolan Brian P. Rivera, Noel Lito Sayson, Gerard Dumancas, **Rey Y. Capangpangan**, Arnold A. Lubguban, Noel Peter B. Tan, Joe Anthony H. Manzano, Mario A. Tan, Romnick B. Unabia, Jahor L. Omping, Arnold C. Alguno, Tailoring color and antibacterial properties of cotton fabric materials using gold nanoparticles synthesized from mangifera indica peel extract, *Scientific Reports*, **15**, 28854, 2025 (DOI: [10.1038/s41598-025-13500-7](https://doi.org/10.1038/s41598-025-13500-7))
6. Aldrin Lalem, Jay Dulog, Jared Deve Delicana, Renzo Luis Reazo, Ryan Lumod, Rolan Brian Rivera, Noel Lito Sayson, Romnick Unabia, Gerard Dumancas, **Rey Capangpangan**, Mario Tan, Arnold Alguno, Antibacterial activity of gold nanoparticles/zinc oxide (AuNP/ZnO) hybrid nanostructures, *Discover Materials*, **5**, 111, 2025 (DOI: [10.1007/s43939-025-00301-y](https://doi.org/10.1007/s43939-025-00301-y))
7. Lilibeth P. Coronel, **Rey Y. Capangpangan**, Ruji P. Medina, Engineered Nanoparticles Cytotoxicity Prediction Using an Enhanced Convolutional Neural Network, *International Journal of Engineering Trends and Technology*, **73**(6), 309-317, 2025 (DOI: [10.14445/22315381/IJETT-V73I6P126](https://doi.org/10.14445/22315381/IJETT-V73I6P126))
8. JLM Segovia, NP Dimalawang, EV Bigcas, NA Bedoya, AND Lomantong, SAT Inocente, MHT Banda, **RY Capangpangan**, Characterization of Microplastic Pollution in Surface Waters of Agus River, Mindanao, Philippines, *IOP Conf. Series: Earth and Environmental Science*, **1506**, 012026, 2025 (DOI: [10.1088/1755-1315/1506/1/012026](https://doi.org/10.1088/1755-1315/1506/1/012026))
9. Sherley Ann T. Inocente, Abdulhafid A. Haron, Jayson Leigh M. Segovia, Marybeth Hope T. Banda, Jhon Carlo P. Aporbo, Nelietta A. Bedoya, Evelyn V. Bigcas, Abdul-Nasser D. Lomantong, Floremie B. Apdian, **Rey Y. Capangpangan**, A Pathway of land-based plastic debris into the marine environment: The status of Cagayn de Oro River, *IOP Conf. Series: Earth and Environmental Science*, **1506**, 012027, 2025 (DOI: [10.1088/1755-1315/1506/1/012027](https://doi.org/10.1088/1755-1315/1506/1/012027))
10. Darlene Reble, **Rey Y. Capangpangan**, Anabelle Dece A. Espadero, Venus E. Loepardas, Wilfredo H. Uy, The Prevalence of Microplastics in Farmed Seaweed *Kappaphycus alvarezii* in Panguil Bay, Philippines, *IOP Conf. Series: Earth and Environmental Science*, **1506**, 012028, 2025 (DOI: [10.1088/1755-1315/1506/1/012028](https://doi.org/10.1088/1755-1315/1506/1/012028))
11. Zy D. Perpetua, Frank Paolo Jay B. Albarico, **Rey Y. Capangpangan**, Rueli-Feng Shiu, Yee Cheng Lim, Chiu-Wen Chen, Cheng-Di Dong, Hernando P. Bacosa, Meso- and microplastics accumulation and ecological risks in Philippine urban and rural sandy beaches, *Estuarine, Coastal and Shelf Science*, **323**, 109414, 2025 (DOI: [10.1016/j.ecss.2025.109414](https://doi.org/10.1016/j.ecss.2025.109414))
12. Sung Joon Won, Benjoe Rey Visayas, Kuo Hao Lee, **Rey Capangpangan**, Lei Shi, Decoding the Structure-Activity Relationship of the Dopamine D3 Receptor-Selective Ligands Using Machine and Deep Learning Approaches, *Journal of Chemical Information and Modeling*, **65** (11), 5495-5507, 2025 (DOI: [10.1021/acs.jcim.5c00575](https://doi.org/10.1021/acs.jcim.5c00575))
13. Muhammad Aamir Iqbal, Mujitaba Ikram, Kareem Moray, **Rey Y. Capangpangan**, Revolutionizing solar energy using graphene-silicon nanocomposites, *International Journal of Modern Physics B*, 2530006, 2025 (DOI: [10.1142/S0217979225300063](https://doi.org/10.1142/S0217979225300063))
14. Arti Hadap, Aseel A. Kadhemi, Neeta Gupta, **Rey Y. Capangpangan**, Arnold C. Alguno, Pratik Kumar Jagtap, Akhil Saxena, β -cyclodextrine coated zinc oxide decorated graphene oxide nano hybrid for photocatalytic, antibacterial, and antifungal applications, *Journal of Microbiological Methods*, **235**, 107139, 2025 (DOI: [10.1016/j.mimet.2025.107139](https://doi.org/10.1016/j.mimet.2025.107139))
15. Giovanni Felicitas, Joycelyn C. Jumawan, Roland Care B. Burdeos, Roland Gier D. Delara, Romell A. Seronay, Temmy P. Vales, Felmer S. Latayada, Sherley Ann T. Inocente, Marybeth Hope T. Banda, **Rey Y. Capangpangan**, Microplastics in Surface Water and Gastrointestinal Tracts of Demersal Fishes (*Oreochromis niloticus* and *Cyprinus carpio*) in the Largest Wetland of the Philippines, *Int. J. Environ. Res.*, **19**, 96, 2025 (DOI: [10.1007/s41742-025-00768-w](https://doi.org/10.1007/s41742-025-00768-w)).

16. Ethel P. Keleste, Jolina S. Fedelis, Wendy Faye T. Oposa, Sherley Ann T. Inocente, Marybeth Hope T. Banda, Felmer S. Latayada, Joycelyn C. Jumawan, Temmy P. Vales, Romell A. Seronay, **Rey Y. Capangpangan**, Assessment of Microplastic Pollution Load and Ecological Risk Index in Surface Water and Sediment Matrices in the Mangrove Ecosystem along Butuan Bay, Southern Philippines, *Environment and Natural Resources Journal*, **23** (3), 2025, 196-208 (DOI: [10.32526/enrj/23/20240122](https://doi.org/10.32526/enrj/23/20240122))
17. Teody Lagnason Gumabat, Jeanne Phyre Lagare Oracion, Jolina Fedelis, Ethel Keleste, **Rey Y. Capangpangan**, Noel Lito Sayson, Arnold C. Alguno, Gerard G. Dumancas, Felmer Latayada, NHS-Ester Conjugated Gold Nanoparticles for Spermine Detection: A Potential Tool in Meat Spoilage Monitoring, *Sensors & Diagnostics*, **4**, 182-194, 2025 (DOI: [10.1039/D4SD00320A](https://doi.org/10.1039/D4SD00320A))
18. Roland Gier D. Delara, Joycelyn C. Jumawan, Roland Care B. Burdeos, Giovanni Felicitas, Sherley Ann T. Inocente, Marybeth Hope T. Banda, Felmer S. Latayada, Temmy P. Vales, Romell A. Seronay, **Rey Y. Capangpangan**, Exploring Microplastic Contamination in Wetland Mollusks: Species-Specific Findings from a Major Wetland Habitat, *EnvironmentAsia*, **18** (1), 1-12, 2025 (DOI: [10.14456/ea.2025.1](https://doi.org/10.14456/ea.2025.1))
19. Roberth San Solita, Felmer S. Latayada, Julius Anthony M. Leones, Elizabeth P. Parac, Arnold C. Alguno, **Rey Y. Capangpangan**, Inhibiting *Stenotrophomonas maltophilia*, a Pathogenic Bacterium Responsible for Kernel Rot Disease in Pili nut (*Canarium ovatum* Engl.) with Ionic Liquid-loaded Nanoemulsions, *Applied Science and Engineering Progress*, **18**(1), 7417, 2025 (DOI: <https://doi.org/10.14416/j.asep.2024.07.004>)

2024

1. Melbagrace Lapening, Rolan Brian Rivera, Romnick Unabia, Renzo Luis Reazo, Jahor Omping, Ryan Lumod, Archie Ruda, Amyzz Ceniza, Noel Lito Sayson, Felmer Latayada, **Rey Capangpangan**, Gerard Dumancas, Arnold Lubguban, Roberto Malaluan, Ahmad Hosseini-Bandegharrae, Gaudencio Petalcorin, Arnold Alguno, One-Step Synthesis of PEG-Functionalized Gold Nanoparticles: Impact of Low Precursor Concentrations on Physicochemical Properties, *Journal of Ultrafine Grained and Nanostructured Materials*, **57**(2), 135-144, 2024 (DOI: [10.22059/jufgns.2024.02.04](https://doi.org/10.22059/jufgns.2024.02.04))
2. Rolan Brian P. Rivera, Romnick B. Unabia, Renzo Luis D. Reazo, Melbagrace A. Lapening, Ryan M. Lumod, Archie G. Ruda, Jahor L. Omping, Miceh Rose D. Magdadaro, Noel Lito B. Sayson, Felmer S. Latayada, **Rey Y. Capangpangan**, Gerard G. Dumancas, Roberto M. Malaluan, Arnold A. Lubguban, Gaudencio C. Petalcorin, Arnold C. Alguno, Influence of the Gold Nanoparticle Size on the Colorimetric Detection of Histamine, *ACS Omega*, **9**, 33652-33661, 2024 (DOI: <https://doi.org/10.1021/acsomega.4c02023>)
3. Neil Angelo S. Abreo, **Rey Y. Capangpangan**, Microplastic study needs rigorous study design: a commentary on Laput et al (2024) on bioaccumulation of microplastics in *Echinolittorina* sp. from the Philippines, *AACL Bioflux*, **17**(3), 1244-1246, 2024 (<http://www.bioflux.com.ro/home/volume-17-3-2024/>)
4. Marybeth Hope T. Banda, Mary Cena C. Olayon, Sherley Ann T. Inocente, Jayson Leigh M. Segovia, Nelieta A. Bedoya, Eveylen V. Bigcas, Abdul-Nasser D. Lomantong, Charmjill Y. Bacsarpa, Jhon Carlo C. Aporbo, Darlene M. Reble, Hernando P. Bacosa, Arnold A. Lubguba, **Rey Y. Capangpangan**, Microplastic Pollution in Mindanao's Taguibo River Watershed Forest Reserve: Characterization, and Distribution Patterns, and Implications for Freshwater Ecosystem Conservation, *Applied Science and Engineering Progress*, **17**(3), 7416, 2024 (DOI: <https://doi.org/10.14416/j.asep.2024.06.007>).
5. Archie G. Ruda, Marjune T. Bonilla, Kurt Sterling M. Ubas, Amierson C. Tilendo, Dave Joseph E. Estrada, **Rey Y. Capangpangan**, Rey Marc T. Cumba, Joselito P. Labis, Noel Lito B. Sayson, Arnold C. Alguno, TiO₂-Polyurethane Copoly Blend Nanocomposites as an Anticorrosion Coating for Mild Steel, *Solid State Phenomena*, **357**, 43-49, 2024 (DOI: <https://doi.org/10.4028/p-57V3sT>)
6. Ariel T. Antinero, **Rey Y. Capangpangan**, Biomarkers: Their Vital Role in Understanding the Complexity of Marine Pollution Monitoring, *Journal of Environment and Aquatic Resources*, **7**, 36-62, 2024 (DOI: <https://doi.org/10.48031/msunjear.2024.07.03>)
7. Jomar Besona, Elgen Arriesgado, **Rey Capangpangan**, Fiona Pedroso, Bioremediation efficiency of Sea cucumber *Holothuria scabra* (Jaeger, 1833) on the quality of water and sediment of Shrimp *Penaeus monodon* (Fabricius, 1798) pond culture, *International Journal of Aquatic Biology*, **12**(1), 57-67, 2024 (DOI: <https://doi.org/10.22034/ijab.v12i1.2124>)
8. Romnick Unabia, Renzo Luis D. Reazo, Rolan Brian P. Rivera, Melbagrace A. Papening, Jahor L. Omping, Ryan M. Lumod, Archie G. Ruda, Noel Lito B. Sayson, Gerard Dumancas, Roberto M. Malaluan, Arnold A. Lubguban, Gaudencio C. Petalcorin, **Rey Y. Capangpangan**, Felmer S. Latayada, Arnold C. Alguno, Dopamine-Functionalized Gold Nanoparticles for Colorimetric Detection of Histamine, *ACS Omega*, **9**(15), 17238-17246, 2024 (DOI: <https://doi.org/10.1021/acsomega.3c10123>)
9. Jahor Omping, Romnick Unabia, Renzo Luis Reazo, Melbagrace Lapening, Ryan Lumod, Archie Ruda, Rolan Brian Rivera, Noel Lito Sayson, Felmer Latayada, **Rey Capangpangan**, Gerard Dumancas, Roberto Malaluan, Arnold Lubguban, Gaudencio Petalcorin, Arnold Alguno, Facile Synthesis of PEGylated Gold Nanoparticles for Enhanced Colorimetric Detection of Histamine, *ACS Omega*, **9**(12), 14269-14278, 2024, (DOI: <https://doi.org/10.1021/acsomega.3c10050>)

10. Jay C. Dulong, Romnick Unabia, Jared Deve P. Delicana, Aldrin R. Lalem, Noel Lito Sayson, **Rey Y. Capangpangan**, Arnold A. Lubguban, Arnold C. Alguno, Synthesis and Characterization of AuNP/TiO₂ Hybrid Nanoparticles for Possible Photocatalytic Application, *Materials Science Forum*, **1113**, 21-26, 2024 (DOI: <https://doi.org/10.4028/p-ogEu80>)
11. Jared Deve P. Delicana, Romnick Unabia, Jay C. Dulong, Aldrin D. Lalem, Noel Lito B. Sayson, **Rey Y. Capangpangan**, Arnold A. Lubguban, Arnold C. Alguno, Size-Dependent Surface Plasmon Resonance of Green Synthesized Gold Nanoparticles using *Mangifera indica* Fruit Peel Extract, *Materials Science Forum*, **1113**, 35-40, 2024 (DOI: <https://doi.org/10.4028/p-92UDae>)
12. Aldrin Lalem, Jay Dulong, Jared Deve Delicana, Romnick Unabia, Noel Lito Sayson, **Rey Y. Capangpangan**, Arnold A. Lubguban, Arnold C. Alguno, Synthesis and Characterization of Hierarchical Au/ZnO Nanocomposite for Possible Photocatalytic Applications, *Materials Science Forum*, **1113**, 9-14, 2024 (DOI: <https://doi.org/10.4028/p-PIU3w7>)

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3. Marco Laurence Budlayan, Jeanne Phyre Lagare-Oracion, Lyka Dela Rosa, Mikee Joy Rodriguez, **Rey Y. Capangpangan**, Jonathan Manigo, Arnold Alguno, Eleanor Austria, Susan Arco, Jonathan Patricio, A Facile Route in Controlling the Optical Absorbance of Polyvinylpyrrolidone-Capped Silver Nanoparticles via Chemical Reduction Technique, *IOP Conf. Series: Materials Science and Engineering*, **925**, 012050, 2020 (DOI: <https://doi.org/10.1088/1757-899X/925/1/012050>)
4. Emalina L. Ebo, Carlos H. Donoso, Rex Bombet D. Saura, Rolit Joan Ferol, Juliet Ruth D. Mozar, Arman N. Bermon, Jerry Manongas, Joan Christine H. Libot, Cara Jane Matabilas, Jocelyn C. Jumawan, **Rey Y. Capangpangan**, Heavy Metals Accumulation in Surface Waters, Bottom Sediments and Aquatic Organisms in Lake Mainit, Philippines, *International Letters of Natural Sciences*, **79**, 40-49, 2020 (doi: <https://doi.org/10.18052/www.scipress.com/ILNS.79.40>)
5. Cresencio C. Cabuga, **Rey Y. Capangpangan**, Joycelyn C. Jumawan, Levels of Heavy Metals in Fish and Sediments from Different Salinity Gradients of Lower Agusan River to Butuan Bay, Caraga, Philippines, *EnvironmentAsia*, **13**(2), 88-100, 2020 ([https://tshe.org/ea/pdf/EA13\(2\)_07.pdf](https://tshe.org/ea/pdf/EA13(2)_07.pdf))
6. Alexander T. Demetillo, **Rey Y. Capangpangan**, Melbert C. Bonotan, Jeanne Phyre B. Lagare, Evelyn B. Taboada, Real-time Detection of Cyanide in Surface Water and Its Automated Data Acquisition and Dissemination System, *Nature Environment and Pollution Technology*, **19**(1), 395-402, 2020 ([https://neptjournal.com/upload-images/\(45\)D-973.pdf](https://neptjournal.com/upload-images/(45)D-973.pdf))

2019

1. R M T Cumba, **R Y Capangpangan**, A C Alguno, Functionalization of Fe₃O₄/TiO₂/BiOCl nanocomposites using Sargassum carssifolium extract as Magnetic Nanophotocatalyst for Cadium Sequestration, *IOP Conf. Ser.: Mater. Sci. Eng.* **668**, 012029, 2019 (DOI: <https://doi.org/10.1088/1757-899X/668/1/012029>)
2. Rolan Brian P. Rivera, Melchor J. Potestas, Ma. Reina Suzette B. Madamba, **Rey Y. Capangpangan**, Bernabe L. Linog, Blessie A. Basilia, Arnold C. Alguno, Antibacterial Activities of Zinc Oxide Nanostructures

with Different Structures, *Solid State Phenomena*, **294**, 36-41, 2019 (DOI: <https://doi.org/10.4028/www.scientific.net/SSP.294.36>)

3. Arnold C. Alguno, Katherine M. Emphasis, Melchor J. Potestas, Reynaldo M. Vequizo, **Rey Y. Capangpangan**, Bernabe L. Linog, Blessie A. Basilia, Controlling the Growth of Zinc Oxide/Polyaniline Nanocomposites on Platinum-Coated Substrate for Possible Solar Cell Applications, *Solid State Phenomena*, **294**, 30-35, 2019 (DOI: <https://doi.org/10.4028/www.scientific.net/SSP.294.30>)
4. Jeanne Phyre Lagare, Mark Anthony M. Lavapie, Joel H. Jorolan, Arnold C. Alguno, **Rey Y. Capangpangan**, Facile Synthesis and Characterization of Magnetic Nanophotocatalyt for Photocatalytic Degradation of Cyanide, *Solid State Phenomena*, **294**, 17-23, 2019 (DOI: <https://doi.org/10.4028/www.scientific.net/SSP.294.17>)
5. **Rey Y. Capangpangan**, Marie Jane B. Corpuz, Arnold C. Alguno, Remediation of Ni²⁺ in a Nickel-Contaminated Water Sample using Magnetic Nanoprobes prepared via Green Process by Psidium guajava Leaves Extract, *IOP Conf. Series: Earth and Environmental Science*, **277**, 012033, 2019 (DOI: <https://doi.org/10.1088/1755-1315/277/1/012033>)
6. Lady Jaharah Y. Jabber, Jessalyn C. Grumo, Arnold C. Alguno, Arnold A. Lubguban, **Rey Y. Capangpangan**, The Effect of Cellulose Fibers on the Formation of Petroleum-Based and Bio-based Polyurethane Foams, *Key Engineering Materials*, **803**, 371-376, 2019 (DOI: <https://doi.org/10.4028/www.scientific.net/KEM.803.371>)
7. Jessalyn C. Grumo, Lady Jahara Y. Jabber, Arnold A. Lubguban, **Rey Capangpangan**, Arnold C. Alguno, Synthesis and Characterization of Bio-Based Rigid Polyurethane Foams with Varying Amount of Blowing Agent, *Key Engineering Materials*, **803**, 346-350, 2019 (DOI: <https://doi.org/10.4028/www.scientific.net/KEM.803.346>)
8. Marco Laurence M. Budlayan, Arnold C. Alguno, **Rey Y. Capangpangan**, Influence of Sargassum crassifolium Extract on the Absorption of Magnetic Iron Oxide Nanoparticle via Green Synthesis Route, *Key Engineering Materials*, **803**, 382-386, 2019 (DOI: <https://doi.org/10.4028/www.scientific.net/KEM.803.382>)

2018

1. Waniwan, Juanilita; Chen, Yi-Ju; **Capangpangan, Rey**; Weng, Shao-Hsing; Chen, Yu-Ju, Glycoproteomic Alterations in Drug-resistant Non-small Cell Lung Cancer Cells Revealed by Lectin Magnetic Nanoprobe-based Mass Spectrometry, *J. Proteome Res.*, **17**(11), pp 3761-3773, 2018 (DOI: <https://doi.org/10.1021/acs.jproteome.8b00433>)
2. Ruelson S. Solidum, Arnold C. Alguno, **Rey Capangpangan**, Controlling the Surface Plasmon Absorption of Silver Nanoparticles via Green Synthesis Using Pennisetum purpureum Leaf Extract, *Key Engineering Materials*, **772**, 73-77, 2018 (DOI: <https://doi.org/10.4028/www.scientific.net/KEM.772.73>)

2017

1. Mira Anne C. dela Rosa, Wei-Chun Chen, Yi-Ju Chen, Rofeamor P. Obena, Chih-Hsiang Chang, **Rey Y. Capangpangan**, Tung-Hung Su, Chi-Ling Chen, Pei-Jer Chen and Yu-Ju Chen, One-Pot Two-Nanoprobe Assay Uncovers Targeted Glycoprotein Biosignature, *Anal. Chem.* 2017, **89**(7), 3973-3980, 2017 (DOI: <https://doi.org/10.1021/acs.analchem.6b04396>)

2016

1. Deomila Basning, **Rey Y. Capangpangan**, Patsamon Rijivanich, Werasak Surareungchai; Salt-Induced Aggregation of Polyallylamine-Coated Gold Nanoparticles (PAH-AuNP) for Rapid Detection of Methyl Parathion, *Annals of Studies in Science and Humanities* **2**(1), 1-15, 2016 (<https://journals.carsu.edu.ph/jASSH/article/view/92>)
2. Indah Primadona, Yin-Hung Lai, **Rey Y. Capangpangan**, Rofeamor Palarca Obena, Mei-Chun Tseng, Ming-Feng Huang, Huan-Tsung Chang, Shiou-Ting Li, Chung-Yi Wu, Wei-Ting Chien, Chun-Cheng Lin, Yi-Sheng Wang and Yu-Ju Chen, Functionalized HgTe nanoparticles promote laser-induced solid phase ionization/dissociation for comprehensive glycan sequencing, *Analyst*, **141**(21), 6093-6103, 2016 (DOI: <https://doi.org/10.1039/C6AN00923A>)
3. **Rey Yonson Capangpangan**, Cale Payla Pineda, Nen Kenneth Pagapong, Pearl B. Sanchez, Evaluation of Potential Ecological Risk and Contamination Assessment of Heavy Metals in Sediment Samples using Different Environmental Quality Indices – A Case Study in Agusan River, Caraga Philippines, *J. Bio. Envi. Sci.*, **8**(1), 1-16, 2016 (<https://www.innspub.net/wp-content/uploads/2022/01/JBES-V8-No1-p1-16.pdf>)

2015

1. **Rey Y. Capangpangan**, Ann Lilibeth F. Cane, Myla E. Lincuna, Jonel A. Rañon, Rofeamor O. Obena, Cale P. Pineda, Speciation and Bioavailability of Trace Metals (Cd, Cu and Pb) in Marine Sediment Samples from

Placer Bay near Manila Mining Corporation, Surigao City, Philippines, *Annals of Studies in Science and Humanities*, **1**(2), 12-34, 2015

2. **Rey Y. Capangpangan**, Mira Anne C. dela Rosa, Rofeamor P. Obena, Yu-Jen Chou, Der-Lii Tzou, Shao-Ju Shih, Ming-Hsi Chiang, Chun-Cheng Lin and Yu-Ju Chen, Monodispersity of magnetic immuno-nanoprobes enhances the detection sensitivity of low abundance biomarkers in one drop of serum, *Analyst*, **140**(22), 7678-7686, 2015 (DOI: <https://doi.org/10.1039/C5AN01530H>)
3. Rofeam or P. Obena, Mei-Chun Tseng, Indah Primadona, Jun Hsiao, I-Che Li, **Rey Y. Capangpangan**, Hsiu-Fong Lu, Wan-Sheung Li, Ito Chao, Chun-Cheng Lin and Yu-Ju Chen, UV-activated multilayer nanomatrix provides one-step tunable carbohydrate structural characterization in MALDI-MS, *Chem. Sci.*, **6**, 4790-4800, 2015 (DOI: <https://doi.org/10.1039/C5SC00546A>)

2014

1. **RY Capangpangan**, MAC dela Rosa, CH Chang, WC Wang, J. Peng, SJ Shih, MH Chiang, DL Tzou, CCLin and YJ Chen, Selective enrichment and sensitive detection of candidate disease biomarker using a novel surfactant-coated magnetic nanoparticles, *IOP Conf. Series: Materials Science and Engineering* **64**, 012022, 2014 (DOI: <https://doi.org/10.1088/1757899X/64/1/012022>)

2012

1. **Capangpangan, R.Y.**; del Mundo, F.R.; Arco, S.D.; Obena, R.P., A Silver Ion Potentiometric Sensor Based on a Synthesized 1,3-Benzocrown Macrocyclic Diamide as Neutral Carrier, *Phil. J. of Sci.*, **141**(1): 45-55, 2012 ([https:// philjournalsci.dost.gov.ph/home-1/35-vol-141-no-1-june-2012/459-a-silver-ion-potentiometric-sensor-based-on-a-synthesized-1-3-benzocrown-macrocyclic-diamide-as-neutral-carrier](https://philjournalsci.dost.gov.ph/home-1/35-vol-141-no-1-june-2012/459-a-silver-ion-potentiometric-sensor-based-on-a-synthesized-1-3-benzocrown-macrocyclic-diamide-as-neutral-carrier))

2009

1. **Capangpangan, R.Y.**; del Mundo, F.R.; Arco, S.D.; Solis, J.S.; Obena, R.P. (2009), Determination of Total Dissolved Silver in Photographic Film Wastewater Sample by Silver-ISE Based on a Newly Synthesized Macrocyclic Diamide as Ionophore, *Journal of Nature Studies*, **8**(2), 9-13, 2009

ACHIEVEMENTS AND AWARDS

2024: PCFS Outstanding Achievement Award in Chemical Research

2024: EPIC Award – Excellence in Project Implementation and Completion (EPIC) by DOST-PCIEERD for the project “NanoTox Project”

2023: Outstanding Faculty Researcher Award – Mindanao State University at Naawan (MSUN)

2023: Publication Research Awards – Mindanao State University at Naawan (MSUN)

2023: Photon Loyalty Award – Samahang Pisika ng Visayas at Mindanao (SPVM)

2023: EPIC Award – Excellence in Project Implementation and Completion (EPIC) by DOST-PCIEERD for the “CYANanobot Project”

2022: 3rd Place – Northern Mindanao Consortium for Agriculture, Aquatic and Natural Resources Research and Development (NOMCAARRD) 34th Regional Symposium on Research and Development Highlights

2022: Publication Awards – Mindanao State University at Naawan

2021: Publication Awards – Mindanao State University at Naawan

2021: First Best Paper – Virtual Colloquium for Dissertation, Theses and Short Studies – MSU Naawan

2021: First Best Paper – Research Category (On-going Project) – MSU Naawan

2021: Best Employee Award – Best Faculty with Designation Category (for exemplary performance) – CSU PRAISE

2021: Loyalty Award (for 15 years in Service) – CSU PRAISE

2021: Presidential Award for Excellence in Resource Generation (for professional competence and zealous efforts in generating resources and implementing university projects and programs) – CSU PRAISE

2021: Recognition of Innovation and Patent Application – CSU PRAISE

2021: Special Award (Best Oral Presenter during the 3rd International Conference on Chemistry, Chemical Process and Engineering) – CSU PRAISE

2021: Special Award (Best Paper during the 1st International Conference Computational Engineering and Material Sciences) – CSU PRAISE

2021: Special Presidential Citation for Promotion of Research Culture (promoting research culture in the University) – CSU PRAISE

- 2021: Special Presidential Citation for Volunteerism during COVID-19 Pandemic** (initiatives in responding to COVID-19 pandemic) – CSU PRAISE
- 2021: Publication Awards** (for Publishing in ISI/Scopus Indexed Journals) – CSU PRAISE
- 2021: 2nd Place Winner (Cluster 3) in the POSTER COMPETITION** for the paper entitled “*Response to COVID-19 Pandemic through Nanotechnology: Enhancement of the Filtering Capacity of the Alternative Home-Made Face Masks using FP/CNC Composite Membranes as Nano-Reinforced Filters*” during the 2021 Annual Scientific Conference and 88th General Assembly
- 2020: Best Oral Presenter Award** for the paper entitled “*Synthesis and characterization of cellulose nanocrystals extracted from sago (Methoxylon sago) pulp*” during the 3rd International Conference on Chemistry, Chemical Process and Engineering, Indonesia
- 2020: Best Paper Award** for the paper entitled “*A Facile Route in Controlling the Optical Absorbance of Polyvinylpyrrolidone-capped Silver Nanoparticles via Chemical Reduction Technique*” during the 1st International Conference on Computational Engineering and Material Science – ICCEMS 2020.
- 2020: Best R& D Award** for the project entitled “Development of Nanoparticle Decorated Paper-based Sensor for Rapid Sensing of Metal Ions”
- 2020: Best Employee Award (Best Faculty with Administrative Function)**
- 2020: Cost Economy Measures Award** for generating two Research Grants that resulted to significant productivity of the University
- 2020: Special Presidential Citation Award** for conducting four funded Researches
- 2019: Publication Award** (for Publishing papers in ISI/Scopus Indexed Journals)
- 2019: Special Award** for winning as the Best Presenter Award during the 3rd International Symposium on Green Technology for Value Chain 2018 held at Indonesia Convention Exhibition, Tangerang Indonesia
- 2019: Cost Economy Award** (for implementing an externally-funded research project that resulted into a cost-effective system of the university)
- 2019: Best Scientific Paper Award** during the International Nanotechnology Conference in the Philippines 2019, Taal Vista Hotel, Tagaytay City, Philippines
- 2019: Best Paper Poster Award** (during the Mindanao Regional Scientific Meeting of the National Academy of Science and Technology (NAST)-Philippines
- 2019: Regional Winner on Outstanding Creative Research (Likha Award)** during the 2019 Regional Invention Contest and Exhibit (Sept. 3-5, 2019)
- 2019: 1st Runner Up on Outstanding Creative Research (Likha Award)** during the 2019 Regional Invention Contest and Exhibit (Sept. 3-5, 2019)
- 2019: 2nd Runner Up on Outstanding Creative Research (Likha Award)** during the 2019 Regional Invention Contest and Exhibit (Sept. 3-5, 2019)
- 2018 : Publication Award** (for Publishing in ISI/Scopus Indexed Journals), CSU PRAISE Committee
- 2018: Presidential Citation Award** (for initiating/conducting Research Projects)
- 2018: International Award (Best Paper Presenter)** – 3rd International Symposium on Green Technology for Value Chain 2018 held at Indonesia Convention Exhibition, Tangerang Indonesia
- 2016: Paper Award (First Place)** during the 10th Philippine National Health Research Systems (PNHRS) – PCHRD
- 2016 : Publication Award** (for Publishing in ISI/Scopus Indexed Journals), CSU PRAISE Committee
- 2016: Special Award** for being the First Place during the 10th Philippine National Health Research Systems – PCHRD, CSU PRAISE Committee
- 2016: Presidential Award** for Excellence in Research, CSU PRAISE Committee
- 2015: Loyalty Award** (10 yrs. In government service), CSU PRAISE Committee
- 2014 : Outstanding Paper Poster** during the Asian Core Winter School (Academia Sinica, Taiwan)
- 2014 : Poster Award** during the 11th Taiwan Society for Mass Spectrometry Conference (TSMS)
- 2011 : Best Research Paper on Environment Award** during the CHED UPLB Zonal Research Symposium at AEC Little Theatre, Manuel S. Enverga University Foundation, Lucena City
- 2011 : Special Award as co-author of the CHED-UPLB GIA Best Research Paper Award**, awarded by Caraga State University (CSU), Ampayon Butuan City
- 2009 : Special Award as being the Coach for an Award-Winning Investigatory Project** (Awarded by the PRAISE Committee of NORMISIST)
- 2009 : Second Best Research Paper** during the 9th Convention of the Philippine Society for the Study of Nature (PSSN)

2004 : For showing an Excellent Analytical Performance (given by TECHNOLAB Laboratory Services)
2003 : For showing an Excellent Analytical Performance (given by TECHNOLAB Laboratory Services)
2001 : For Passing the Chemist Licensure Examination by the Professional Regulation Commission (PRC)

SHORT COURSES/FELLOWSHIPS ATTENDED/TRAVEL GRANTS

September 26-27, 2025

DLSU Executive Course on Research Management
De La Salle University

October 12, 2024

Online learning course on Organisational Governance & Structure
This course was provided by Humanitarian Leadership Academy

September 11, 2024

Online Coursera Course in Introduction to Futures Thinking (99.09%)
Conducted and Authorized by the Institute for the Future

September 6, 2024

Online Coursera Course in Researcher Management and Leadership Training (95.50%)
Conducted and Authorized by the University of Colorado System

August 26, 2024

Professional Certificate Course in Communication Skills for Leaders
London School of Business Administration

August 26, 2024

Online Coursera Course on Project Management Essentials (97.81%)
Conducted and authorized by Howard University

August 26, 2024

Online Coursera Course on Strategic Leadership and Management Specialization
Course 2 - Leading Teams: Building Effective Team Cultures (94.18%)
Gies College of Business, Business School in Champaign
University of Illinois Urbana - Champaign

August 25, 2024

Online Coursera Course on Strategic Leadership and Management Specialization
Course 1 - Leading Teams: Developing as a Leader (97.33%)
Gies College of Business, Business School in Champaign
University of Illinois Urbana - Champaign

March 7 - 11, 2022

13th HOPE Meeting with Nobel Laureates
Japan Society for the Promotion of Science (JSPS) – Online

March 3 – 5, 2022

The Learning Curve Series: Chemicals and Hazardous Wastes Management
Pollution Control Association of the Philippines (PCAPI) Region IV-A Chapter

October 25 - 29, 2021

How to Get Key Decision Makers to Say YES to your Project Ideas; A Training Course for Project Implementers
DOST-PCAARRD

December 25, 2020

Online Coursera Course on Being a Researcher (88.94%)
Conducted and authorized by Politecnico di Milano

October 2, 2020

Massive Open Distance eLearning Courses on Executive Courses in Remote Teaching and Learning, University of the Philippines, Open University

July 25, 2020

Online course ACS Reviewer Lab by the American Chemical Society

June 24, 2020

Online Coursera Course on Understanding Research Methods (100%)
Conducted and authorized by the University of London and SOAS University of London

June 13, 2020

Online Coursera Course on Nanotechnology: A Maker's Course (90.22%)
Conducted and authorized by Duke University, North Carolina State University and The University of North Carolina at Chapel Hill

May 30, 2020

Massive Open Distance eLearning Course on Module 3: Strategic Planning to Transition to Remote Teaching and Learning, University of the Philippines, Open University

May 30, 2020

Massive Open Distance eLearning Course on Module 2: Quality Assurance in Remote Teaching and Learning, University of the Philippines, Open University

May 30, 2020

Massive Open Distance eLearning Course on Module 1: Remote Teaching and Learning: Concepts and Models
University of the Philippines, Open University

December 14 – 16, 2018

DOST-PCIEERD Travel Grant
2018 International Conference on Advanced Composite Materials (ICACM 2018)
Kuala Lumpur Malaysia

November 21-22, 2016

Future Science Leaders Forum

May 30 – June 1, 2016

DOST-PCIEERD Travel Grant
Science Council of Asia, Colombo Sri Lanka

October 15, 2013 – January 7, 2014

Visiting Research Student at The Hebrew University of Jerusalem, Israel
Investigate the Nanoscopic morphology of kinase/substrate motif-immobilized monolayers and single molecules

January 31 – February 4, 2011**Bioanalytical Nanotechnology School**

Held at UST, Manila Philippines and conducted by Professors and Scientists from Universitat Autònoma de Barcelona and Catalan Institute of Nanotechnology, Barcelona Spain

September 2011 – December, 2015**Taiwan International Graduate Program (TIGP)**

PhD Scholarship Grant sponsored by the Taiwan Government

July 1 – September 30, 2010**HRD-BIOTEC Training (Research Fellowship)**

Sponsored by BIOTEC Thailand and Research conducted at King Mongkut's University of Technology, Bangkok Thailand.

"Development of Rapid Organophosphate Pesticide Detection Based on Enzyme-Gold Nanoparticle"

October 18 – 24, 2009

Chemical Safety and Security Officers' Training Course

Held at Pathumwan Princess Hotel, Bangkok, Thailand. Conducted by certified chemists and trainers from Sandia National Laboratories, New Mexico, USA in cooperation with the US Department of State.

August 16-23, 2009

Research Management Training Course for Executives (RMEx) of Higher Education Institutions

Conducted and Facilitated by the Professors from UP-Los Baños, Laguna and SEARCA Officials.

October 22-27, 2007

CHED Faculty Upgrading in Analytical Chemistry

Conducted and facilitated by the Professors from UP-Diliman, Ateneo de Manila University, De Lasalle University and University of Sto. Thomas.

May 2-June 6, 2002

Summer Orientation Course in Environmental Studies

Conducted and facilitated by the Professors from Natural Sciences and Mathematics Division of the University of the Philippines, in the Visayas, Cebu College.

PROFESSIONAL MEMBERSHIPS AND ORGANIZATIONS

- **Visionary Research Association Inc.** – Lifetime Member, since 11/7/2024
- **Kapisanang Kimika sa Pilipinas (Philippine Chemistry Society)** –Lifetime Member
- **Integrated Chemists of the Philippines (ICP)** – Regular Member
- **Philippine Association of Chemistry Teachers (PACT)** – Lifetime Member
- **Cebu Chemical Society (CCS)** – Regular Member
- **Philippine Society for the Study of Nature (PSSN)** – Lifetime Member
- **Philippine Association of Research Managers, Inc. (PHILARM)** – Regular Member
- **National Research Council of the Philippines (NRCP)** – Regular Member (Chemical Sciences Division)
- **The Chemical Society of Japan (CSJ)** – Regular Member
- **International Association of Advanced Materials** – Member
- **Samahang Pisika ng Visayas at Mindanao** – Regular Member
- **MSU Alumni Association** – Naawan Chapter
- **MSU Naawan Foundation for Science and Technology Development, Incorporated (MSUN-FSTDI)**

INVITED SPEAKERSHIPS/OTHER ACTIVITIES

- **Resource Speaker**, Strengthening NBSC's Global Rankings Processes (**November 11-12, 2025**)
- **Keynote Speaker**, 2nd Regional Conference in Chemistry Education (RC2E) (**October 25, 2025**)
- **Evaluator**, 23rd MSU-IIT Annual In-House Review of Research and Development Projects (**October 20, 2025**)
- **Resource Speaker**, 9th NRCP Annual Basic-Research Symposium titled "Research Innovations in Aquatic Biodiversity: Providing Science-Based Solutions to Emerging Environmental Challenge" (**October 17, 2025**)
- **Plenary Speaker**, 1st International Conference of the Nano Society of the Philippines (**October 9-10, 2025**)
- **Resource Person**, Regional Fisheries Resource Management Conference (**September 16, 2025**)
- **Keynote Speaker**, In-House Review and 2nd REI Week, MSU-General Santos (**August 11-12, 2025**)
- **Panelist**, In-House Review and 2nd REI Week, MSU-General Santos (**August 11-12, 2025**)
- **Keynote Speaker**, 5th Campuswide Research Colloquium, MSU-Buug (**June 27, 2025**)
- **Resource Person**, Scopus-Indexed Writeshop (**May 27-28, 2025**)
- **Resource Speaker**, FY 2025 Budget Execution Training, MSU at Naawan (**April 29, 2025**)
- **Guest Speaker**, Graduation, Sultan Palao Ali Memorial Elementary School (**April 15, 2025**)
- **Resource Speaker**, MINSUPALA-IRDC manuscript Writing Writeshop (**March 19-21, 2025**)
- **Keynote Speaker**, 2025 Oathtaking Ceremony of Chemists and Chemical Technicians (**February 27, 2025**)
- **Judge**, 1st Research Summit, Northern Bukidnon State College (**February 13-14, 2025**)
- **Resource Person**, 2nd MSU-Main Campus R&D Summit (**February 6-8, 2025**)

- **Keynote Speaker**, 5th International Conference on Environment and Forest Conservation (ICEFC) – **December 5-7, 2024**
- **Plenary Speaker**, 9th National Fisheries Biotechnology Symposium in Celebration of the 19th National Biotechnology Week (**November 6-7, 2024**)
- **Speaker**, 2024 MSU System Finance Summit (**October 28-30, 2024**)
- **Member of the Panel of Evaluators**, 22nd MSU-IIT Annual In-House Review of Research and Development Projects (**October 11, 2024**)
- **Evaluator**, PAGPADAYAG 2024: MSU at Naawan Research Review and Dissemination Week (October 1-4, 2024)
- **Poster Judge**, Poster Exhibit and Competition, 2024 NRCP Annual Scientific Conference and 22nd Mindanao Regional Cluster Assembly (**August 22, 2024**)
- **Resource Person**, during the conduct of Writeshop on Proposal Writing for Funding Agencies, Mindanao State University-Maguindanao (**February 23, 2024, March 21-22, 2024**)
- **Resource Person**, during the Research Publication Writeshop hosted by DOST-X, NorMinCIEERD (**December 5, 2023**)
- **Resource Person**, during the Capacity Building for LGUs with the theme “Strengthening Expertise: Navigating the 2022 Extended Producer Responsibility (EPR) Law and Advancing Solid Waste Management Innovations” (**October 11, 2023**)
- **Poster Evaluator**, 21st MSU-IIT Annual In-House Review of Research and Development Projects (**September 15, 2023**)
- **Resource Person**, Mentoring for Research and Extension Productivity (**August 30, 2023**)
- **Resource Speaker**, Designing Research and Extension Programs & Publishing of Outputs (**August 24, 2023**)
- **Resource Person**, Preparations of Kids’ Innovation Challenge 4.1 (KIC 4.1) Activity (**August 7-11, 2023**)
- **Resource Speaker**, International Virtual Conference on Social Sciences, Law and Humanities (**July 30-31, 2023**)
- **Speaker**, 6th Organic Asia Congress (**June 7, 2023**)
- **Distinguished Speaker**, nanoHubs Webinar Series (**May 26, 2023**)
- **Resource Speaker**, Regional Crop Biotechnology Symposium (**April 20, 2023**)
- **Resource Speaker**, Training Writeshop on Effective Scientific Writing for Journal Publication and Research Proposal (**April 3-4, 2023**)
- **Resource Person**, JEAR Publication Writeshop (**February 15 and 22, 2023**)
- **Keynote Speaker**, International Conference on Advanced Materials, metallurgy & Manufacturing 2022 (**November 1-2, 2022**)
- **Resource Speaker**, Online Symposium on Recent Advances in Science and Technology, Engineering, and Mathematics (STEM) Research (**October 5-7, 2022**)
- **Speaker**, Analytical Sciences Research Forum by KKP-DAS (**August 17, 2022**)
- **Speaker**, Science and Innovation Budding Opportunities for Leverage (SIBOL) 2022 – Webinar featuring new technologies for the Manufacturing Industry (**August 16, 2022**)
- **Resource Person**, Workshop on Scientific Writing and Publication and Ethical Guidelines (**August 3-4, 2022**)
- **Resource Person**, First Makerspace Challenge, Philippine Science High School, Central Visayas Campus (**July 19-23, 2022**)
- **Resource Speaker**, Training and Workshop on Technical Report Writing (**April 8, 2022**)
- **Resource Person**, Seminar on Recent trends on Biotechnology and nano technology to Address Food and Nutrition Security (**March 23, 2022**)
- **Resource Person**, Extension Proposal Writeshop (**March 2, 2022**)
- **Technical Evaluator** of R&D Proposal under NSTEP-Small R&D Grant (**October 19, 2021**)
- **Technical Expert** during the CSU Research, Development, and Extension 2021 in-House Review (**October 6, 2021**)
- **Resource Speaker**, Webinar on Nanotechnology for Aquatic and Agriculture Research: Opportunities and Ways Forward (**September 22, 2021**)
- **Speaker**, during the conduct of NSTEP Project: NRCP Membership and Science for Change Program (S4CP) Promotion Caravan (**September 1, 2021**)
- **Moderator**, during the Webinar on Construction Innovations for Smarter and Greener Built Environment (**May 21, 2021**)
- **Resource Speaker** during the TechTalk Livestream: Upgrading Face Masks in the COVID-19 Pandemic through Nanotechnology (**April 29, 2021**)

- Resource Person during the Virtual Career Orientation for all Grade 11 students of Philippine Science High School – Central Visayas Campus (**February 24, 2021**)
- Resource Person (Mentor), Online Training-Workshop in Communicating Research Results: Writing Scientific Articles for Publication (**October 28-30, 2020**)
- Resource Speaker, 1st Pisay Caraga Virtual Scholarship Forum of the Philippine Science High School – Caraga Region Campus (**October 20, 2020**)
- Reviewer, Proceeding of International Symposium on Green Technology for value Chains 2019 (**June 6, 2020**)
- Judge during the 2019 Annual Research Congress on Humanities, Education, Resource Management and Sciences (ARCHERS) Oral Presentation for the thematic area on AQUATIC STUDIES (**May 8, 2019**)
- Parallel Session Chair during the 1st International Conference in Science and Mathematics (**April 11-13, 2019**)
- Resource Speaker, Research Planning Workshop, Sarnimian Inland Resort (**February 26-28, 2019**)
- Resource Speaker, General Ecology Lecture/Seminar on Ecological Analysis and Methodologies (**February 20, 2019**)
- Resource Speaker - Agusan National High School (**February 1, 2019**)
- Speaker, 3rd International Symposium on Green Technology for Value Chains, ICE BSD City, Tangerang Indonesia (**November 1-2, 2018**)
- Judge during the RDE Symposium of the SciTech4Dev 2018 Forum with the theme “Science and Technology for Inclusive Education Towards Countryside Development” (**October 24, 2018**)
- Member of the SPVM Working Committee, during the 20th SPVM Conference, 2018 International Conference on Advanced Functional Materials and Nanotechnology and 2018 National Meeting on Space Science and Applications (**October 19-21, 2018**)
- Speaker (Program Synthesis) during the Annual Scientific Conference and 16th General Membership Assembly of the NRCP Mindanao Regional Cluster (**October 5, 2018**)
- Resource Speaker, during the conduct of the Data Cleansing under Component 1: Biophysico-Chemical Characteristics of the Waters in Lake Mainit and Component 2: Assessment of Heavy Metal Contamination in Selected River Tributaries, Common Fish Community and Bottom Sediments in Lake Mainit (**August 13-14, 2018**)
- Resource Speaker, during the Seminar-Writeshop on Capstone Research (**June 18, 2018**)
- Chemistry Laboratory Coordinator, during the 20 Hours Work Immersion Activity of the Senior High School Grade XII STEM strand students (**May 11, 2018**)
- Judge, during the Biology Congress 2018 (**May 9, 2018**)
- Judge, for the Science Investigatory Project Competition of the Philippine Science High School (PSHS) – Caraga Campus (**April 26, 2018**)
- Plenary Speaker, during the Statistical Training for MSCC Study Consultants (**January 31, 2018**)
- Guest Speaker, during 1st Advanced Science Lecture Series held at Agusan National High School (**January 12, 2018**)
- Speaker, National Research and Extension Conference at Polytechnic University of the Philippines (**December 7, 2017**)
- Session Chair, during the Philippine National Remote Sensing Conference 2017 (**November 29, 2017**)
- Invited Speaker, SPVM and ASEAN Conference on Advanced Materials and Nanotechnology (**November 2017**)
- Pre-Commencement Guest Speaker – MSU-IIT (**July 3, 2017**)
- Judge, Science Investigatory Project Physical Science Category of Philippine Science High School – Caraga Region Campus (**April 10, 2017**)
- Trainer/Facilitator during the Chemical Safety and Security Training at SRMI, Tubay Agusan del Norte (**December 12-13, 2016**)
- Judge during the Regional Research Congress (**December 6, 2016**)
- Speaker during the Health Research Awareness Forum and Call for Research Proposals (**November 25, 2016**)
- Judge, Science Investigatory Project, Physical Science (Elementary Level) during the 2016 Regional Science Fair and Quiz Plus (**November 16-18, 2016**)
- Judge, Science Investigatory Project (Elementary Level), during the 2016 Division Science Fair and Quiz (**November 3-4, 2016**)
- Trainor/Lecturer during the Regional Training of Grade 11 Teachers in Science and Technology, Engineering and Mathematics (STEM) on (**September 9-17 and September 22-29, 2016**)

- Facilitator during the Regional Training of Grade 11 Teachers in Science and Technology, Engineering and Mathematics (STEM) on **(September 9-17 and September 22-29, 2016)**
- Session Chair during the 16th SCA held last **May 30 – June 1, 2016**
- Judge (Board of Evaluators) during the Search for 2016 CAS Best Undergraduate Thesis **(March 18, 2016)**
- Resource Speaker during the Research Capability Building Seminar-Workshop for Teaching and Non-Teaching Personnel **(March 3, 2010)**
- Resource Speaker (MS Environmental Management)
- Resource Speaker during the 2009 Biology Month
- Working Committee Member during the 2009 MEM Graduate Students' Orientation and Symposium held at CAS AVR, NORMISIST Ampayon Butuan City **(December 12, 2009)**
- Resource Speaker during the 2009 MEM Graduate Students' Orientation and Symposium held at CAS AVR, NORMISIST Ampayon, Butuan City **(December 12, 2009)**
- Co-Chair, Local Steering Committee during the 7th NRCP Mindanao Cluster General Membership Assembly held at the NORMISIST Conference Room **(November 23, 2009)**
- Resource Speaker during the 7th NRCP Mindanao Cluster General Membership Assembly held at the NORMISIST Conference Room **(November 23, 2009)**
- Facilitator during the 2009 INFO Seminar Series held at MSCC
- Coordinator during the Intellectual Management Seminar at the NORMISIST Conference Room **(October 28, 2009)**
- Training coordinator during the Symposium on the Conservation and Rehabilitation of the Taguibo Watershed at Sanchez Gymnasium, NORMISIST, Ampayon Butuan City **(September 30, 2009)**
- Evaluator during the 1st RDE In-House Review of the Surigao State College of Technology at SSCT, Surigao City **(November 16-17, 2009)**
- Workshop Facilitator during the Consultative meeting in the Revision of the R and D Agenda of NORMISIST held at the NORMISIST Conference Room **(October 30, 2009)**
- Resource Speaker during the Intellectual Management Seminar at NORMISIST Conference Room **(October 28, 2009)**
- Resource Person/Speaker during the Training-Writeshop on Enhancing Research Writing for Senior undergraduate Students at NORMISIST Conference Room, NORMISIST Ampayon Butuan City **(September 29, 2009)**
- Facilitator for the Training-Writeshop on Enhancing Research Writing for Senior Undergraduate Students at NORMISIST Conference Room, NORMISIST, Ampayon Butuan City **(September 29, 2009)**
- As Judge/Evaluator during the Research Proposal Presentation held at NORMISIST Cabadbaran Campus, Laboratory High School **(September 1, 2009)**
- As Judge/Evaluator during the Research Proposal Presentation held at NORMISIST Cabadbaran Campus, Laboratory High School **(September 1, 2009)**
- As Technical Evaluator of the R & D posters during the 8th Coordinated Agency In-House Review at DOST Conference Hall, Ampayon, Butuan City **(July 7-8, 2009)**
- As one of the board of Judges in Dance and Musical Contest during the 24th Foundation Day Anniversary at Agusan Institute of Technology, Butuan City **(February 26, 2009)**
- As one of the board of Judges in Mural painting during the 24th Foundation Day Anniversary at Agusan Institute of Technology, Butuan City **(February 26, 2009)**
- Member of the Scientific Review Committee during the Regional Science Fair and Quiz held at Agusan National High School, Butuan City **(November 18-20, 2008)**
- Proctor during the 11th Philippine Mathematical Olympiad by the Mathematic Society of the Philippines (MSP) held at NORMSIST, Ampayon Butuan City **(October 20, 2008)**
- Coordinator during the S and T Week Celebration held at NORMISIST, Ampayon Butuan City **(July 22-25, 2008)**
- As one of the Judges in the English 213 Speech Contests held at NORMSIST, Ampayon Butuan City **(October 12, 2004)**
- Facilitator during the Scientific Seminar and 3rd Science Fair held at Sanchez Gymnasium, NORMISIST, Ampayon Butuan City **(September 15, 22 and 29, 2004)**

SEMINARS/WEBINARS/CONFERENCES ATTENDED

- 2nd WURI Global Conference **(September 24-26, 2025)**

- 6th Seminar of the 2025 UPD REB Monthly Ethics Seminar on Research Ethics Review: National Ethics Committee Experience (**August 22, 2025**)
- 39th Philippine Chemistry Congress (**July 2-4, 2025**)
- NSTEP Visayas Webinar Series: Webinar on Research Ethics (**June 30, 2025**)
- Trailblazing for Global Rankings: Northern Mindanao Higher Education Institutions in Focus (**December 12, 2024**)
- 12th International Fisheries Symposium 2024 - IFS2024 (**November 19-22, 2024**)
- 46th Annual Scientific Meeting, National Academy of Science and Technology (**July 10-11, 2024**)
- National Higher Education Day Summit (NHEDS) 2024 (**May 15, 2024**)
- Quality Assurance Conclave for Higher Education Leaders (**May 13, 2024**)
- 9th Annual EURASIA Higher Education Summit (EURIES 2024) (**February 27-29, 2024**)
- 25th SPVM National Physics Conference, 2023 International Conference on Advanced Functional Materials (**October 19-21, 2023**)
- 2023 5th International Conference on Environmental Sciences and Renewable Energy (Vienna, Austria, **June 19-21, 2023**)
- 36th AACUP Annual National Conference (**March 27-29, 2023**)
- International Conference on Chemistry (**February 15-17, 2023**)
- Webinar Series on Nanotechnology: Empowering Young Filipino Researchers for an Emerging Technology Ready Philippines (Session 4) (**January 6, 2023**)
- Empowering knowledge on ethical publishing: Mastering the art of identifying predatory, fake and cloned journals (**June 8, 2022**)
- Seminar on Chemical Waste Identification, Management, Treatment, and Disposal in Academic Laboratories (**April 30, 2022**)
- Ethics in Research Webinar (**April 20-21, 2022**)
- Science and Innovation Budding Opportunities for Leverage (SIBOL) 2022: Emerging Technologies and Innovation for the New Normal (**March 15, 2022**)
- Philippine Association of Chemistry Teachers' Chem Week 2022 – Crafting Rubrics for Students' Creative Outputs in Chemistry (**February 19, 2022**)
- ICP ChemWeek 2022: Chemistry as the Central Science (**February 14-15, 2022**)
- CY 2022 Call Conference in preparation for the CY 2024 DOST Grants-In-Aid Call for Proposals (**January 26, 2022**)
- 2nd International Conference on Advances in Material Science 2021 (**December 16-17, 2021**)
- International Symposium on Nanoscience and its Applications (**December 2-3, 2021**)
- 5th National Conference of Chemical Laboratories (**November 24-26, 2021**)
- Science and Innovation Budding Opportunities for Leverage (SIBOL) 2021 with the sector "Mining and Minerals" (**November 23, 2021**)
- Colloquium on IP Valuation and the Use of IP as an Asset (**October 25-26, 2021**)
- 23rd SPVM National Physics Conference: CONVIRTUALISATION – Day 2 (**October 23, 2021**)
- 23rd SPVM National Physics Conference: CONVIRTUALISATION – Day 1 (**October 16, 2021**)
- American Chemical Society on Campus – National Tsing Hua University (**October 6, 2021**)
- Science and Innovation Budding Opportunities for Leverage (SIBOL) 2021 with the sector "Infrastructure Industry" (**October 5, 2021**)
- Elsevier: Choosing the Right Journal for Your Research Articles (**October 5, 2021**)
- Bioinformatics Lecture Series on Genomics & Agriculture: Tool Set of Agricultural Genomics (**October 1, 2021**)
- Research Integrity and the Issue of Authorship (**September 27, 2021**)
- Basics of Intellectual Property Webinar and Patent Search Writeshop (**September 25, 2021**)
- 35th Philippine Chemistry Congress (35PCC) (**September 20-24, 2021**)
- BanToxics: Banning Mercury: Online Documentary Film Screening (**September 15, 2021**)
- Science and Innovation Budding Opportunities for Leverage (SIBOL) 2021 with the sector "Manufacturing/Process Application" (**September 6, 2021**)
- 5th MSU System Research, Extension and Innovation Summit (**August 17-19, 2021**)
- Balik Scientist Program Lecture Series on "Indoor Air Science: Stealth Pollutants and Transmission of COVID Particles" (**August 17, 2021**)
- 2nd National Assembly of the National Coalition of Small-Scale Miners in the Philippines (**July 29, 2021**)
- DOST-PCIEERD 11th Anniversary: From Labs to Lives: Building R&D Capacities and Opportunities for Sustainable Recovery (**June 29, 2021**)

- EU-ASEAN Dialogue on GreenTech & Innovation Mapping: Green Technologies for Plastic Value Chain Management Webinar Series 5: Innovative Approaches in Managing Plastic Wastes in the Marine Environment (**June 24, 2021**)
- Preparation of a Chemical Laboratory Safety Manual: A CATO Requirement (**May 19-20, 2021**)
- Digital Scientific Poster Session, Mindanao Regional Scientific Meeting 2021 (**April 27-28, 2021**)
- Mindanao Cluster Call Conference for CY 2023 DOST-GIA (**March 12, 2021**)
- Nanotechnology Forum (**March 9, 2021**)
- Nationwide Call Conference for CY 2023 DOST-GIA (**March 8, 2021**)
- Understanding Ethics in Research – The Third Degree (**February 10, 2021**)
- E-Talk Series on Nanotechnology-Smart Materials: Research: Commercialization (**December 29, 2020**)
- 1st International Conference on Innovative Technologies for a Sustainable Environment – ICITSE2020 (**December 28, 2020**)
- Material ConneXion Webinar Series: Plastic Waste and Our Oceans (**December 15, 2020**)
- NRCP Regional Basic Research Caravan 2020 (**December 4, 2020**)
- LABCON 2020: Laboratory Developments Amidst the Pandemic (**November 27, 2020**)
- International e-conference on Advanced Materials Science and Graphene Nanotechnology (**November 25-26, 2020**)
- 4th National Conference of Chemical Laboratories - Video Conferencing (**November 23-25, 2020**)
- 18th General Membership Assembly and Annual Scientific Conference of the NRCP Mindanao Regional Cluster with the theme “Research for Public Good in the Mindanao Region” (**October 30, 2020**)
- Elsevier South East Asia Publishing Workshop: An Introduction to Scholarly Publishing (**October 06, 2020**)
- 3rd International Conference on Chemistry, Chemical Process and Engineering, Indonesia (**September 30, 2020**)
- International Peer Review Workshop 2020 (**September 19 – 27, 2020**)
- Webinar Series on Intellectual Property and Technology Transfer (**September 1, 2020**)
- Materials for Energy and Environment (**August 29, 2020**)
- Emerging Translatable Biosensing Approaches for Detection of COVID-19 (**August 11, 2020**)
- Intellectual Property (IP) Foundation Course (**August 10, 2020**)
- Essential Components of Proficiency Testing or Interlaboratory Comparison (**August 7, 2020**)
- Innovative manufacturing, Mechatronics & Materials Forum 2020 (**August 6, 2020**)
- 2nd Part of the National Webinar Series on Innovation, Intellectual Property, and Technology Commercialization entitled “Creating Spin-offs from University Innovations” (**July 30, 2020**)
- 2nd Part of the National Webinar Series on Innovation, Intellectual Property, and Technology Commercialization entitled “Creating Spin-offs from University Innovations” (**July 29, 2020**)
- Bridging Educational Shifts: Tools, Strategies and Approaches for the New Normal Learning, AFTA's Balikturo Online 2020 (**July 21-25, 2020**)
- PACT Webinar Series 2 - Designing Distance Learning Laboratory Class in Chemistry for Basic Education Teachers, Philippine Association of Chemistry Teachers (**July 18, 2020**)
- 1st International Conference on Computational Engineering and Material Science – ICCEMS 2020 (**July 17-18, 2020**)
- PACT Webinar Series 1 – Teaching Chemistry Courses During the COVID-19 Pandemic (**July 10, 2020**)
- ICAFNTA-2020 - Advanced Functional Nanomaterials and Their Applications (**July 9-10, 2020**)
- Online Seminar on Implication for Industry 4.0 on Account of COVID 19-induced New Normal and the Changing World Order (**July 9, 2020**)
- 2020 NRCP Annual Scientific Conference and 87th General Membership Assembly (**June 30, 2020**)
- Ocean Acidification hosted by the Philippine Association of Marine Science (**June 26, 2020**)
- Application of GIS-RS Based Techniques and Research Horizon in Geographical Studies (**June 20, 2020**)
- International Virtual Conference on Advanced Nanomaterials Applications (**June 17-19, 2020**)
- Instructional Design Basics (**June 17, 2020**)
- Efficient Tools for Effective Research Communication and Publications (**June 12 - 14, 2020**)
- Role of ICT in Agriculture and Extension in Present Scenario of COVID-19 (**June 11-12, 2020**)
- Role of Management During COVID-19 (**June 10, 2020**)
- Understanding Research Evidence (**June 10, 2020**)
- COVID -19: Where We Are and Where We Want to Be – Episode 3 (**June 10, 2020**)
- Online Talakayan on Strengthening Partnerships for Local Governance: A consultation on Local Governance Partners Initiatives (**June 9, 2020**)

- Air Quality Monitoring, Standards, and Abatement (**June 6, 2020**)
- COVID-19: Where We Are and Where We Want to Be – Episode 2 (**June 3, 2020**)
- International Advanced Materials and Applications Forum (**May 30 – 31, 2020**)
- The Philippine Environmental Impact Statement System (**May 30, 2020**)
- The New Normal Education Post COVID-19 (**May 30, 2020**)
- Quality Learning and Assessments during the COVID-19 Pandemic (**May 28, 2020**)
- COVID-19: Where We Are and Where We Want to Be: Episode 1 (**May 27, 2020**)
- Cengage Digital Learning Resources (**May 27, 2020**)
- Developing Learning Management Systems and Open Education Resources (**May 22, 2020**)
- Vulnerabilities, Preparedness & Resilience Part 2 (**May 22, 2020**)
- Remote STEM Teaching for Diverse Learners (**May 21, 2020**)
- The Fight Against COVID-19: Experiences from Selected ASEAN Countries Part 3: ASEAN Responses to the COVID-19 Pandemic (**May 20, 2020**)
- Becoming Cyborgs: Humans Augmentation and the Future of Bio-Digital Interfaces (**May 19, 2020**)
- Vulnerabilities, Preparedness & Resilience (**May 15, 2020**)
- The Fight Against COVID-19: Experiences from Selected ASEAN Countries Part 2: Indonesia, Malaysia and Vietnam (**May 13, 2020**)
- DOST Mindanao Cluster Call Conference, Davao City (**February 3, 2020**)
- CHED-IDG On-Boarding Seminar and Orientation, CHED Central Office (**January 27, 2020**)
- Agusan Marsh Platinum Anniversary National Conference, Almont Inland Resort, Butuan City (**November 11-13, 2019**)
- Seminar on Building SUC's Innovation Ecosystem, New World Manila Bay Hotel, Malate, Manila (**October 22-24, 2019**)
- NRCP Mindanao Regional Cluster, Annual Scientific Conference, Jose Maria College, Davao City (**October 1, 2019**)
- Regional Mindanao Scientific Meeting, National Academy of Science and Technology, Philippines, Koronadal South Cotabato (**June 18-19, 2019**)
- International Nanotechnology Conference in the Philippines 2019 (**May 27-29, 2019**)
- 1st International Conference in Science and Mathematics, MSU-IIT (**April 11-13, 2019**)
- 4th National Research and Development Conference (NRDC), Philippine International Convention Center (**April 3, 2019**)
- 37th PCHRD Anniversary and International Conference on Health Research and Industry 4.0 (**March 15, 2019**)
- 20th Samahang Pisika ng Visayas at Mindanao National Physics Conference, 2018 International Conference on Advanced Functional Materials and Nanotechnology and 2018 National Meeting on Space Science and Applications (**October 19-21, 2018**)
- Annual Scientific Conference and 16th General Membership Assembly of the NRCP Mindanao Cluster (**October 5, 2018**)
- CHED K to 12 Transition Institutional Grants Onboarding Seminar (**June 7, 2018**)
- National Research and Extension Conference 2017 at Polytechnic University of the Philippines (**December 7-8, 2017**)
- National Remote Sensing Conference 2017 (**November 28-29, 2017**)
- 15th General Membership Assembly of the NRCP Mindanao Regional Cluster (**November 20, 2017**)
- Basic Intellectual Property Rights and Technology Transfer Seminar (**November 17, 2017**)
- Lecture on Compliance to R.A. 10657: Certificate to Operate for Chemical Laboratories (**February 24, 2017**)
- Science Council of Asia – Sri Lanka (**May 30 – June 1, 2016**)
- Lecture on Life Cycle Thinking and Analysis and Its Application to Mining – CSU Ampayon (**February 26, 2016**)
- 31st Philippine Chemistry Congress – Iloilo (**April 13-15, 2016**)
- National Public Hearing/Consultation on the Proposed Policies, Standards and Guidelines for BS Chemistry Program (**April 12, 2016**)
- Indonesian Climate Change Policy and Village Law in Support to Sago Palm Development at the Local Level (**March 18, 2016**)
- 1st PIChE Davao International Scientific and Engineering Forum – Davao (**April 16 and 17, 2010**)
- 14th National Senior Educator's Assembly in Environmental Protection and Management, in coordination with the Philippine Association of Tertiary
- 7th NRCP-Mindanao Chapter General Assembly Meeting (**November 23, 2009**)

- 2009 INFO Seminar Series on “Good Governance” (**November 18, 2009**)
- First RDE In-House Review of the Surigao State College of Technology (SSCT) – **November 16-17, 2009**
- PSSN (Philippines Society for the Study of Nature) - 9th National Convention (**November 12-15, 2009**)
- Intellectual Property Management Seminar (**October 28, 2009**)
- Level Educational Institutions in Environmental Protection and Management (PATLEPAM) – **November 25-26, 2009**
- 2009 Science and Technology Celebration (NORMISIST) - **July 22-24, 2009**
- 1st Asia-Pacific Conference on Chemistry Education and 24th Philippine Chemistry Congress (**April 14-16, 2009**)
- 27th PCIERD Anniversary Celebration: Regional Consultation – Mindanao Cluster on Science and Technology Roadmap Forum (**March 12, 2009**)
- 2009 INFO Colloquium-Seminar Series on Parliamentary Proceedings (**March 11, 2009**)
- 2009 INFO Colloquium-Seminar Series on Investigative Journalism (**February 18, 2009**)
- 6th Annual Meeting of the NRCP Mindanao Cluster (**February 12-13, 2009**)
- 2009 INFO Colloquium-Seminar Series on Corporate Social Responsibilities (**February 11, 2009**)
- NORMISIST Science and Technology Week Celebration (**July 23, 2008**)
- CHED-IUPAC Conference on Improving Chemical Education (**April 17-18, 2008**)
- Seminar on Molecular Modelling and Simulation (**March 1, 2008**)
- 10th EurAsia Conference on Chemical Sciences and 23rd Philippine Chemistry Congress (**January 7-11, 2008**)
- 29th Annual Scientific Meeting, National Academy of Science and Technology (NAST) – **July 11-12, 2007**
- Seminar on Electronic Tongue and Nanomaterial-based Sensors (**June 9, 2007**)
- Asian Conference on Sensors (**June 5-7, 2007**)
- 22nd Philippine Chemistry Congress (**April 10-13, 2007**)
- 2007 National Chemistry Week, Scientists as SuperSleuths: A Symposium on Forensic Sciences (**February 21, 2007**)
- 27th Annual PAASE Meeting and Symposium and the 2007 International Science and Technology Conference (**February 15-17, 2007**)
- UNU International Symposium on Persistent Organic Pollutants (POPs) in Asia: Its Status and Future (**November 7, 2006**)
- 28th Annual Scientific Meeting, National Academy of Science and Technology (NAST-Philippines) – **July 12-13, 2006**
- Seminar on Biological and Chemical Safety Management (**June 26, 2006**)
- Updates on the Cebu Water Situation and Strategies for Water Management Seminar (**March 6, 2004**)
- Toxicology of Dangerous Drugs Seminar (**August 23, 2003**)
- Fisheries Co-Management and Marine Sanctuaries Seminar (**August 6, 2002**)
- Water Laboratory and Waste Management Seminar (**Jan. 25-26, 2002**)

WORKSHOPS/TRAININGS/SYMPOSIUMS ATTENDED

- Mindanao Development Forum 2025: Strengthening Partnerships in Building a Better Mindanao (**October 1-2, 2025**)
- FY 2026 Budget Forum (**August 18, 2025**)
- 74th PhilAAST Annual Anniversary and National Convention (**July 16, 2025**)
- 23rd AUN-QA Training Workshop for Accomplishing Programme Assessment – Tier 1 (**March 11-14, 2025**)
- ASEAN Regional Workshop: Mitigation of Microplastic Pollution and Implications for Fisheries and Human Health (**August 7, 2024**)
- Internationalization Forum and Awarding of Winners for the 56th ASEAN Founding Anniversary Commemorative Contest (**December 7, 2023**)
- Seminar-Workshop on Patent Drafting (**September 26-29, 2023**)
- Exploratory Meeting on the Planned Brunei Darussalam-Indonesia-Malaysia-Philippines East ASEAN Growth Area (BIMP-EAGA)-Philippine Higher Education institutions (HEIs) Network (**June 9-10, 2023**)
- NorMinCIEERD Industry Café: Proposal Writeshop (**April 11-12, 2023**)
- Workshop on the translation of Research Outputs to Policy Briefs through NSTEP Mindanao I (**February 17-18, 2022**)

- Philippine Government Electronic Procurement System (PhilGEPS) Online Training for Buyers (**March 16-17, 2022**)
- Orientation Workshop on Fund Utilization for Externally Funded Projects (**January 25, 2022**)
- Virtual Workshop on Human Reliability Program (**November 29, 2021 – December 10, 2021**)
- Webinar on OBQA and Online Accreditation Orientation for New Accreditors (**October 27-29, 2021**)
- Online Training: Sample Preparation for Proximate Analysis of Food & Biological Sample Preparation for Scanning Electron Microscopy (**October 21, 2021**)
- Training on Scientific Writing and Publication (**October 6-7, 2021**)
- NRCP Capacity Development Workshop for Early-Career Researchers -NSTEP (**May 6, 2021**)
- Mindanao Regional Future Earth Community Mobilization Workshop (**April 26, 2021**)
- Basic Training on Laboratory Instruments and Techniques (**February 16-17, 2021**)
- Three-day Taguibo River Water Quality Multi-sectoral and Technical Working Group Meeting and Water Sampling Activity (**December 9-11, 2020**)
- Training-Workshop on the Packaging of Collaborative Research Proposal – CHED PCARI (**November 26, 2020**)
- Online Training-Writeshop in Communicating Results: Writing Articles for Publication (**October 28-30, 2020**)
- PCIEERD Focus Group Discussion on Non-Metallic Mineral Sector (**March 10, 2020**)
- 4th PCCIEERD-COMP Quarter Lecture Series, Heritage Hotel, Pasay (**December 2, 2019**)
- Research Proposal Writing Workshop on Identified R&D Thematic Areas for the Caraga Region, Surigao State College of Technology, conducted by the University of the Philippines, Visayas (**June 11-12, 2019**)
- SMARTSeas Project Technical Working Group Meeting, Bardugs International Association center, Cantilan, Surigao del Sur (**May 3, 2019**)
- ASEAN Sustainable and Environmental Materials Workshop, Pullman King Power, Bangkok, Thailand (**March 19-20, 2019**)
- 3-Minute Pitch Competition during the 37th PCHRD Anniversary and International Conference on Health Research and Industry 4.0 (**March 15, 2019**)
- Intellectual Property Seminar at Grand Palace Hotel (**January 22-23, 2019**)
- 2018 International Conference on Advanced Composite Materials, Kuala Lumpur Malaysia (**December 14-16, 2018**)
- Caraga Unified Admission Test Workshop on Test Construction (**September 11, 2018**)
- Training on the Principles and Applications of Geographic Information System: GIS Module A-1 (**August 28-31, 2018**)
- 3-day Workshop on Advanced Materials and Nanotechnology (**August 18, 2018**)
- Regional Consultative Workshop on Research and Technology Generation for Local Development in Butuan City (**October 17, 2017**)
- Stakeholders' Consultation Workshop: Industry-Driven Advanced Materials and Nanotechnology R&D Roadmap (**September 18, 2017**)
- Capacity Building Activity and Seminar-Workshop on the Activity-Based Instructional Material for the New GEC Courses (**August 18, 2017**)
- Training-Workshop of New and Senior Accreditors on Outcomes-Based Quality Assurance (OBQA) – (**August 2-4, 2017**)
- Writeshop on Developing S&T Innovation Hubs and Clusters in Mindanao (**June 23, 2017**)
- Lecture on Compliance to RA 10657: Certificate to Operate for Chemical Laboratories (**February 24, 2017**)
- Training on Disaster Research in Health Phase III: Presentation of Proposal for Review Forum (**February 8-9, 2017**)
- Chemical Safety and Security Training (**December 12-13, 2016**)
- Health Research Awareness Forum and Call for Proposals (**November 25, 2016**)
- Future Science Leader's Forum (**November 21-22, 2016**)
- 2016 Regional Science Fair and Quiz Plus (**November 16-18, 2016**)
- RDE Symposium of the SciTech4Dev 2016 Forum (**November 8, 2016**)
- 2016 Division Science Fair and Quiz (**November 3-4, 2016**)
- Training on Disaster Research in Health Phase II: Development of a Research Proposal (**October 24-26, 2016**)
- Regional Training of Grade 11 Teachers in Science and Technology, Engineering and Mathematics (**September 19-17, September 22-29, 2016**)
- Workshop on Framework for Disaster Research: Capacity Enhancement on Disaster Research (**September 26-27, 2016**)

- 10th PNHRs (Philippine National Health Research System) Week Celebration (**August 10, 2016**)
- Proposal Development Workshop for Pagatpatan Development Program (**July 29, 2016**)
- Environmental Forum (**April 8, 2016**)
- Search for 2016 CAS Best Undergraduate Thesis (**March 18, 2016**)
- Training-Workshop on Intellectual Property Rights Identification (**January 22, 2016**)
- Recent Development In Nanomaterials: Structures, Dynamics and Applications (**October 4-5, 2012**, Academia Sinica, Taipei Taiwan)
- Workshop on Clinical and Diagnostic Biomarkers: Advances in Clinical Biomarkers and Diagnostics, Discovery, Development and Regulation (**September 24-25, 2012**, Academia Sinica, Taipei Taiwan)
- Antibody Therapeutics Workshop (**September 17-18, 2012**, Academia Sinica, Taipei Taiwan)
- 2011 International Conference on Functional Proteomics: Post-Translational Modification (**Nov. 14-15, 2011**, Academia Sinica, Taipei Taiwan)
- Training Course on Mass Spectrometry (sponsored by the Taiwan Society for Mass Spectrometry, **September 22-23, 2011**, Academia Sinica, Taipei Taiwan)
- Training Workshop on Research Publication Writing (**February 15-17, 2011**)
- Seminar-Workshop on Sample Size Determination using Epi-Info Software (**February 14, 2011**)
- CHED REPUBLICA Symposium (**May 19, 2010**)
- Seminar-Workshop on Strengthening the Operation and Management of Income Generating Programs of Caraga State University (**May 4-6, 2010**)
- Stakeholders' Consultative Meeting on Sulfur Hexafluoride (SF₆) Emission Reduction in Electric Power Transmission Systems in the Philippines as a Clean Development Mechanism (CDM) Project (**March 25, 2010**)
- Symposium on Magna Carta of Women (**March 17, 2010**)
- Research Journal Article Writing in Science, Mathematics and Engineering (**March 4, 2010**)
- Presentation and Critiquing of Final Results of the CHED Grants-In-Aid (GIA) Research Projects in Science and Mathematics (**March 2, 2010**)
- Training on S&T-Based Cardaba Banana Production (**February 2010**)
- Intellectual property Management Training cum Writeshop on Technology Valuation and technology Transfer Modes (**December 14-16, 2009**)
- 2009 MEM Graduate Student's Orientation and Symposium (**December 12, 2009**)
- Consultative Meeting in the Revision of the R and D Agenda of NORMISIST (**October 30, 2009**)
- Performance Management System/Office Performance Evaluation System (PMS/OPES) Seminar-Workshop (**October 2, 2009**)
- Symposium on the Conservation and Rehabilitation of Taguibo Watershed (**September 30, 2009**)
- Training-Writeshop on Enhancing Scientific Research Writing for Senior Undergraduate Students (**September 29, 2009**)
- Intellectual property Management Training cum Writeshop on Technology Disclosure and Claim Drafting (**September 23-25, 2009**)
- Seminar-Workshop on Writing Scientific Reports and Preparing PowerPoint Presentations (**September 7-10, 2009**)
- Graduate School Planning Workshop/Policy Conference (**August 12, 2009**)
- Workshop on Research and Development Proposal Preparation in Science and Technology (**July 16-17, 2009**)
- 2009 Coordinated Agency In-House Review (**July 7-8, 2009**)
- Workshop on Using Toys to Teach Chemistry Effectively during the 1st Asia-Pacific Conference on Chemistry Education and 24th Philippine Chemistry Congress (**April 14-16, 2009**)
- Workshop on Low Cost Instrumentation (**April 17-18, 2008**)
- Workshop on Visualization in Chemistry (**April 17-18, 2008**)
- Workshop in Biosensors, **BIOSENSORS: Exploring New Domains in Bionanalysis** (**October 25, 2007**)
- 28th Annual Scientific Meeting, National Academy of Science and Technology (NAST-Philippines) – **July 12-13, 2006**
- Seminar on Biological and Chemical Safety Management (**June 26, 2006**)
- Updates on the Cebu Water Situation and Strategies for Water Management Seminar (**March 6, 2004**)
- Seminar-Workshop on the HACCP System (**March 2-4, 2004**)
- Toxicology of Dangerous Drugs Seminar (**August 23, 2003**)
- Training on Turbidity Analysis (**July 15, 2003**)
- Training on Oil & Grease Analysis (**February 24 & 27, 2003**)

- Fisheries Co-Management and Marine Sanctuaries Seminar (**August 6, 2002**)
- Training on Biochemical Oxygen Demand (BOD) Analysis (**July 17 & 22, 2002**)
- Water Laboratory and Waste Management Seminar (**Jan. 25-26, 2002**)

RESEARCH EXPERIENCE

- **Project Leader** – CHED-GIA – GreenGold Project (2025-2026)
- **Project Leader** – DOST – NRCP – Microtreathence Project (2025-2027)
- **Project Leader** – DOST-PCIEERD – MicroCapture Project (2025-2027)
- **Project Leader** – DOST MECO-TECO – Urea Project (2024-2027)
- **Project Collaborator** – CHED PCARI - Colorimetric (2022-20224)
- **Project Collaborator** – CHED PCARI – PhycoPRO (2022-2024)
- **Project Collaborator** – DOST-PCHRD (2022-2025)
- **Project Leader** – DOST-PCIEERD IDP Project No. 10979 (2022-2024)
- **Project Leader** – DOST-NRCP GIA FY 2022 (2022-2024)
- **Project Leader** – DOST-PCIEERD Project No. 10185 (2022-2023)
- **Project Staff L3** – DOST-GIA CRADLE Program (2021-2022)
- **Project Leader** – DOST-PCIEERD Project No. 08905 (2020-2021)
- **Project Leader** – DOST-PCIEERD Project No. 09021 (2020 – 2021)
- **Project Leader** – CHED Funded Program in Response to COVID-19 (2020)
- **Project Leader** – CHED Funded Project DARE TO K12 (2018 -2020)
- **Project Staff (Collaborator)** – CHED Funded Project DARE TO K12 (2018-2020)
- **Project Leader** – DOST-PCIEERD Funded Project, Institutional Development Program (2017-2018)
- **Principal Investigator** – Industry-funded Research Projects, **Philsaga** (2018-2019)
- **Principal Investigator** – Industry-funded Research Projects, **SRMI** (2017-2018)
- **Project Staff** – NGO-funded Project, **Haribon Foundation** (2018)
- **Director and Principal Investigator** – **Research on Environment and Nanotechnology Laboratories** (REY Labs)
- **Director and Principal Investigator** – **Center for Microplastic Research and Innovation** (Microplastic Center)
- **Center Head, Center for Nanoscience and Technology for Research and Entrepreneurship (CeNTRE)** – A.Y. 2019-2020
- **Center Head, Mineral Resources Management Research and Training Center** (A.Y. 2016-2017; 2017-2018; 2018-2019)
- **Member of the Research, Development and Extension Core Group** (A.Y. 2009-2010; 2010-2011, *CSU formerly Northern Mindanao State Institute of Science and Technology*) – responsible for overseeing and consolidating research protocols and research proposals submitted.
- **Team Leader for Responsible Mining Program** (A. Y. 2009 – 2010; 2010-2011, *NORMISIST*) – responsible for making and submitting research proposals/projects related to mining activities/researches.
- **Coordinator for the CARAGA Center for Environmental Studies and Management** (A.Y. 2009-2010; 2010-2011, *CSU formerly NORMISIST*) – responsible for making and submitting research proposals related to environment-related researches.
- **Project Leader** – CHED GIA Project (2010 – 2011)

FUNDED RESEARCH PROJECTS

- **Green Gold: Pioneering Non-Toxic Gold Extraction Using Fish Waste-Derived Amino Acids**

Role	:	Project Leader
Budget	:	Php 9,511,409.00
Funding Agency	:	CHED-GIA
Status	:	Ongoing
Duration	:	August 18, 2025 – August 17, 2026

- **Microplastics in Processed (sea)foods: Probing their Threat to Food Security and Sustenance, and Assessment of Toxicological Impacts through Computational Simulations with Implications for the Establishment of Analytical Standards (Microthreatenence)**

Role : Project Leader
 Budget : Php 5,997,919.40
 Funding Agency : DOST-NRCP
 Status : Ongoing
 Duration : June 16, 2025 – June 15, 2027

- **Microplastic Capture through Electrostatically-Assisted Silica-Modified Substrate: A Novel Environmental Mitigation Approach to Microplastic Pollution (MicroCapture)**

Role : Project Leader
 Budget : Php 8,852,655.65
 Funding Agency : DOST-GIA (Monitoring Agency: DOST-PCIEERD)
 Status : Ongoing
 Duration : April 15, 2025 – April 14, 2027

- **Environment-Friendly Electrosynthesis of Urea from CO₂ and Nitrate over Rationally Designed Cu-based Bimetallic Nanocatalysts**

Role : Project Leader
 Budget : Php 15,011,145.20
 Funding Agency : DOST-GIA (Monitoring Agency: DOST-PCIEERD)
 Status : Ongoing
 Duration : April 1, 2024 – March 31, 2027

- **Development of Paper-based Colorimetric Sensor Utilizing Varied Sizes of Gold Nanoparticles for Rapid and On-Site Detection of Various Meat Products Spoilage**

Role : Project Collaborator
 Budget : Php 159,043,597.80
 Funding Agency : CHED-LAKAS
 Status : On-going
 Duration : June 2022 – August 2024

- **Phytochemical Characterization of macroalgae for Food and High-Value Products (PhycoPRO)**

Role : Project Collaborator
 Budget : Php 183,054,284.54
 Funding Agency : CHED-LAKAS
 Status : On-going
 Duration : June 2022 – August 2024

- **Establishment of the nanoCORE Lab: Computational Nanotechnology Laboratory**

Role : Project Leader
 Budget : Php 4,999,990.00
 Funding Agency : DOST-PCIEERD (IDP)
 Status : On-going
 Duration : August 2022 – August 2024

- **Assessment of Plastic Debris and of Microplastics in Different Specimen (Fish, Sediment, Water, benthic Organisms) in Selected Aquatic Environments in Mindanao and Exploration of Relative Stress Biomarkers**

Role : Project Leader
 Budget : Php 6,242,997.20
 Funding Agency : DOST-NRCP
 Status : On-going

Duration : March 2022 – March 2024

- **In Silico Nanotoxicology Evaluation of Engineered Nanomaterials: Bridging the Data Gap on Experimental Approaches for Toxicity Appraisal with Implications to Nanomaterial Risk Assessment and Nano-safety**

Role : Project Leader
Budget : Php 4,997,963.67
Funding Agency : DOST-PCIEERD
Status : On-going
Duration : January 17, 2022 – June 16, 2023

- **CYANanobot: Miniaturized Boat-assisted Data Acquisition for Automated Cyanide Monitoring in Wastewater using Optical Nano-sensor**

Role : Project Staff
Budget : Php 4,891,339.13
Funding Agency : DOST-GIA (Program CRADLE)
Status : Completed
Duration : February 1, 2021 – January 31, 2022

- **Nanocellulose Self-Disinfecting (NACS) Filter: R&D Validation of an Innovative Low-Cost Nanotech-based Face Masks**

Role : Project Leader
Budget : Php 7,990,079.00
Funding Agency : DOST-PCIEERD (Project No: 08905)
Status : Completed
Duration : Sept 2020 – August 2021

- **Valorization of Mining Wastes by Green Nano-hydrometallurgy: Application of Green-mediated Leaching Process and Innovative Magnetic Nano-separations for the Recovery of (Precious)Metals**

Role : Project Leader
Budget : Php 4,981,050.00
Funding Agency : DOST-PCIEERD (Project No: 09021)
Status : Completed
Duration : October 2020 – September 2021

- **Improving Teaching and Learning of Engineering and technology Programs Through Upgrading of Facilities to Produce Graduates with Technical Skills Aligned with the Requirements of Industry 4.0: Inter-Disciplinary Engineering and Applied Sciences (IDEAS) Laboratory**

Role : Project Leader
Budget : Php 15,000,000.00
Funding Agency : CHED-IDIG
Status : Completed
Duration : August 2020 – July 2021

- **Innovative Solutions for the Emergency Response of CSU to Support the Frontliners and other Affected Sectors During the National Health Emergency Due to COVID-19 Pandemic**

Role : Program Leader
Budget : Php 5,442,616.40
Funding Agency : CHED-GIA Grant
Status : Completed
Duration : July 2020 – October 2020

- **Development of Nanoparticle-Decorated Paper-based Sensor for Rapid Sensing of Metal Ions**

Role : Project Leader

Budget : Php 10,826,200.00
 Funding Agency : CHED –DARE TO
 Status : Completed
 Duration : March 2018 – September 2020
Discovery-Applied Research and Extension for Trans/Inter-Disciplinary Opportunities (DARE TO)

- **Investing Biodiversity Training Center: A Sustainable Community Based Ecosystem Approach for the Conservation of lake Mainit**

Role : Project Staff (Collaborator)
 Budget : Php 11,000, 000.00
 Funding Agency : CHED –DARE TO
 Status : Completed
 Duration : November 2018 – November 2020
Discovery-Applied Research and Extension for Trans/Inter-Disciplinary Opportunities (DARE TO)

- **Monitoring of the Coral Reefs and Sediment Trace Elements within and Outside the Marine Protected Areas in Lanuza Bay, Surigao del Sur**

Role : Project Staff
 Budget : Php 635,265.00
 Funding Agency : Haribon Foundation
 Status : Completed
 Duration : July 2018 – December 2018

- **Development of Material Science and Polymer Chemistry Laboratory and Fabrication of Magnetic Nanophotocatalyst for Effective Remediation of Cyanide-containing Mining Wastewater**

Role : Project Leader
 Budget : Php 6,000,000.00
 Funding Agency : DOST-PCIEERD
 Status : Completed
 Duration : March 15, 2017 – March 14, 2018

- **Fabrication of Hydrophilic Magnetic Nanoparticles for Used Oil Remediation**

Role : Principal Investigator (Adviser)
 Budget : Php 80,000.00
 Funding Agency : San Roque Metals Inc.
 Status : Completed
 Duration : May 2017 – May 2018

- **An Eco-friendly Strategy to Clean the Mine Tailings: Removal of Metal Ions from Mine Tailings using Ionic Liquids as a Green Solvent**

Role : Principal Investigator (Adviser)
 Budget : Php 135,000.00
 Funding Agency : PHILSAGA Mining Corporation
 Status : Completed
 Duration : May 2017 – June 2018

- **Green Nanotechnology Applied to Mining Industry: Development of a Robust Magnetic Nanoprobe for the Extraction of Ni²⁺ from Aqueous Solution**

Role : Principal Investigator (Adviser)
 Budget : Php 70,000.00
 Funding Agency : San Roque Metals Inc.
 Status : Completed
 Duration : May 2016 – May 2017

- **Selective Sequestering of Ni²⁺ in Aqueous Solution Using Metal Ion Imprinted Microspheres**

Role	:	Collaborator
Budget	:	90,000.00
Funding Agency	:	In-House Funding (NORMISIST)
Status	:	Completed
Duration	:	July 2010 – July 2011

- **Distribution and Contamination Assessment of Heavy Metals (Heavy Metal Speciation) and Heavy Metal Enrichment by Principal Component Analysis in the Sediment Samples of the Lower Agusan River, CARAGA Philippines**

Role	:	Project Leader
Budget	:	Php 309, 750.00
Funding Agency	:	CHED-Zonal Research Center of UPLB
Status	:	Completed
Duration	:	January 2010 – January 2011

- **Assessment of Mining Operations/Activities in Areas Within Agusan River Basin – Agusan del Norte; Agusan del Sur and Compostela Valley Province**

Role	:	Study Leader
Budget	:	166,100.00
Funding Agency	:	Asian Development Bank
Status	:	Completed
Duration	:	May – July 2010

PATENTS/UTILITY MODELS/COPYRIGHT MATERIALS

Patents

Title of the Patent	Date Applied	Status
1. Method of Preparing a Curcumin-based Colorimetric Paper Sensor for Detecting Sodium Hypochlorite and the Use Thereof	July 4, 2023 Reference Code: 0BM07UT04TH2023U4X	Pending
2. A Magnetic Nanophotocatalyst for Remediating Organic Pollutants in Aqueous Media	September 6, 2018 Patent Application No: 1/2018/050371	Published IPOPIL e-Gazette
3. "On-paper synthesis" of gold nanoparticles on reductant pre-loaded paper for sensor fabrication	-	Submitted to Technology Application and Promotion Institute (TAPI)
4. Immobilization of polyethyleneimine-capped gold nanoparticles to a polyvinyl alcohol/chitosan composite film substrate and its cyanide sensing application	-	Submitted to Technology Application and Promotion Institute (TAPI)

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Title	Authors	Status
1. MSUN Harmonized RIIDE Agenda (2025-2028)	Rey Y. Capangangan	2025-01431-A-TCCR
2. Microplastic Extraction: Manual of Protocols	Sherley Ann T. Inocente, Marybeth Hope T. Banda, Charmjill Y. Bacsarpa, Jhon Carlo C. Aporbo, Rey Y. Capangangan	Certificate No. 2023-04573-A-TCCR

3. Protocol for the Utilization of the Developed Predictive Models for Cytotoxicity Evaluation of Nanomaterials in R Software	Rey Y. Capangpangan , Aries P. Valeriano, Farley G. Bondaug, Irelie P. Ebarido, Penelope P. Almonte, Michelle P. Sabugaa	Certificate No. 2023-04175-N
4. Analytical Chemistry Laboratory Manual	Rey Y. Capangpangan , Kenneth L. Ciudad Temmy P. Vales	Copyright © 2018
5. Science Technology and Society	Joycelyn C. Jumawan, Jonathan P. Manigo, Felmer Latayada, Leila A. Ombat, Rey Y. Capangpangan , Jessa Mae Lazarte, Eve F. Gamalinda, Joey Arles Vergara, Christina Loquere, Laurence B. Calagui, Gladys Edilo, Eulogio Auxtero, Aviel S. Dumaicos, Ian Neil B. De La Cruz, Rovelyn Gallego, Florence Jhun Almadin, Brent Joy Hernando, Jade Jusoy, Archie A. Along	Copyright © 2020

PROCEEDINGS/ABSTRACTS

1. Nerissa D. Roa, Rosielyn I. Bajas, Sherley Ann T. Inocente, Charmjill Y. Bacsarpa, Marybeth Hope T. Banda, **Rey Y. Capangpangan** (2024) Microplastic Contamination in Fish from Macajalar Bay, Philippines; An Exploratory Investigation, *12th International Fisheries Symposium 2024*, Hakodate, Hokkaido, Japan, November 19-22, 2024
2. Roland Gier D. DeLara, Joycelyn C. Jumawan, Romell A. Seronay, Temmy P. Vales, Felmer S. Latayada, Sheley Ann Inocente, Marybeth Hope Banda, **Rey Y. Capangpangan** (2024) Characterization and Quantification of Microplastics in Univavle and Bivalve Species from Two Floodplain Lakes if Agusan Marsh, Philippines, *46th Annual Scientific Meeting of the National Academy of Science and Technology (NAST)*, The Manila Hotel, July 10-11, 2024
3. **Capangpangan, Rey Y.**, Inocente, Sheley Ann T., Keleste Ethel P., Banda, Marybeth Hope T., Aporbo, Jhon Carlo P., Vales, Temmy P., Jumawan, Joycelyn C., Seronay, Romell, Latayada, Felmer S. (2023) Demystifying Microplastic Contamination in mangrove Habitats: Insights from Butuan Bay, Philippines, *11th International Fisheries Symposium 2023*, Pathum Thani, Thailand, November 22-24, 2023
4. Sherley Ann T. Inocente, Ethel P. Keleste, Marybeth Hope T. Banda, Jhon Carlo P. Aporbo, Temmy P. Vales, Joycelyn C. Jumawan, Romell Seronay, Felmer Latayada, **Rey Y. Capangpangan** (2023) Abundance of Microplastic in the Water and Sediments of Mangrove Systems Along Butuan Bay, Philippines, *4th International Conference on Environment and Forest Conservation*, Davao City, November 15-17, 2023.
5. Bigcas, E.V., Marohomsalic, M.P., Bedoya, N.A., Lomantong, A.N.D., Inocente, S.A.T., Banda, M.H., **Capangpangan, R.Y.**, Segovia, J.L.M. (2023) Macroplastics Accumulation at Mangrove Forest in Malabang, Lanao del Norte, Philippines, *4th International Conference on Environment and Forest Conservation*, Davao City, November 15-17, 2023
6. Ryan M. Lumod, Noel Lito B. Sayson, **Rey Y. Capangpangan**, Arnold C. Alguno (2023) Tome-dependent effect on the size distribution and absorbance of Aloe vera-mediated gold nanoparticles, *2023 International Conference on Applied Functional Materials and Nanotechnology (ICAFMN)*, MSU-IIT, October 19-21, 2023
7. Archie G. Ruda, Rolen Brian P. Rivera, Romnick B. Unabia, Renzo Luis D. Reazo, Melbagrace A. Lapening, Jahor L. Omping, Ryan M. Lumod, Noel Lito B. Sayson, **Rey Y. Capangpangan**, Felmer S. Latayada, Arnold C. Alguno (2023) Colorimetric sensing of biogenic histamine utilizing varied sizes of gold nanoparticles, *2023 International Conference on Applied Functional Materials and Nanotechnology (ICAFMN)*, MSU-IIT, October 19-21, 2023
8. Jahor L. Omping, Romnick B. Unabia, Renzo Luiz Reazo, Melbagrace A. Lapening, Archie Ruda, Ryan M. Lumod, Noel Lito B. Sayson, **Rey Capangpangan**, Felmer Latayada, Arnold C. Alguno (2023) Colorimetric Sensor Based on PEGylated-Gold Nanoparticles for Biogenic Amine Detection, *2023 International Conference on Applied Functional Materials and Nanotechnology (ICAFMN)*, MSU-IIT, October 19-21, 2023
9. Melbagrace A. Lapening, Jahor L. Omping, Ryan M. Lumod, Archie G. Ruda, Renzo Luis D. Reazo, Romnick B. Unabia, Noel Lito B. Sayson, Felmer S. Latayada, **Rey Y. Capangpangan**, Arnold C. Alguno (2023) Facile synthesis of PEG-capped gold nanoparticles, *2023 International Conference on Applied Functional Materials and Nanotechnology (ICAFMN)*, MSU-IIT, October 19-21, 2023

10. Romnick B. Unabia, Renzo Luis Reazo, Melbagrace A. Lapening, Jahor Omping, Archie Ruda, Ryan Lumod, Noel Lito B. Sayson, **Rey Capangpangan**, Felmer Latayada, Arnold C. Alguno (2023) Dopamine-functionalized gold nanoparticle colorimetric sensor for histamine detection, *2023 International Conference on Applied Functional Materials and Nanotechnology (ICAFMN)*, MSU-IIT, October 19-21, 2023
11. Sherley Ann T. Inocente, Mary Cena Olayon, Marybeth Hope T. Banda, Charmjill Y. Bacsarpa, Jayson Leigh M. Segovia, **Rey Y. Capangpangan** (2023) Microplastic Occurrence in the Downstream Portion of Taguibo River, Taguibo Watershed Butuan City, Philippines, *2023 5th International Conference on Environmental Sciences and Renewable Energy*, Vienna, Austria, June 19-21, 2023
12. **Rey Y. Capangpangan** (2023) Organic Farming and Nanotechnology Innovations: Bridging the Gap for Sustainable Agriculture, *6th Organic Asia Congress*, Kauswagan, Philippines, June 6-10, 2023
13. Jhonnybert Dalagan, marco Laurence Budlayan, Jeanne Phyre Lagare-Oracion, Jorich S. Loquero, Jamiela Sakuddin, Alexander T. Demetillo and **Rey Y. Capangpangan** (2023) Paper-based Analytic Device (PAD) based on Plasmonic Nanoparticles for Rapid Monitoring of Cyanide and mercury in Water. *International Conference on Chemistry (IC2)*, University of Santo Tomas, Philippines, February 15-17, 2023
14. Benito A. Baje, Gencianus Alphonsus D. Retardo, Arlene Cahoy Agosto, Eugene J. Verano, Ro-ann S. Laude, **Rey Y. Capangpangan** (2022) 3D Printed based Floater with Wireless Pressure Sensor as Teaching-Learning Tool for Pressure-Depth Experiment. *2022 International Conference on Advanced Functional Materials and nanotechnology and 24th Samahang Pisika ng Visayas at Mindanao (SPVM) National Physics Conference*, Tagbilaran Bohol, Philippines, October 27-29, 2022
15. Tomas Ralph B. Tomon, **Rey Y. Capangpangan**, Arnold A. Lubguban, Jaime Q. Guihawan, Hernando P. Bacosa (2022) The effect of coco-shell based activated carbon in hexavalent chromium sequestration of polyurethane foam: A Batch adsorption Experiment. *2022 International Conference on Advanced Functional Materials and nanotechnology and 24th Samahang Pisika ng Visayas at Mindanao (SPVM) National Physics Conference*, Tagbilaran Bohol, Philippines, October 27-29, 2022
16. Rubie Mae D. Fernandez, Tomas Ralph B. Tomon, Renz John R. Estrada, Shashwa M. Usop, Ruben F. Amparado, **Rey Y. Capangpangan**, Roberto M. Malaluan, Arnold A. Lubguban, Hernando P. Bacosa (2022) Batch adsorption studies on coconut oil-based polyurethane foam-activated carbon composite for lead sequestration in aqueous media detected using UV-Visible Spectroscopy Technique. *2022 International Conference on Advanced Functional Materials and nanotechnology and 24th Samahang Pisika ng Visayas at Mindanao (SPVM) National Physics Conference*, Tagbilaran Bohol, Philippines, October 27-29, 2022
17. Aries P. Valeriano, Farley G. Bondaug, Irelie P. Ebarido, Phoebe A. Sombilon, Gabriel C. Engcong, John Riz V. Bagnol, Mary Joy R. Latayada, Jay Michael R. Macalalag, Brian Dominic J. Paradero, Maricris L. Mayes, Mannix P. Balanay, Arnold C. Alguno, **Rey Y. Capangpangan** (2022) On Cytotoxicity classification of nanoparticles via regularized regression models. *2022 International Conference on Advanced Functional Materials and nanotechnology and 24th Samahang Pisika ng Visayas at Mindanao (SPVM) National Physics Conference*, Tagbilaran Bohol, Philippines, October 27-29, 2022
18. Kryzze Lee T. Serot, John Riz V. Bagnol, Farley G. Bondaug, Phoebe A. Sombilon, Irelie P. Ebarido, Gabriel C. Engcong, Aries P. Valeriano, **Rey Y. Capangpangan** (2022) *In Silico* Nano-QSAR Toxicity Classification by Support Vector Machine. *2022 International Conference on Advanced Functional Materials and nanotechnology and 24th Samahang Pisika ng Visayas at Mindanao (SPVM) National Physics Conference*, Tagbilaran Bohol, Philippines, October 27-29, 2022
19. Rolen Brian P. Rivera, Noel Lito B. Sayson, Arnold A. Lubguban, Roberto M. Malaluan, Gaudencio C. Petalcorin Jr., **Rey Y. Capangpangan**, Felmer S. Latayada, Arnold C. Alguno (2022) Influence of the sizes of gold nanoparticles on its colorimetric sensing for chicken meat spoilage detection. *2022 International Conference on Advanced Functional Materials and nanotechnology and 24th Samahang Pisika ng Visayas at Mindanao (SPVM) National Physics Conference*, Tagbilaran Bohol, Philippines, October 27-29, 2022
20. Lloyd Allan T. Cabañog, Rey Marc T. Cumba, Melania G. Enot, Joselito Labis, Aaron Andrew Mutia, Kurt Sterling Ubas, Archie Ruda, **Rey Y. Capangpangan**, Arnold C. Alguno (2022) The effect of synthesis temperature on the size distribution of silver nanoparticles synthesized using *Psidium guajava* and its antibacterial activity. *2022 International Conference on Advanced Functional Materials and nanotechnology and 24th Samahang Pisika ng Visayas at Mindanao (SPVM) National Physics Conference*, Tagbilaran Bohol, Philippines, October 27-29, 2022
21. Farley G. Bondaug, Aries P. Valeriano, Irelie P. Ebarido, Phoebe A. Sombilon, Gabriel C. Engcong, John Riz V. Bagnol, Mary Joy R. Latayada, Jay Michael R. Macalalag, Brian Dominic J. Paradero, Maricris L. Mayes, Mannix P. Balanay, Arnold C. Alguno, **Rey Y. Capangpangan** (2022) Application of random forest in cytotoxicity dichotomous classification prediction of nanoparticles. *2022 International Conference on Advanced Functional Materials and nanotechnology and 24th Samahang Pisika ng Visayas at Mindanao (SPVM) National Physics Conference*, Tagbilaran Bohol, Philippines, October 27-29, 2022

22. Aaron Andrew B. Mutia, Rey Marc T. Cumba, Archie G. Ruda, Marjune T. Bonilla, Kurt Sterling Ubas, Lloyd Allan T. Cabañog, **Rey Y. Capangpangan**, Joselito Labis, Arnold C. Alguno (2022) Effect of regulating the silver nitrate solution on the growth of honey mediated silver nanoparticles via green synthesis for antibacterial application. *2022 International Conference on Advanced Functional Materials and nanotechnology and 24th Samahang Pisika ng Visayas at Mindanao (SPVM) National Physics Conference*, Tagbilaran Bohol, Philippines, October 27-29, 2022
23. Archie G. Ruda, marjune T. Bonilla, Kurt Sterling M. Ubas, Dave Joseph E. Estrada, **Rey Y. Capangpangan**, Rey Marc T. Cumba, Joselito P. Labis, Arnold C. Alguno (2022) Synthesis, characterization and fabrication of TiO₂-polyurethane cocopol blend nanocomposites for anti-corrosion coatings on mild steel. *2022 International Conference on Advanced Functional Materials and nanotechnology and 24th Samahang Pisika ng Visayas at Mindanao (SPVM) National Physics Conference*, Tagbilaran Bohol, Philippines, October 27-29, 2022
24. Marjune T. Bonilla, Archie G. Ruda, Dave Joseph E. Estrada, Kurt Sterling M. Ubas, Aaaron Andrew B. Mutia, Lloyd Allan T. Cabañog, Arnold A. Lubguban, **Rey Y. Capangpangan**, Joselito P. Labis, Arnold C. Alguno (2022) Anti-corrosion properties of Polyaniline/Polyurethane composite coatings on mild steel using cocopol blend polyols. *2022 International Conference on Advanced Functional Materials and nanotechnology and 24th Samahang Pisika ng Visayas at Mindanao (SPVM) National Physics Conference*, Tagbilaran Bohol, Philippines, October 27-29, 2022
25. Jeanne Phyre L. Oracion, Princess B. Sunjay, Shailene B. Padogdog, Lyka B. De La Rosa, Marco Laurence M. Budlayan, Jonathan N. Patricio, Custer C. Deocaris, Arnold C. Alguno, Mark Anthony M. Lavapie, **Rey Y. Capangpangan**. (2021). A Preliminary investigation on the adsorptive removal of hexavalent chromium from mine water run-off using magnetic zeolite-chitosan nanocomposite. *International Conference on Advances in Material Science 2021*, India (Virtual Conference), December 16-17, 2021.
26. Regielyn R. Paden, Jeanne Phyre L. Oracion, Lyka De La Rosa, Mark Anthony M. Lavapie, Arnold C. Alguno, Custer C. Deocaris, **Rey Y. Capangpangan**. (2020). Design and fabrication of a low-cost curcumin-based paper sensor for rapid “naked-eye” cyanide sensing, *Innovative Manufacturing, Mechatronics & Materials Forum 2020 (iM3F2020)*, Malaysia (Virtual Conference), August 6, 2020
27. Kristian Dave O. Licayan, Jonathan P. Manigo, Jeanne Phyre L. Oracion, Lyka B. De La Rosa, Arnold C. Alguno, Custer C. Deocaris, **Rey Y. Capangpangan**. (2020). Synthesis and characterization of Fe₃O₄/BiOCl/Cu₂O composite as photocatalyst for the degradation of organic dyes, *Innovative Manufacturing, Mechatronics & Materials Forum 2020 (iM3F2020)*, Malaysia (Virtual Conference), August 6, 2020
28. Marco Laurence M. Budlayan, Jonathan N. Patricio, Susan D. Arco, **Rey Y. Capangpangan**, Arnold C. Alguno. (2020). Effects of precursor concentration on the properties of magnetic iron oxide nanoparticles synthesized using *Sargassum crassifolium* extract. (2020). *Innovative Manufacturing, Mechatronics & Materials Forum 2020 (iM3F2020)*, Malaysia (Virtual Conference), August 6, 2020.
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30. Marco Laurence Budlayan, Jeanne Phyre Lagare-Oracion, Lyka De La Rosa, Mikee Joy Rodriguez, **Rey Y. Capangpangan**, Jonathan Manigo, Arnold Alguno, Eleanor Austria, Susan Arco, Jonathan Patricio. (2020). A Facile route in controlling the optical absorbance of polyvinylpyrrolidone-capped silver nanoparticles via chemical reduction technique, *1st International Conference on Computational Engineering and Material Science*, Karnataka, India (Virtual Conference), July 17-18, 2020.
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ON-GOING RESEARCH ACTIVITIES (Short-term Research)

- Ultra-Sensitive Analysis of Disease Protein Biomarker by Single-Molecule Affinity Nanomicroscopy (Thesis Adviser: Prof. Yu-Ju Chen (Institute of Chemistry, Academia Sinica, Taiwan; Collaborator: Prof. Danny Porath, The Hebrew University, Jerusalem, Israel) – **Completed**
- Photocatalytic Degradation of Methylene Blue by Functionalized Iron Oxide Magnetic Nanoparticles (Short term research) – **On-Going**

- Conformational Analysis by Spectroscopic methods on BSA-conjugated nanoparticles in probing the non-specific binding of BSA protein (short term research) – **On-Going**
- DNA/protein adsorption on the surface of the functionalized iron oxide magnetic nanoparticles and gold nanoparticles (short-term research) – **On-Going**
- Evaluation of Potential Ecological Risk and Contamination Assessment of Heavy Metals in Various Environmental Sample Matrices (Sediment and Soil) and its Implication to Water Quality of Ligawasan Marsh, Philippines (to be submitted by MAFAR-BARM) – **Proposal under Evaluation**
- Nanoparticle-based Assay Coupled with Mass Spectrometry for Screening of Antigenic Protein Biomarkers for Immunodiagnostic of Schistosomiasis, Phase I – Development of Protein Library of Potential Biomarker Candidates for Early Diagnosis of Schistosomiasis by Proteomic Approach – **Proposal under Evaluation**
- Monodisperse Bimetallic Core-Shell $\text{Fe}_3\text{O}_4/\text{Au}@ \text{ZnO}$ Nanoparticles for Photocatalytic Application – **On-Going**

DIRECTED RESEARCHES (Undergraduate and Graduate Students)

Graduate

- Microplastic Prevalence, Ingestion, and Associated Stress Biomarkers in Sediment, Water, and *Anadara antiquata* from Sulu and Tawi-Tawi, Philippines – **Ph.D. Marine Biology (On-going)**
- Prediction of Acid Rain Occurrence and Estimation of pH Values Using Remote Sensing Data on SO_2 and NO_2 – **MS in Environmental Science (On-Going)**
- Influence of Seagrass Bed on Microplastic Accumulation in Intertidal Sediments and Uptake by Sediment-Dwelling Sea Cucumber in Surigao Del Sur, Philippines – **MS in Marine Biology (On-Going)**
- Morphology, Antioxidant, Antimicrobial Property, and Proximate Composition of Sea Cucumber, *Holothuria hilla* (Lesson, 1830) Collected from Different Habitats – **MS in Marine Biology (On-Going)**
- Extent of Microplastic Contamination in Two MPAs: Bacolod Protected Seascape and Landscape and Tubajon Aquamarine Park – **MS in Marine Biology (On-going)**
- Microplastic Assessment in the Coral Reef System of Bislig, Surigao del Sur – **MS in Marine Biology (On-going)**
- Comprehensive Evaluation of Microplastic Pollution in Green Mussel (*Perna viridis*), Sea Water, and Sediments across Various Mangrove Ecosystems in Camiguin Island, Philippines – **MS in Marine Biology (On-going)**
- Microplastic Assessment on Surface Water and Fish Ingestion in the Three Municipalities of Macajalar Bay – **MS in Environmental Science (On-going)**
- Microplastic Assessment in Sediment and Seagrass Samples and Level of Community Awareness on Plastic Pollution in Pre-Selected Sites along Macajalar Bay – **MS in Environmental Science (On-going)**
- Biomarkers Responses in Nile Tilapia (*Oreochromis niloticus*) Exposed Diets Containing Polyethylene Terephthalate Micropalstics – **MS in Aquaculture (On-going)**
- Assessment of Microplastic Contamination in Water, Sediment, and Biota from Cebu City, Philippines – **MS in Biology (On-going)**
- Identification, Quantification and Characterization of Microplastics in Selected Fish Landing Sites in Iligan Bay, Philippines – **MS in Chemistry (On-going)**
- Seasonal Variation of Biochemical and Antioxidant Properties of *Gracilaria verrucosa* in Kolambugan, Lanao del Norte with Notes of Its Morphological Structure – **MS in Marine Biology (Completed)**
- Assessment of Bioaccumulation Potential of Selected Heavy Metals in Different Biota from Iligan Bay, Philippines – **MS in Environmental Science (Completed)**
- Synthesis of Core-Shell $\text{Fe}_3\text{O}_4@ \text{TiO}_2$ nanoparticles for effective and efficient degradation of Cyanide from Mining Wastewater – **MS in Chemistry (Completed)**
- Green synthesis of Fe_3O_4 nanoparticles using *Sargassum crassifolium* for Biomedical Applications – **MS in Physics (Completed)**
- Phytoremediation of Oil-Contaminated Soil in SR Metals, Inc, Tubay Agusan del Norte – **Master in Environmental Management (Completed)**
- A Chemometric Approach in Assessment and Timeline Analysis of Environmental Air Quality Parameters: The Case of Butuan City – **Master in Environmental Management (Completed)**

Undergraduate

- Lead Phytoremediation Potential of the Selected Mangrove Species at Taytay Mangrove Forest Reserve in Mindanao – **BS in Marine Biology (Completed)**
- Assessment of selected heavy metal concentration from Iligan Bay, Mindanao, Philippines – **BS Environmental Science (Completed)**
- Determination of heavy metal bioconcentration in the tissues of crescent grunter (*Trapon jarbua*) from Iligan Bay, Mindanao, and its implication to the health of the estuarine ecosystem – **BS Environmental Science (Completed)**
- Assessment of potential bioaccumulation of selected heavy metals in bivalve mollusk tissues from Iligan Bay, Mindanao, Philippines – **BS Environmental Science (Completed)**
- Assessment of heavy metal concentration in *Padina* sp. Tissues collected in Iligan Bay and its implication to the coastal ecosystem health – **BS Environmental Science (Completed)**
- Remediation of Toxic Metal Ions from Underground Mine Wastewater Sample Using the Functionalized Magnetic Nanoparticle - **Completed**
- Utilization of Magnetic Zeolite-Chitosan Nanocomposite (nMZC) for the Adsorptive Removal of Hexavalent Chromium from Mine Water Run-Off – **Completed**
- Geochemical Tracers and Spectroscopic Fingerprinting of Sediment Samples From Tubay, Agusan del Norte – **Completed**
- Rapid Colorimetric Sensing of cyanide using a Low Cost curcumin-based Paper Sensor – **Completed**
- Evaluation of Physical and Chemical Characteristics of Soil Samples in Post-Mine Areas in the Province of Dinagat Islands – **Completed**
- Levels of Pb, Cd and tHg in Fish (Tilapia and Pijianga) and in Sediment Samples from Lake Mainit Philippines – **Completed**
- Synthesis and Characterization of Cellulose Nanocrystals Extracted from Sago (Methosylon Sagu) Pulp – **Completed**
- Water Quality Assessment Using Multivariate Analysis: A Case Study in Lake Mainit – **Completed**
- Bioplastics from Sago Waste: Utilization of Sago Waste for the Preparation of Biopolymers for Bioindustries – **Completed**
- Remediation of cyanide from Aqueous solution using ZnO-coated magnetic nanoparticles – **Completed**
- Photocatalytic Degradation of Cyanide from Mining Wastewater using TiO₂/ZnO Nanocomposite – **Completed**
- Speciation and Ecological Assessment of Al, Cr, Mo and Zn Using Environmental Quality Indices in Sediment Samples from Lake Mihaba, San Marcos, Bunawan Agusan del Sur – **Completed**
- Application of Engineered Magnetic Nanoparticles for Mining Industry: Synthesis of Hydrophilic Polymer-Coated Magnetic Nanoparticles for Remediation of Oil Contamination in Water – **Completed**
- An Eco-friendly Strategy to Clean the Mine Tailings: Removal of Metal Ions from Mine Tailings using Ionic Liquids as a Green Solvent – **Completed**
- Water Quality Assessment using Benthic Macroinvertebrates and Levels of Heavy Metals in Freshwater Samples from Selected Tributaries to Lake Mainit Philippines - **Completed**
- Limnological Evaluation of Physico-Chemical Characterization of Fresh Water Samples from Selected Tributaries in Lake Mainit Philippines - **Completed**
- Environmental Application of Green Nanotechnology to Mining Industry: Enrichment and Detection of Nickel from Contaminated Wastewater Using Nickel-Specific Recyclable Magnetic Nanoprobe (1st Sem, 2016-2017) - **Completed**
- Availability and Mobility Study of Cadmium, Chromium, Copper, Nickel and Lead in Soil Samples from Three Selected Lakes in Agusan Marsh, CARAGA Philippines – **Completed**
- Characterization and Fractionation of Heavy Metal Concentration in the Sediment Samples of Agusan River, CARAGA Philippines – **Completed**
- Fractionation and Bioavailability Study of Cadmium, Iron and Lead in Riverine Sediment Samples in Agusan River Along Buhangin Hills, Butuan City - **Completed**
- Defining the Mobile Forms of Cadmium, Iron and Lead in Soil Samples from Three Selected Selected Lakes in Agusan Marsh, Caraga Philippines - **Completed**
- Speciation and Bioavailability of Cadmium, Copper and Lead in Marine Sediment Samples in Placer Bay Near Manila Mining Corporation – **Completed** Modeling of Physico-Chemical Properties of Soil Samples from Three Selected Lakes in Agusan Marsh, Caraga Philippines using Multiple Linear Regression – **Completed**
- Waste Analysis and Characterization Study (WACS) on Selected Point Sources in Barangay Ampayon, Butuan City, CARAGA Philippines – **Completed – Completed**

INDUSTRY LINKAGES

1. Silangan Mindanao Mining Company, Inc.

- Research Engagement
- a. Revolutionizing Groundwater Remediation in Mining Industry: Innovative and Sustainable Flocculants for Effective Metal Removal (GreenFlocTech)

2. San Roque Metals Inc., Tubay Agusan del Norte

- Resource Person (Chemical Safety Training)
- Research Engagements
- a. Environmental Application of Green Nanotechnology to Mining Industry: Enrichment and Detection of Nickel from Contaminated Wastewater Using Nickel-Specific Recyclable Magnetic Nanoprobe.
- b. Application of Engineered Magnetic Nanoparticles for Mining Industry: Synthesis of Hydrophilic Polymer-Coated Magnetic Nanoparticles for Remediation of Oil Contamination in Water
- c. Phytoremediation of Oil-Contaminated Soil in SR Metals, Inc, Tubay Agusan del Norte

3. PHILSAGA Mining Corp.

- Research Engagement
- a. An Eco-friendly Strategy to Clean the Mine Tailings: Removal of Metal Ions from Mine Tailings using Ionic Liquids as a Green Solvent
- b. Development of Nanoparticle-Decorated Paper-based Sensor for Rapid Sensing of Metal Ions (CHED DARE-TO)

PERSONAL INFORMATION

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