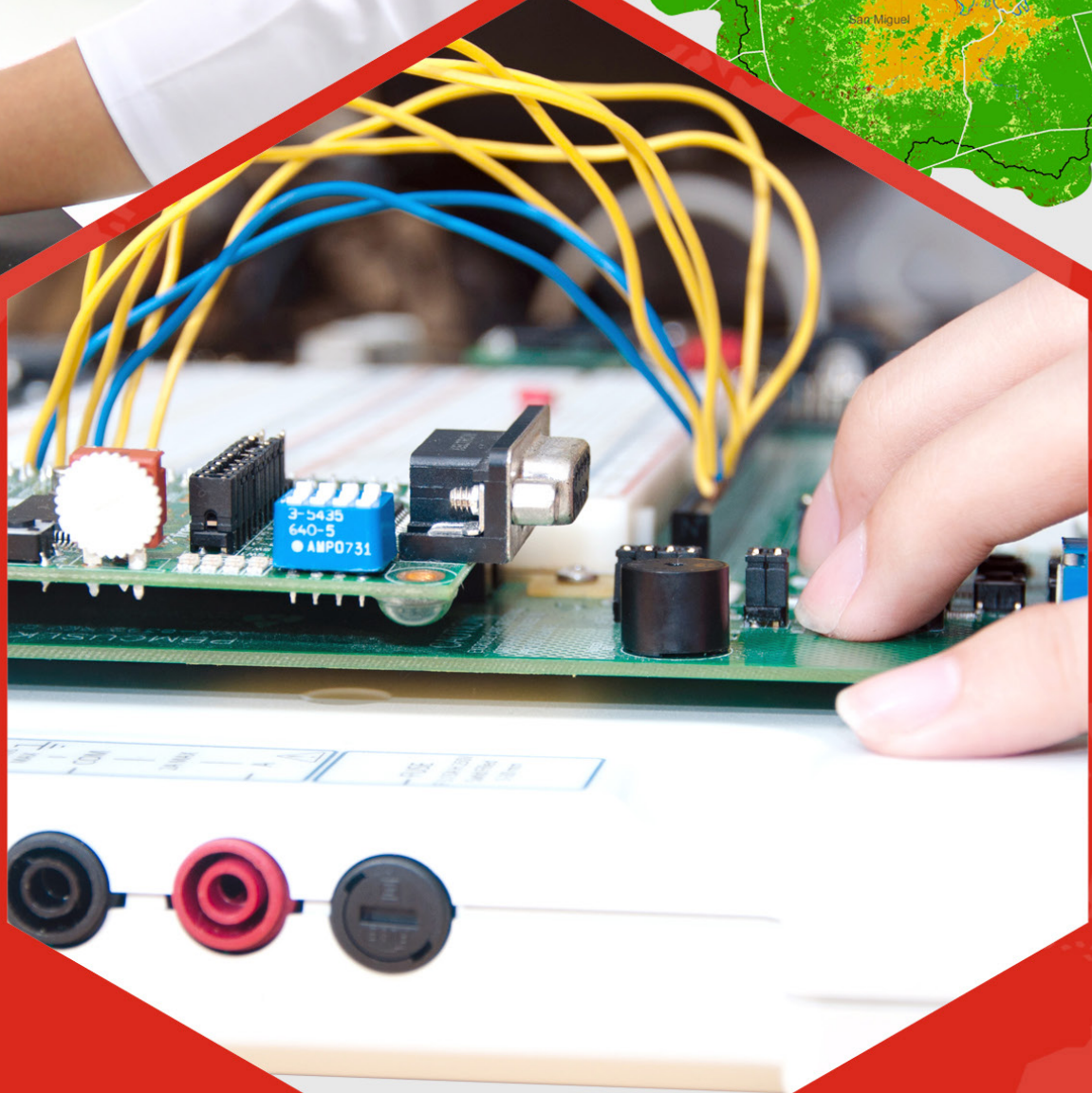
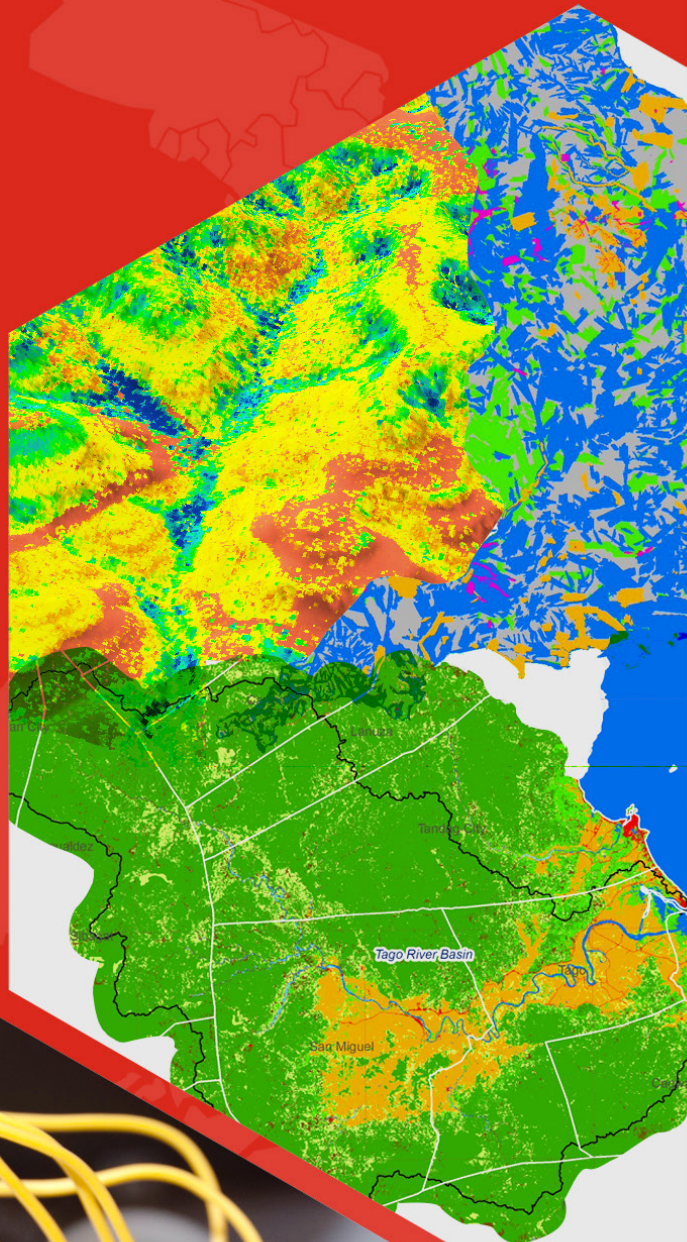


# INTERNATIONAL LINKAGES FOR RESEARCH AND DEVELOPMENT





LEGEND:

1 - Hawaii

2 - United States of America

3 - Spain

4 - Sweden

5 - Italy

6 - Bulgaria

7 - Greece

8 - South Africa

9 - South Korea



# MAPÚA INTERNATIONAL LINKAGES



10 - Taiwan  
11 - Vietnam  
12 - Thailand

13 - Cambodia  
14 - Singapore  
15 - Indonesia

16 - Guam  
17 - Australia



<https://www.mapua.edu.ph/Research/ILRAD/>

**FOR RESEARCH AND DEVELOPMENT**



Authors:

Delia B. Senoro, Ph.D.  
Anna DG. Binayug  
Rozenie B. Tubeo

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Contributors:

- Department of Mathematics
- Department of Physics
- ETY School of Business an and Management
- Geospatial Information and Civil Systems Research Laboratory
- Office of the Corporate Communications
- Office of International Linkages for Research and Development
- Office of the Executive Vice President for Academic Affairs
- Office of the President
- School of Architecture, Industrial Design and the Built Environment
- School of Chemical Engineering, Chemistry, Biological Engineering, Materials Science and Engineering
- School of Civil, Environmental, and Geological Engineering
- School of Electrical, Electronics, and Computer Engineering
- School of Graduate Studies
- School of Industrial Engineering and Engineering Management
- School of Language, Humanities, and Social Science
- School of Mechanical and Manufacturing Engineering
- School of Information Technology
- School of Media Studies
- Sustainable Development Research Office





MAPÚA  
UNIVERSITY

**D** : digital

**R** : research-driven

**O** : outcomes-based

**I** : international

**D** : domain





**Reynaldo B. Veja, Ph. D.**  
President and CEO



**Bonifacio T. Doma, Jr., Ph. D.**  
Executive Vice-President for  
Academic Affairs



**Delia B. Senoro, Ph. D.**  
Head, Office of International  
Linkages for Research and Development



**Anna DG. Binayug**  
Research Coordinator



**Rozenie B. Tubeo**  
Technical Assistant

Office of the International Linkages for Research and Development (ILRAD)  
2nd Floor, Research Building, Mapúa Institute of Technology  
658 Muralla St., Intramuros, Manila City 1002, Philippines  
Telephone: (+632) 251 – 6622; 247-5000 local 5109  
Email Address: [ilrad@mapua.edu.ph](mailto:ilrad@mapua.edu.ph)



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# THE **RIDE** TO **DROID**

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The *research, innovation, development, and entrepreneurship* **(RIDE)** platform is among the primary vehicles of Mapúa's *digital research-driven outcomes-based international domain* **(DROID)**, a quest to be among the best universities in the world!  
The linkages are bridges for RIDE to DROID!

---





Co-funded by the  
Erasmus+ Programme  
of the European Union

Mapúa University is taking part in an international consortium co-funded by the European Erasmus Plus Programme! The consortium is composed of five European and six Asian institutions, respectively. These five European institutions and their respective country are: Varna University of Management (Bulgaria), University of Thessaly (Greece), Reykjavik University (Iceland), Università degli Studi Guglielmo Marconi (Italy), and Innovation & Management Centre WestBic (Ireland). The six Asian institutions are: Mapúa University (Manila, Philippines), Universitas Sancti Aloysii (Baguio, Philippines), University of Cebu (Cebu, Philippines), Idea Space Foundation, Inc. (Makati, Philippines), Universitas Indonesia (Depok, Indonesia), and Universitas Bina Nusantara (Jakarta, Indonesia). The name of the project which is also the name of the consortium is BEEHIVE. It means “Building Entrepreneurial Ecosystems to Enhance Higher Education Value-Added for Better Graduate Employability”. Its objective is to create and establish entrepreneurial university ecosystem which will encourage and develop the mindset of the university constituents to conduct research, innovate, develop products or system or services, or devices and become entrepreneur. This means, to research on something with economic value, something that could be brought to market soon or in the near future!





Mapúa also participated in a collaborative research supported by the United States Agency for International Development (USAID) on Science, Technology, Research and Innovation for Development

(STRIDE) Program through RTI International. The School of Electrical, Electronics and Computer Engineering (EECE) actively participated in the STRIDE Prototype Research and Innovation Grants (SPRIG) with the project title “Mapua Sikat Project Bathala: Rocketstove”. Another Mapúa’s international collaborative research project is the Philippine-California Advanced Research Institute (PCARI). This a government (CHED – Commission on Higher Education) funded project with partner/s in California based research universities.



In this project, the School of Civil, Environmental and Geological Engineering (CEGE) is the Mapúa’s active participant. The project title is “Data Analytics for Research and Education (DARE) Project 1: Technical Design and System Deployment”, This project is in cooperation with the University of the Philippines National Institute of Physics (UPNIP) and University of California, Berkeley, USA.





Another, international cooperation of Mapúa University is with the Institute of Laser Engineering at Osaka University (ILE-OU) of Japan. One of the Professors of the Department of Physics has been enjoying the Visiting Professorship Program (VPP) in ILE-OU. She has been appointed “Specifically-Appointed Assistant Professor”. As a visiting professor, she has been tasked to do mostly research and training. She is working on the development of laser-induced damage using a statistical percolation model to understand the behavior and threshold of damage in optical materials.

The discussion of her VPP to ILE-OU transpired before, during and after the visit and sharing of knowledge by the group of ILE-OU Professors in Mapua on 14 March 2017





KTH Royal Institute of Technology, Sweden and Mapúa University conducted a forum on internationalization, innovation and entrepreneurship at Mapúa Intramuros. The KTH Director for International Office assigned in the Southeast Asia, Prof. Anders Hult, was the primary speaker in the forum on 07 November 2016. KTH and Mapúa further their collaboration through accessing the grant offered by the Swedish International Development Agency (Sida) under the Linneaus – Palme (LP) Programme. Upon approval of the LP-Sida, the grant will support the mobility of 2 students and 2 professors each university. The Mapúa students will study and conduct research project (thesis) in KTH during first half of 2018. Mapúa will have 2 visiting professors (Prof. Anders Hult and Prof. Lars Berglund) from KTH in February 2018 to conduct series of lectures. Likewise, two professors (Prof. Delia B. Senoro and Prof. Lemmuel L. Tayo) will deliver lectures and exchange of knowledge at KTH in May 2018. Both KTH and Mapúa target to access another cycle of the LP Programme Grant.



The first inbound research student from KTH Royal Institute of Technology, Stockholm, Sweden. He worked his thesis on “facility location problem” during the period of January – June, 2016 under the supervision of Dr. Delia B. Senoro. He also enrolled some courses during his six months in Mapua



Another, Mapúa and KTH are starting to create cooperation for railway or vehicle engineering. KTH Royal Institute of Technology is the leading engineering university in Sweden and located at the capital city of Stockholm.

Further, Mapúa University participated in the ASEAN 50 Packaging Conference. This was organized by DOST in cooperation with the Packaging Institute of the Philippines. The ASEAN 50 conference was participated by South East Asian countries.







# MAPÚA IS NOW A QS STARS<sup>TM</sup> UNIVERSITY

The grant of the university status and a 3-star QS rating to Mapúa are powerful testaments to our unwavering commitment to quality education for the global and digital age.



MAPÚA  
UNIVERSITY



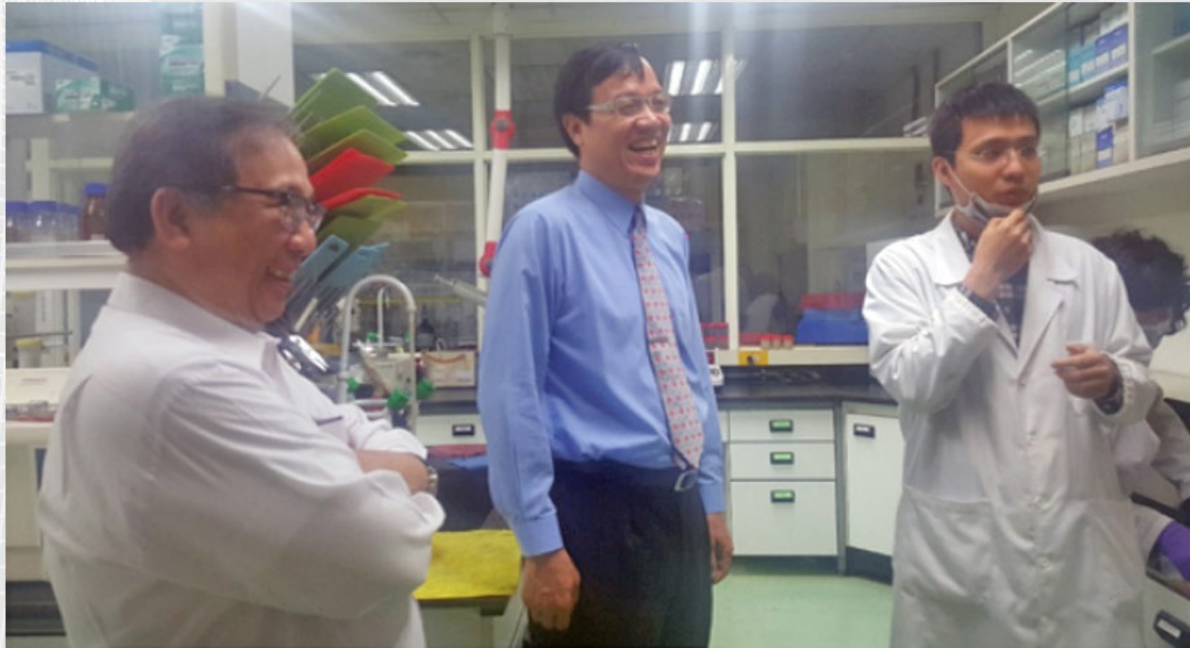
ENGINEERING AND SCIENCES | SOCIAL SCIENCES | ARCHITECTURE AND DESIGN | MEDIA STUDIES

Mapúa University has been awarded 3 starts by QS-Apple, and won bronze award in “International Webpage” category at the 13th - QS Apple Conference on 22 – 24 November 2017 in Taichung City, Taiwan. A great joint effort of the whole Mapúa Team especially the Development Office on Information Technology, Corporate Communications Office, Office of International Linkages for Research and Development, Office of Admission and International Programs, the Office of Executive Vice President for Academic Affairs and the Office of the President.



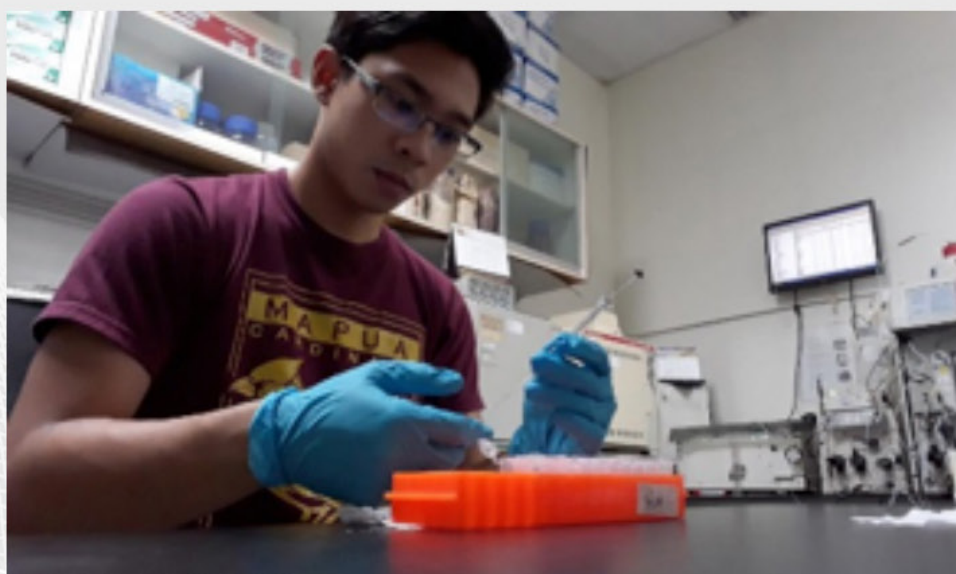


Signing of Memorandum of Agreement with the College of Engineering of the National Cheng Kung University (NCKU), the leading engineering university in Taiwan. This is an expansion of the cooperation between Mapúa and NCKU which started from the Sustainable Environment Research Laboratories (SERL) of NCKU. Joint research, publication and capacity building as well as hosting of research students are the activities currently in progress.





Active cooperation with NCKU lead to hosting of students in the department of environmental engineering (particularly in the Global Water Quality Research Center and Environmental Biotechnology Laboratory), chemical engineering, and biomedical engineering. Some faculty members of Mapúa from the School of Chemical Engineering, Chemistry, Biological Engineering and Materials Science and Engineering) seek doctorate degree from NCKU. Also, one faculty from the School of Electrical, Electronics and Computer Engineering seek a doctorate degree on biomedical engineering at NCKU.



Below is a group photo of students and faculty members from different schools, departments who participated in the lecture on reservoir and water quality by Prof. Tsair-Fuh Lin of NCKU. After then, Mapúa & NCKU bring-in industry partner for joint research. After which, several students went to NCKU for their thesis research such as Jasan Mangalindan of the School of CHE-CHM.





The leading active partner of Mapúa University is Chung Yuan Christian University (CYCU) in Chung-Li, Taiwan. The cooperation produced five (5) PhDs and hosted 121 research students as of November 2017. The first bachelor and MS research students hosted by Prof. Sheng-Jie You of the Department of Bioenvironmental Engineering in 2011 were Joyce Faith Almadrones and Natalie Kristine O. Cruz. These two students worked for the development of methods for membrane's surface modifications to produce anti-fouling and self-cleaning membranes.

The Dean of the College of Engineering of CYCU is an important person to the successful cooperation between Mapúa University (Mapúa Institute of Technology then) and CYCU.

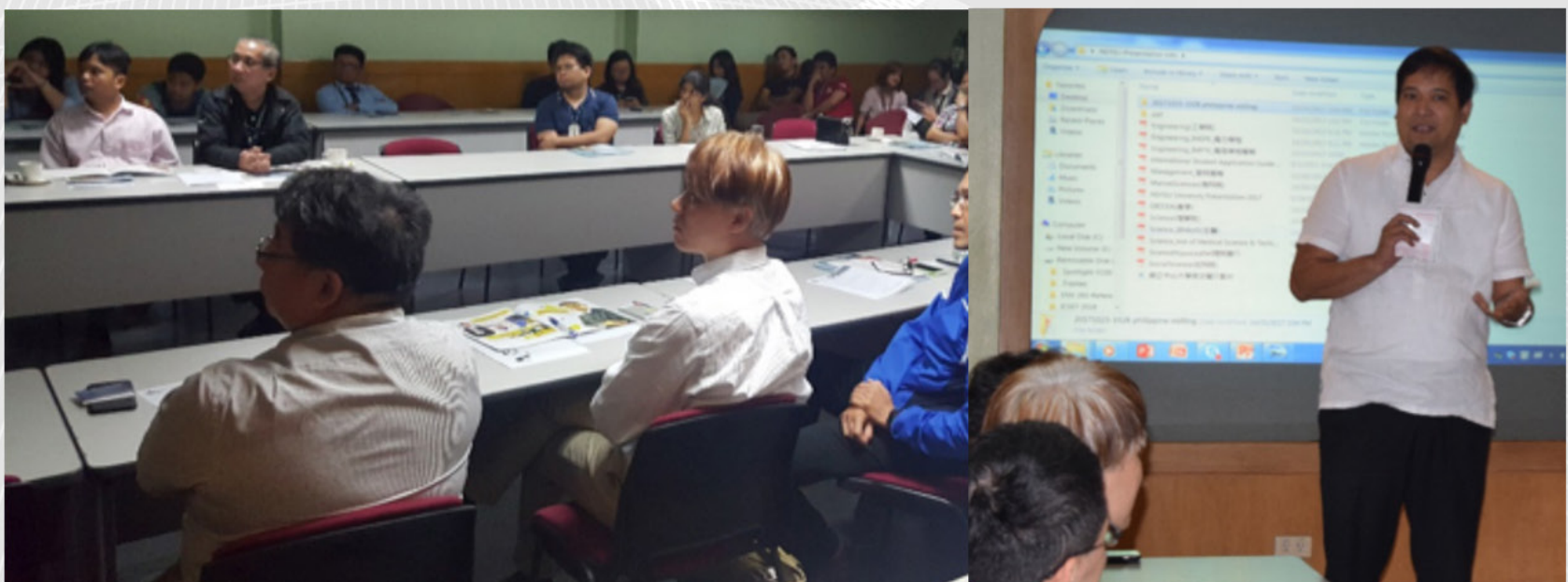




CYCU exposes students not only to researches and paper publication but to forum and exhibition as shown on the following page. Students from the Department of Biological Engineering have been exposed by CYCU's Prof. Sheng-Jie You to exhibitions and deal with various people from industries, research institutes and international lectures.

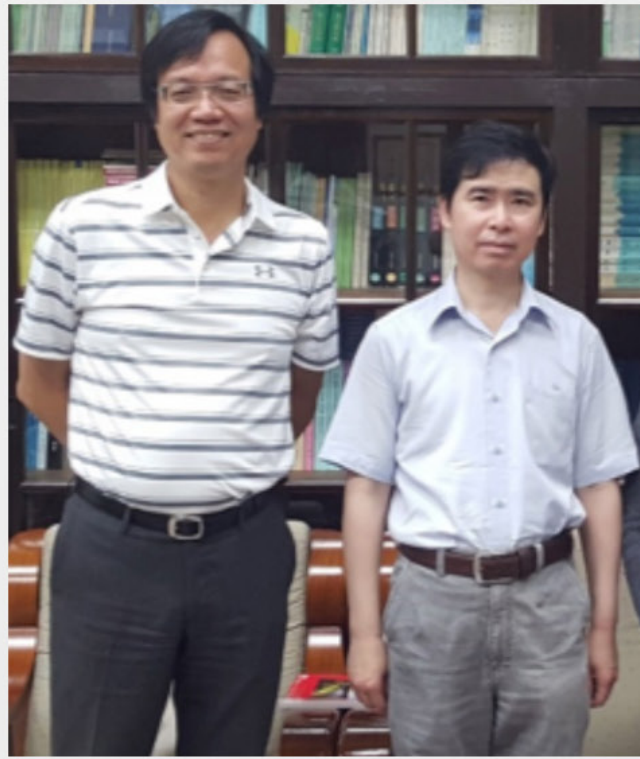


There are numbers of Taiwan universities which Mapúa has cooperation. This is due to proximity from Philippines, nice people, similar climate, academic competency, and reasonable standard of living. Other universities of which Mapúa has collaboration are shown on the map of the office of International Linkages for research and development at the beginning of this catalogue. Some photos showing expression of interest for research collaboration by Asian universities which were participated and hosted by various Mapúa schools are shown below. These collaborators hosted by the School of EECE are: National University of Singapore (NUS), Singapore; Chulalongkorn University (CU), Thailand; and Chiba University of Commerce (CUC), Japan. Also, the School of Information Technology (SOIT) hosted the delegation of National Sun Yat Sen University (NSYSU), Taiwan during their visit on October 25, 2017.





Mapúa collaborates not only with research universities but with international scientific journals. Two professors are the Editor-in-Chief of SER (Sustainable Environmental Research) and TWC (Taiwan Water Conservation) journals.



Another, a forum on reservoir water quality titled “Monitoring and Treatment of Cyanobacteria in Drinking Water Reservoirs” was delivered by Prof. Tsair-Fuh Lin of the Global Water Quality Research Center, Department of Environmental Engineering, National Cheng Kung University (NCKU). This forum on March 07, 2016 was participated by students and faculty members which triggers enthusiasm to students and faculty members to carry out research in the area of water resources and water quality. Next visit of NCKU delegation was composed of a bigger group composed of Professors and department heads led by then Dean Pao-Shan Yu. The NCKU departments which visited





On June 13 – 14, 2017 the School of Civil, Environmental and Geological Engineering (CEGE) hosted the delegation from Taiwan with participants from universities, professional organizations, industries and government agencies. The participating parties are: from the universities - National Chiao Tung University (NCTU) and National Taiwan Ocean University (NTOU); from professional organization – Chinese Institute of Engineers and Chinese Taipei APEC/IntPE Monitoring Committee; from industry – G. T. International; and from the government agencies – Water Resources Agency, Ministry of Economic Affairs, and Department of Technology. The School of CEGE in cooperation with the Office of International Linkages for Research and Development organized a forum on water resources. The experts and researchers from Mapua and Taiwan delegation shared their experiences on flood hazard mapping, flood prevention design, reservoir sustainability, and engineering geophysics for dam construction.





Mapua to establish collaboration are: chemical engineering, aeronautics engineering with energy, mechanical engineering, geomatics environmental engineering and civil engineering. Also, the NCKU Head of the department of earth sciences came over and delivered a lecture. During the series of visits, professors from the School of CEGE, School of Chemical Engineering and Chemistry (CHE-CHM) and Department of Physics also shared their knowledge and results of their researches.

They further discussed possible research cooperation with research advisers and graduate senior students for possible hosting of their thesis or dissertation.



Various schools of Mapúa have been actively participating for the establishment and development of RIDE to DROID. The School of Electrical, electronics and Computer Engineering (EECE) under the administration of Dean Alejandro Ballado sent four research students to Thammasat University in Thailand for one month to carry out part of their thesis work titled “Albumin Measurement using ISFET-based Analyzer for Kidney Disorder Diagnosis”. Their thesis won the best thesis award during the 2nd Commencement exercise of Mapúa University on August 17, 2017.





Further, the University of Guam (UoG) and its research institute (Water and Environment Research Institute, WERI) establishes cooperation with Mapúa University in the area of civil and environmental engineering. Below photo shows the meeting of the UoG President (Dr. Roberto Underwood), Mapúa President (Dr. Reynaldo B. Veja) and the Dean of the School of CECE (Dr. Francis Aldrine a. Uy).



Another, two programs of the School of CECE, the MS and PhD Environmental Engineering, participated in the 2017 international conference on environmental quality concern, control and conservation (EQC) hosted by National Kaohsiung Marine University (NKMU). NKMU is also a partner university of Mapúa. The Mapua's Dr. Delia B. Senoro, the then Environmental Engineering Graduate Program Coordinator was one of the Plenary Speakers in the Conference. Two PhD students in environmental engineering program received the best paper (Donamel Saiyari) and best presentation (Ricardo De Leon, Jr.). Engr. Saiyari and Engr. De Leon are both advisees of Prof. Senoro.



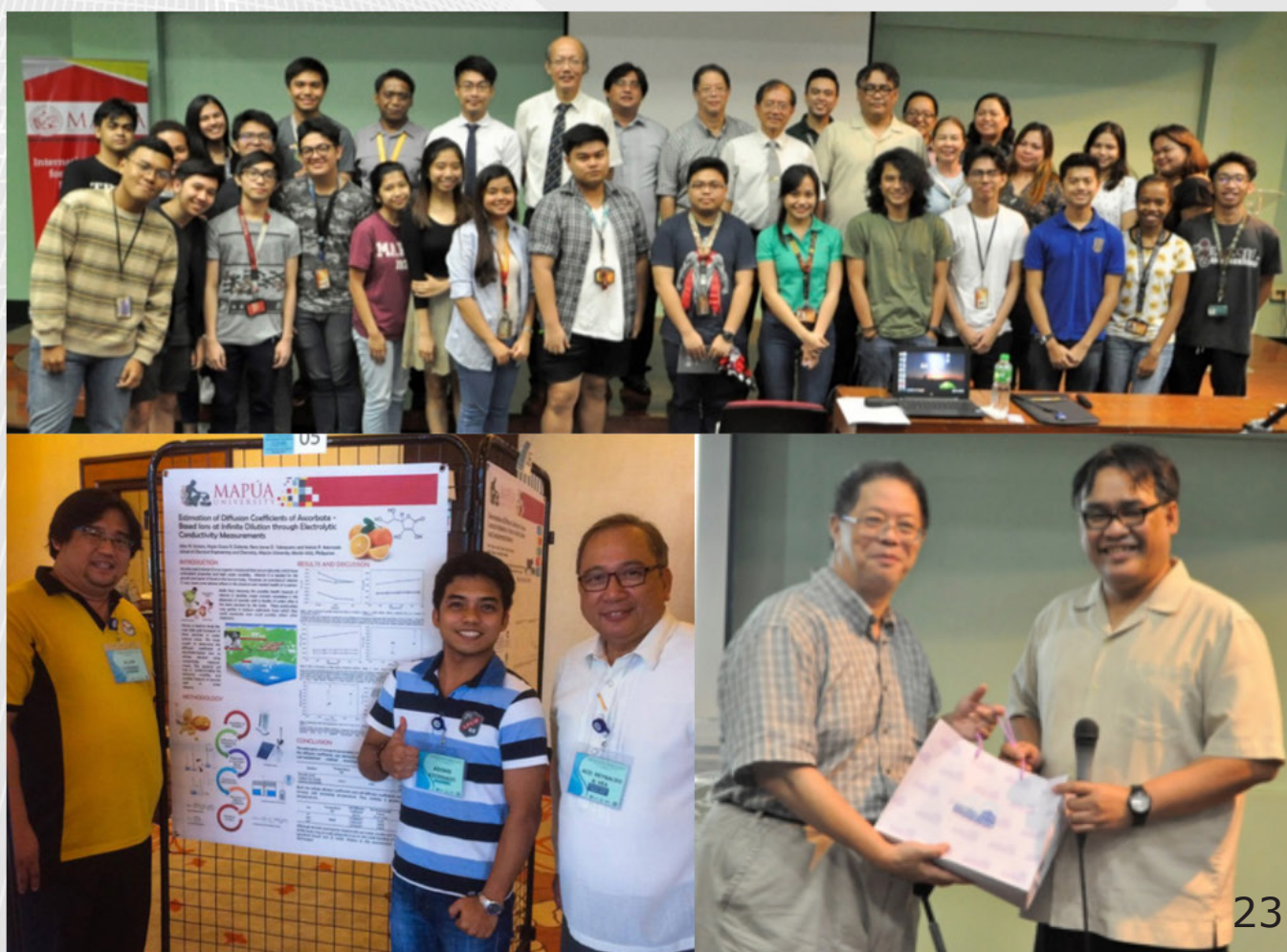


Another faculty member (Engr. Josephine German) from the School of Industrial Engineering and Engineering Management (IE-EMG) also presented her research results in the EQC 2017 international conference. The EQC conferences are the umbrella conference of International Conference on Sustainable Environmental Technologies (ICSET) by which Mapua University will host in August 2018.



Another participation in international linkages by the School of IE-EMG is the exploratory meetings various universities in Taiwan; i.e., National Chiao Tung University (NCTU), National Tsing Hua University (NTHU) and National Cheng Kung University (NCKU). The School of IE-EMG was with the School of Mechanical and Manufacturing Engineering and School of CEGE. Following the visit of Mapua's professors in Taiwan.

Another participation of the School of CHE – CHM in an international venue is the poster presentation of the research output of Dr. Allan N. Soriano and Engr. Adonis P. Adornado in the AASSA-NAST International Symposium 2017 held on 21 – 22 September 2017 at Taal Vista Hotel, Tagaytay City. With them is the proud President and CEO of Mapúa, Dr. Reynaldo B. Veal.





The School of CHE-CHM has cooperation with the National Pingtung University of Science and Technology (NPUST), Taiwan. Prof. How – Ran Chao together with his PhD student visited Mapua. Among the 11 students who conducted their research at NPUST are shown below.



Professors of CHE-CHM, NPUST Prof. How-Ran Chao and Dr. Delia B. Senoro of the Office of ILRAD discussed research cooperation during the visit in Mapúa.

The School of Architecture, Industrial Design and the Built Environment (ARIDBE) participated in the Linnaeus – Palme Programme with the Industrial Design Engineering of Lulea University of Technology (LUT) in Sweden. The inbound from LUT, Viktor Lindholm, conducted his thesis in the Philippines during the period of October 2015 – April 2016 under the hosting of ARIDBE. His thesis work was on “Design of a mobile cash distribution system for social welfare allowance.

It also hosted the book launch by 2016 internationally acclaimed architect, professor, and TV personality Jason Pomeroy last July 28, 2016. Pomeroy was also an adjunct professor in Mapúa’s School of ARIDBE, who started the vertical urbanism track in the Institute’s graduate program in Architecture.







The Department of Physics hosted a lecture on the Researches on Novel Laser Materials and Laser Acceleration held last March 14, 2017 by professors from Osaka University, a leading university in Japan. This event aims to encourage students to go into the physics academic program, conduct relevant research and learn about laser engineering. Also, Physics student also participated in international workshop at the center for space and remote sensing research in Taiwan.



Various linkages have been made available to students and professors in Mapúa to widen their horizon of opportunities. Alumni coming back to share their knowledge acquired from international venue. The Department of Physics is very enthusiastic to host lectures facilitated by Professors from foreign universities.

Students are exposed to foreign matured research system. They conduct their research and come back to defend their work and acquire their degree from Mapúa. Some students of the School of IE-EMG conducted their defense at the foreign host university (Chung Yuan Christian University) with the presence of their adviser/s.

The Chia Nan University of Pharmacy and Science (CNU) in Tainan, Taiwan has hosted three PhP students and five Masters students. Professors of CNU and Mapúa co-advised students. The cooperation resulted to five scientific publications indexed in Scopus and/or Web of Science journals.





The ETY School of Business and Management participated in the international linkages activities by hosting foreign professors and foreign projects such as BEEHIVE co-funded by the European Union Erasmus Plus Programme. Among the foreign institutions who expressed interest in the school are RMIT University, Melbourne, Australia, Varna University of Management, Varna, Bulgaria, and National Sun Yat Sen University (NSYSU), Taiwan. NSYSU also expressed interest in other departments/ schools of Mapúa such as Center for English Learning, media studies and other relevant professional continuing education.



The Department of Mathematics participated in the activities facilitated by the Interdisciplinary Center for Scientific Computing (IWR), IWR - University of Heidelberg.

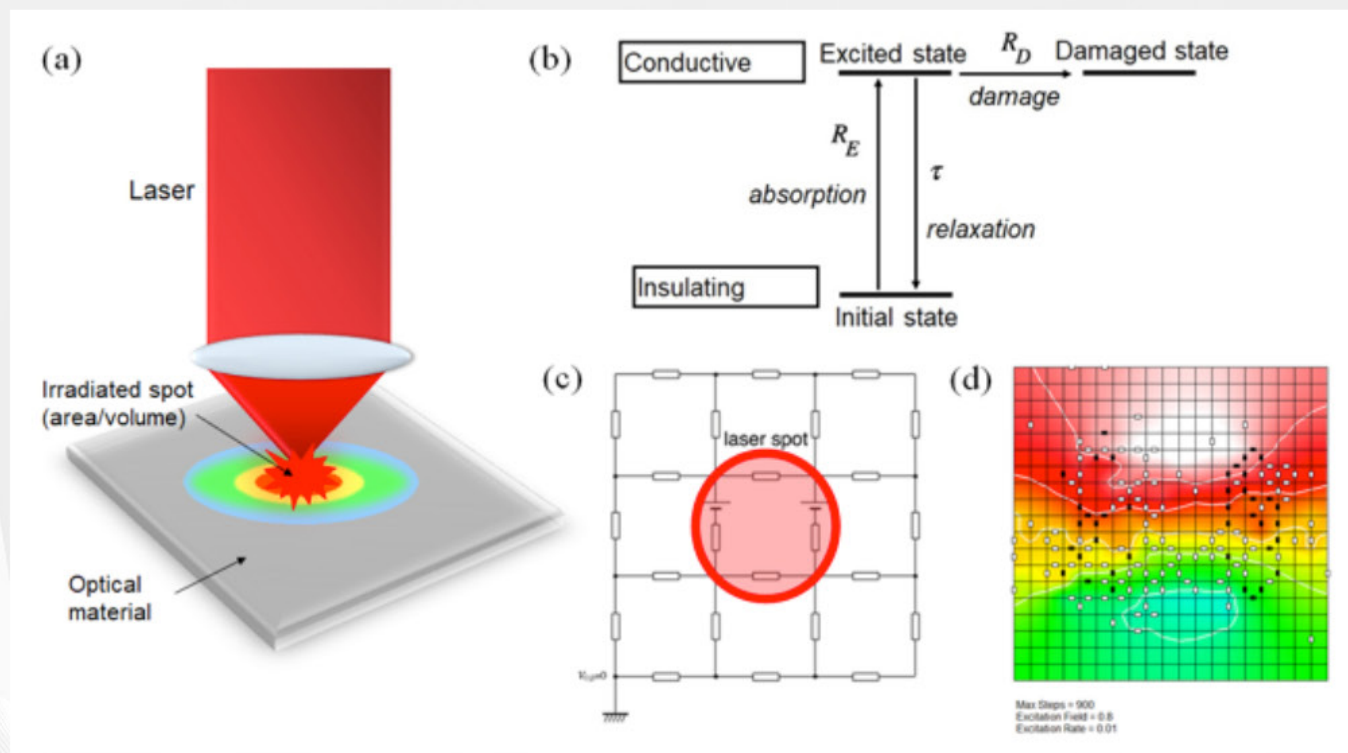


Also, the University of Glasgow, United Kingdom visited Mapúa, hosted by the School of Mechanical and Manufacturing Engineering.

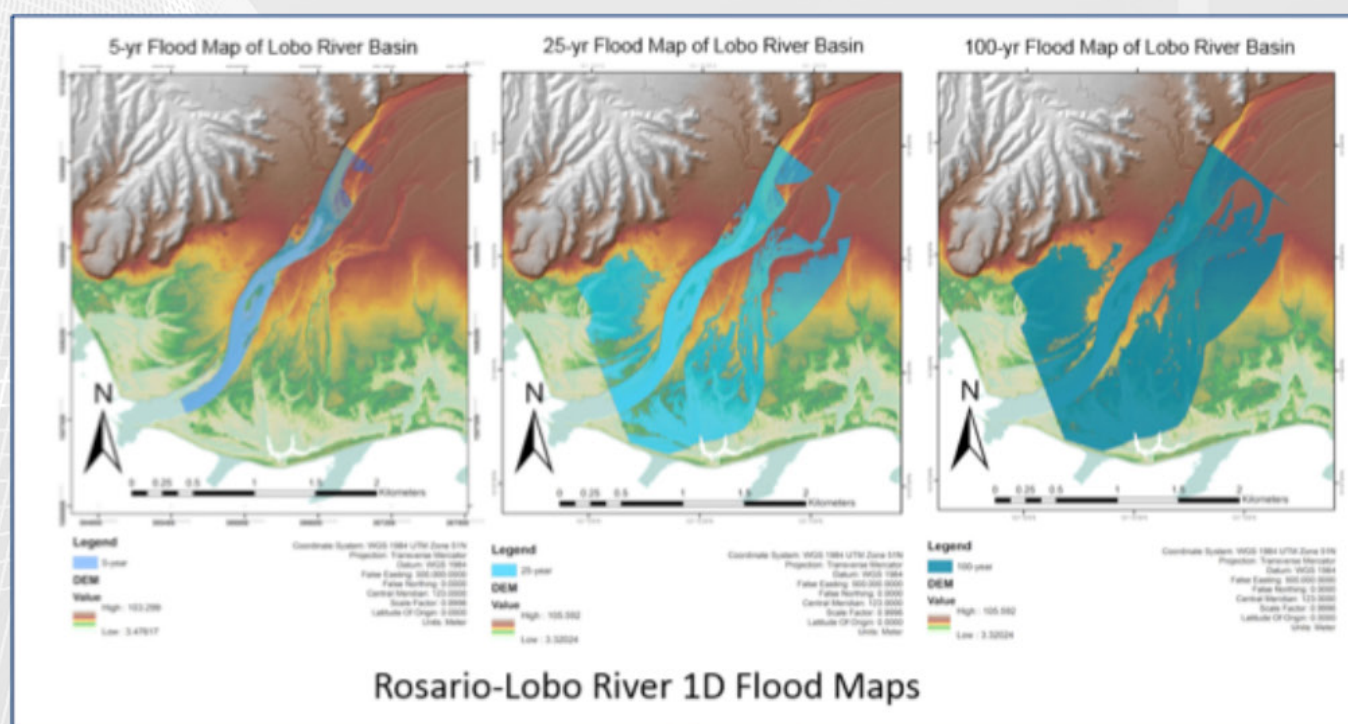




In this section, Mapúa illustrates its research capabilities, competency of human resource and research outputs.



Damage in optical components severely limits the performance of high-power laser systems [Gabayno GLF, et al., (2017)]. One of the research findings of Prof. Jacque Lynn F. Gabayno (glfgabayno@mapua.edu.ph ) of Mapúa Department of Physics at the Institute of Laser Engineering, Osaka University, Japan.



One dimensional flood map of the Rosario – Lobo River as a result of the project of the School of Civil, Environmental and Geological Engineering funded by the Philippine Department of Science and Technology. This project output is under the Phil-Lidar 1 Mapúa Team. Source: Tan FJ et al., (2017) fjtan@mapua.edu.ph





Funded by the Department of Science and Technology – Philippine Council for Industry, Energy, and Emerging Technology Research and Development (DOST-PCIEERD) and in coordination with the Bureau of Design of the Department of Public Works and Highways (DPWH), the project developed a wireless sensory network system to monitor the structural health of bridges, in preparation for the anticipated 7.8-magnitude earthquake in the Philippines dubbed as the Big One. The researchers were able to develop a Universal Structural Health Evaluation and Recording System (USHER) that aims to provide an advanced decision support tool to building officials of LGUs and other stakeholders for structural health monitoring and management. The wireless sensor nodes have already been installed at Padre Jacinto Zamora Bridge in Pandacan, Manila. It will soon be installed in 10 other bridges and 10 buildings under its extension project, the Philippine Structural Integrity Monitory System (PHILSIMS). Source: Uy FAA et al., (2017) faauly@mapua.edu.ph



Phil LiDAR 2 project produced various gricultural and coastal maps showing high-value crops useful. These maps are useful for climate vulnerability assessment and research direction in crop vegetation. This project is funded by the Department of Science and Technology – Philippine Council for Industry, Energy, and Emerging Technology Research and Development (DOST-PCIEERD). Phil LiDAR 2 project is through the School of Electrical, Electronics and Computer Engineering. Source: Ballado Jr. AH. et al., (2017) ahballado@mapua.edu.ph



Atomic force micrograph of cobalt oxide seed layer. The effect of depositing a seed layer prior to the deposition of the secondary layer had been observed and was found to have a significant effect on the formation of various nanostructures; nanorods, nanowalls, nanoplates and nanofibrils. Source: A. R. Mariscal and M. C. Marquez, (2017). Evolution of Cobalt Oxide Nanostructures on Glass Substrate via Two Step Solution Route Synthesis. IOP Conf. Series: Materials Science and Engineering 205 (2017) 012028 doi:10.1088/1757-899X/205/1/012028. mcmarquez@mapua.edu.ph

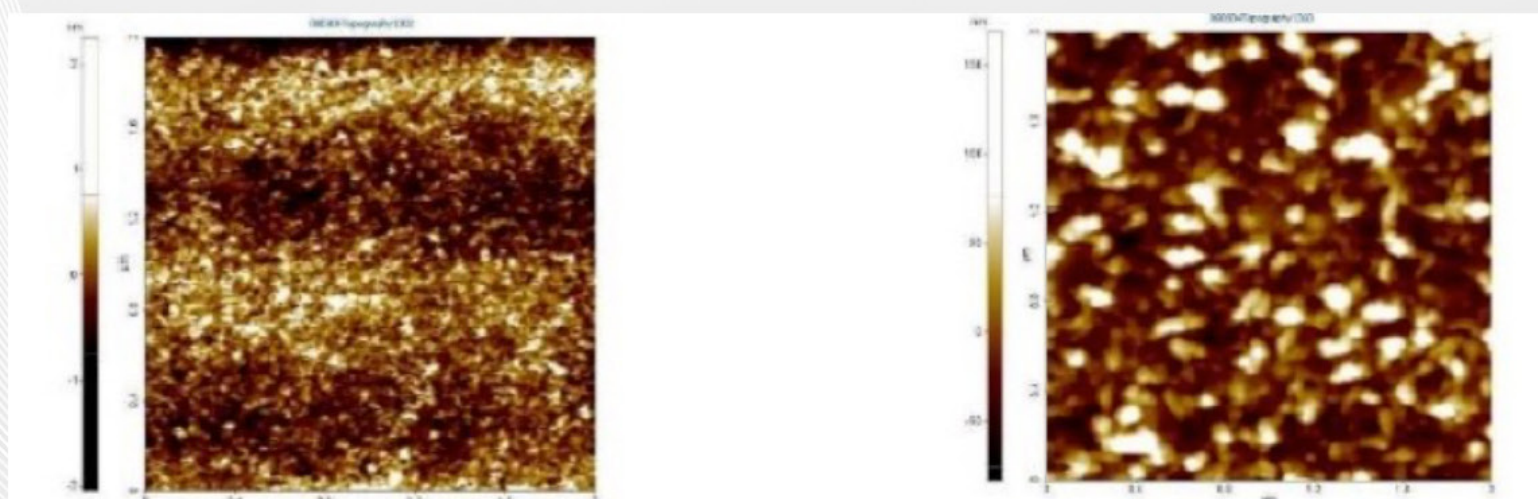
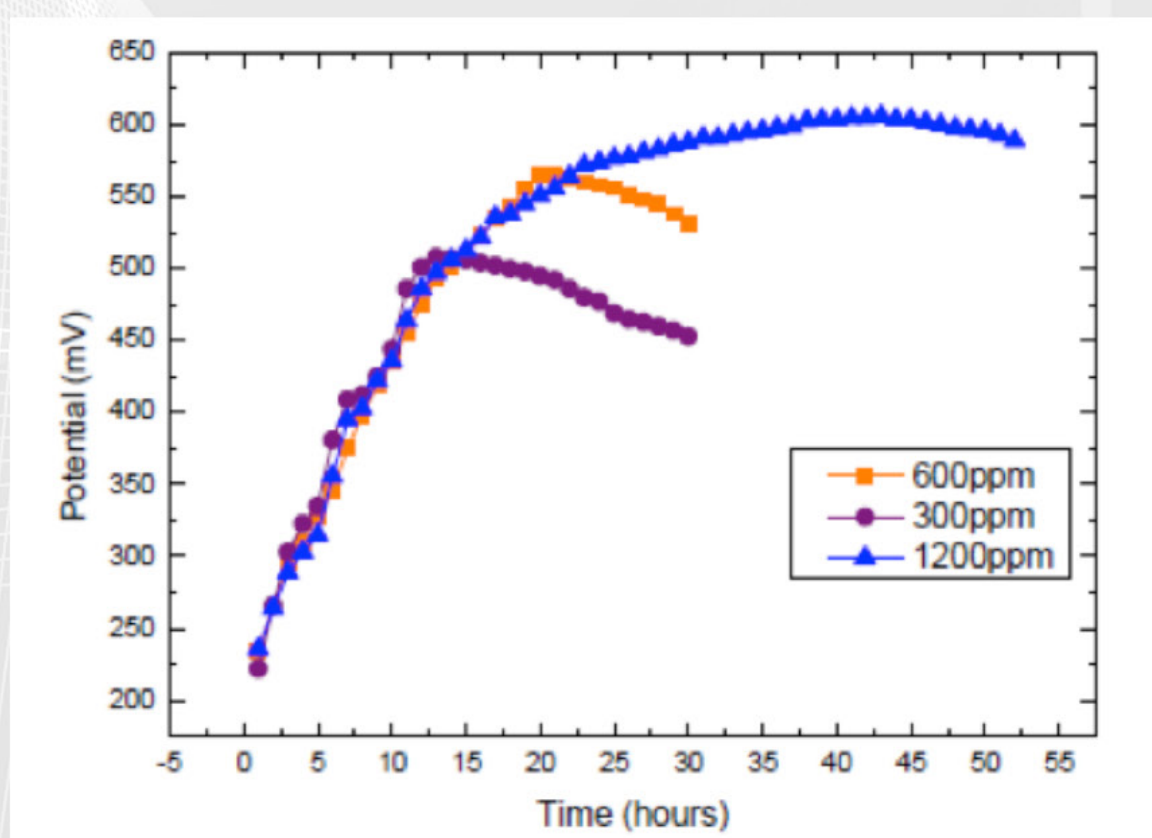
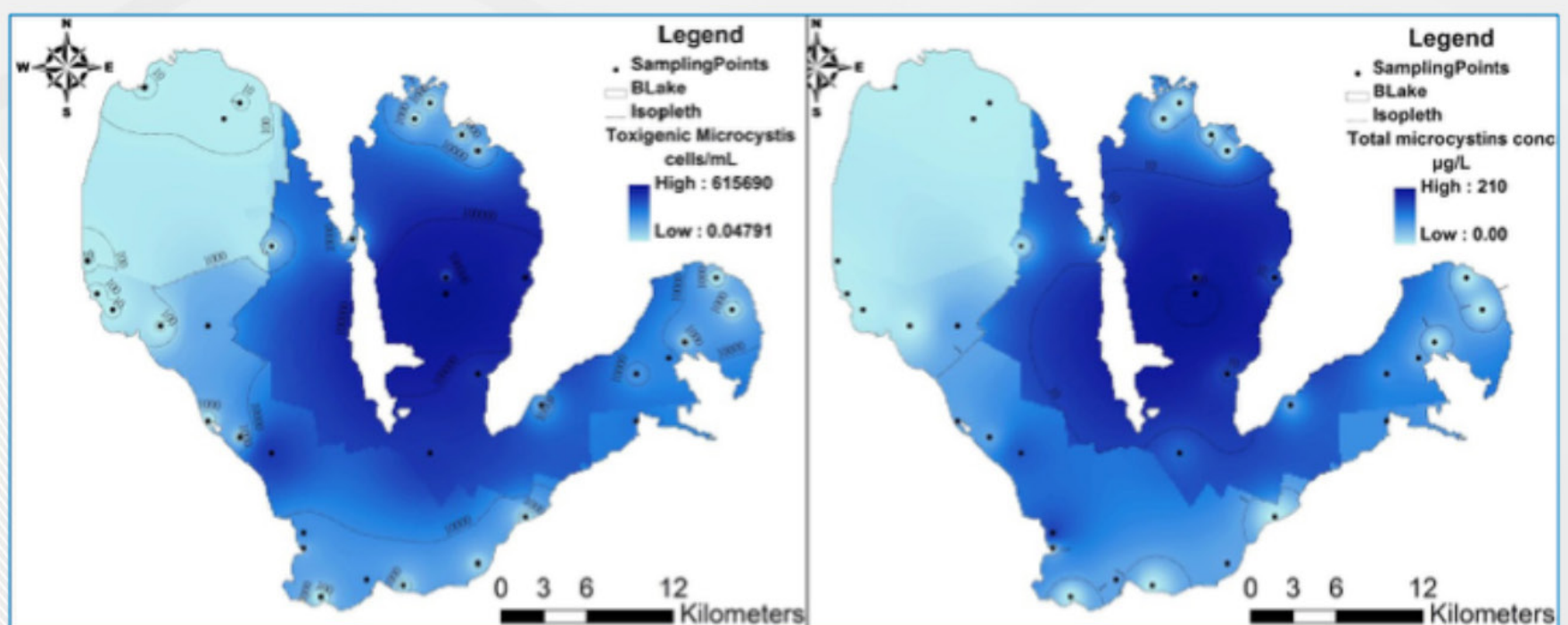


Figure at the right shows the MFC (microbial fuel cell) performance at varying substrate concentrations. Source: A R Caparanga (arcapanga@mapua.edu.ph ), A S Balatbat and L Tayo, (2017). Effects of heavy metals ( $\text{Fe}^{3+}/\text{Cr}^{6+}$ ) on low-level energy generation in a microbial fuel cell. IOP Conf. Series: Materials and Engineering 206 (2017) 012031 doi: 10.1088/1757 – 899X/206/1/012031



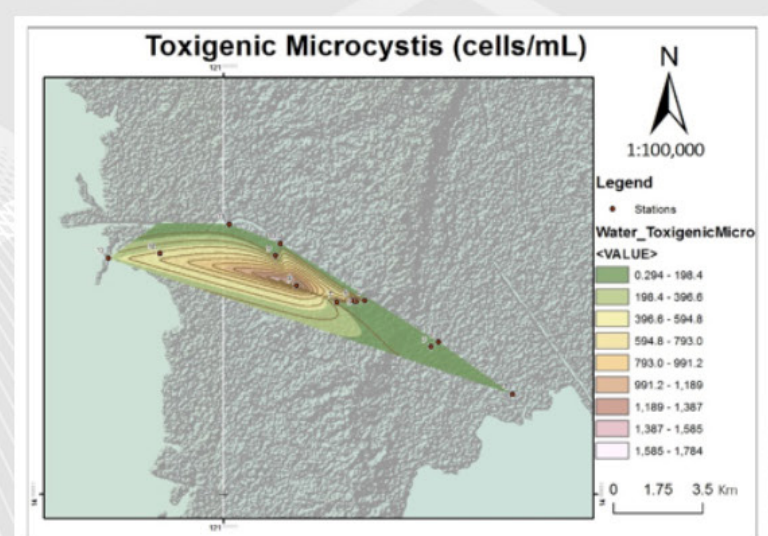
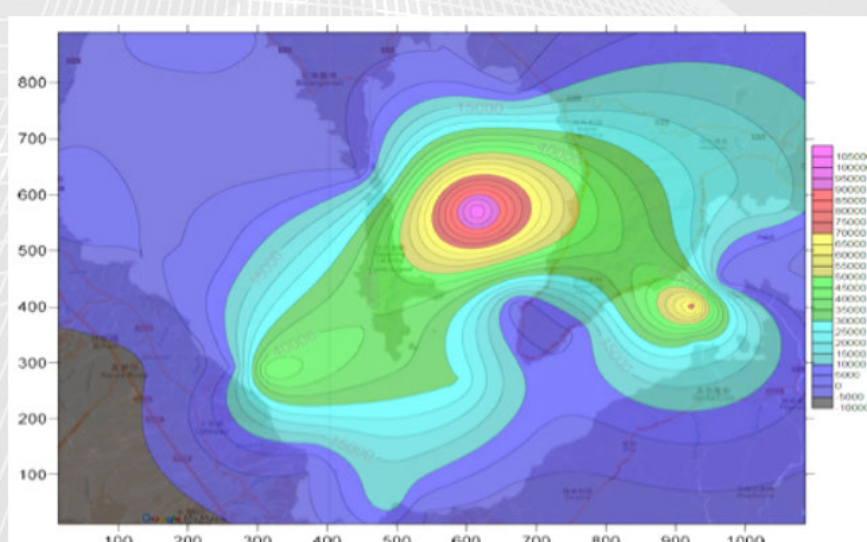




Harmful cyanobacteria was discovered in Laguna Lake and Pasig River in August 2016. Toxigenic and 2-MIB/Geosmin producing cyanobacteria were quantified. The first ever research result in the Philippines. Senoro DB et al., (2016, 2017) dbsenoro@mapua.edu.ph . This research project was jointly funded by Mapúa University and National Cheng Kung University in cooperation with Laguna Lake Development Authority. The water industry has noticed the significance of the research result to their water treatment operation for domestic supply. Hence, expressed interest to provide fund to continue the study for the benefit of public safety and sustainable water supply operation

Left photo shows the abundance of 2-MIB producing genes of cyanobacteria. Senoro et al., (2017)

Right photo shows the abundance of toxigenic microcystis in Pasig River. De Leon Jr RF et al., (2017).





## TESTIMONY: STUDENT RESEARCHERS

Below are some testimonials of Mapúa students who experienced exposure in a matured research system at foreign institution. Also, testimony of inbound foreign students who experienced staying in Mapúa doing some course works and research.



*"The ILRAD (International Linkages for Research and Development) office, and Dr Senoro has been tremendously important to help me with my research and studies. My stay in the Philippines have been a great experience. I've experienced things both privately and at Mapua that I simply wouldn't have if I stayed in Sweden. I'm very satisfied with my stay."*

**Erik Lybecker**  
Senior Student, Engineering Physics  
Inbound Student from KTH Royal Institute of Technology  
Stockholm, Sweden



*"I am very thankful to ILRAD for encouraging us, students, to grow and to experience the amazing benefits of doing research abroad. Through them, I am able to participate to the Linnaeus-Palme programme of KTH Royal Institute of Technology in Stockholm, Sweden that help in my personal and professional development."*

**Erlynne Carla Santos**  
MS Environmental Engineering  
Outbound Student to KTH Royal Institute of Technology  
Stockholm, Sweden



*"The office of ILRAD opens an opportunity to Sweden accessed through Linnaeus – Palme Programme. This is an opportunity for me to develop academic, research and social skills by studying and doing research abroad. "*

**Bernince Lorraine Roy**  
BS Biological Engineering  
Outbound Student to KTH Royal Institute of Technology  
Stockholm, Sweden



*"I was nurtured as an individual, cultivated as a good researcher, and equipped as a true environmental engineer. Undoubtedly, Chung Yuan Christian University environment creates an atmosphere conducive for both learning and continuous improvement. "*

**Natalie Kristine O. Cruz**  
MS Environmental Engineering  
Outbound student to Chung Yuan Christian University  
Chung-Li, Taiwan





*"International experience is an opportunity to see a different world and understand its distinctive culture, outlooks, customs, and people. In terms of research, the advanced technology and equipped facility that the university has to offer helped us to complete our research paper at ease. Our foreign experience served as a platform to become globally competitive and trained us to overcome challenging times while working under pressure."*

Lovely Colleen B. Cortez  
BS Industrial Engineering  
Outbound student to Chung Yuan Christina University  
Chung-Li, Taiwan



*"Being part of the Center for Membrane Technology (CMT), CYCU, made me realized my dream in becoming a researcher in the future. Research life is hard yet exciting but learning new things outside the classroom and improving from my mistakes is what makes the experience better."*

Jacqueline De Vera  
BS Biological Engineering  
MS Material Science and Engineering (in progress)  
Outbound student to CMT, Chung Yuan Christian University  
Chung – Lin, Taiwan



*"My experience in doing research at NPUST (National Pingtung University of Science and Technology) has opened many doors for me that I did not know existed. Through research, I have been able to find what interests me that I think, can make genuine contributions to our society."*

John Harvey Santos  
BS Biological Engineering  
Outbound student to National Pingtung University of Science and Technology,  
Pingtung, Taiwan



*"My stay in Mapúa University as an exchange student is an unforgettable experience. I learned a lot especially about the Filipino culture and traditions. My title of my project was "Bioreactor Design of Microbial Fuel Cell". I am looking forward in visiting again."*

Lu I-Ching  
BS Environmental Engineering  
Inbound student from National Pingtung University of Science and Technology,  
Pingtung, Taiwan



*"My adventure in Taiwan, particularly in National Cheng Kung University, will shape my future in a significant way—a very positive one! For this, I am truly grateful. I am one step closer to my big dreams!"*

Peter Matthew Toribio Fowler  
BS Chemical Engineering and Chemistry  
Outbound student to National Cheng Kung University  
Tainan, Taiwan





*"The outbound research collaborated with Thammasat University – Rangsit Campus was a very unique and amazing learning experience. As the second oldest university in Thailand, I have learned to appreciate not only their topnotch facilities but also their supportive advisers and the overall accommodating atmosphere within the campus. I am forever grateful for this excursion. Kudos to ILRAD for making sure that the entire trip was very safe and ripe for learning."*

**Lovely Colleen B. Cortez**  
BS Industrial Engineering  
Outbound student to Chung Yuan Christina University  
Chung-Li, Taiwan



*"I am thankful for the ways Chia Nan University of Pharmacy and Science (CNU) has supported me to complete my research in my master's program. The research sandwich program created by Mapúa allowed me to experience the diverse educational system of CNU as path towards innovation and new career direction."*

**Maria Theresa C. Artuz**  
MS Environmental Engineering  
Currently in PhD Environmental Engineering Program  
Outbound student to Chia Nan University of Pharmacy and Science  
Tainan, Taiwan



*"The experience I had as a research student in Chia Nan University of Pharmacy and Science in Tainan, Taiwan made me into a better researcher as well as a person with new paradigm. I was honed through outside my comfort zone. Thus, the challenges brought the best out of me. I will be forever grateful to the Mapúa's Office of International Linkages for Research and Development (ILRAD) for it was my gateway to better life!."*

**Mary Jane C. Calagui**  
PhD Environmental Engineering  
Outbound student to Chia Nan University of Pharmacy and Science  
Tainan, Taiwan



*"Having my thesis research in Taiwan is a great opportunity to develop myself in academics and in character. Having talk to and exchange ideas with people of different culture is a great way to seeing things in a different perspective. Taking my simulation class in Taiwan has increased my knowledge in system simulation and gained new knowledge in Arena Software which has significantly helped my thesis research."*

**Kyzen Ray N. Boac**  
BS Industrial Engineering  
Outbound student to Chung Yuan Christian University  
Chung-Li, Taiwan



# EXPERTS AND RESEARCHERS IN MAPÚA UNIVERSITY



## EALDAMA, ANNA CHRISTINA G.



### Contact Detail:

acgealdama@mapua.edu.ph  
(+63 2) 2475000 local 5401

### Educational Background:

BS Architecture, University of Santo Tomas 1993  
MS Architecture, University of Santo Tomas 2007

### Priority Research Interest:

Heritage Conservation, Architectural Regeneration, Vernacular Building Traditions

### Selected Journal Publications

1. Ealdama, Christina G. (2012). A History and uncertain future of Philippine Railroads. The International Committee for Conservation of Industrial Heritage (TICCIH). Bulletin 62, 3rd Quarter 2013
2. Ealdama, Anna Christina G. (2012). Value-based Design Guidelines for Future In-fill of Urban Heritage Areas. Design Venue Journal Vol 1,
3. Ealdama, Anna Christina G. (2012). Kankanaey Domestic Architecture as Manifestation of Acculturative Response to American Mission in Sagada, Mountain Province. ESPASYO, Journal of Philippine Architecture and Allied Arts, National Commission for Culture and the Arts (NCCA), Vol. 4, ISBN: 2094-3725
4. Ealdama, Anna Christina G., Munoz, Kristine Ann A., and Michelle P. Pernia, (2011). Weaving and Architecture: A Study of Women's Role in the Vernacular Architecture of the Cordilleras", FARU Journal.

# SCHOOL OF CHEMICAL ENGINEERING AND CHEMISTRY

## ADORNADO, ADONIS P.



### Contact Details:

apadonis@mapua.edu.ph

### Educational Background:

BS Chemical Engineering, Mapua Institute of Technology 2015  
MS Chemical Engineering, Mapua Institute of Technology (candidate)

### Priority Research Interest:

Chemical Engineering, Carbon Dioxide Capture Technology, Materials Science, Chemistry, Plant Design, Research, Teaching, Leadership

### Selected Journal Publications

1. Adornado, A.P., Soriano, A.N., Orfiana, O.N., Pangon, M.B.J., and A.D. Nieva (2017). Simulated Biosorption of Cd (II) and Cu (II) in Single and Binary Metal Systems by Water Hyacinth (Eichhornia crassipes) using Aspen Adsorption. ASEAN Journal of Chemical Engineering, 2, pp. 21-43
2. Soriano, A.N., Ornedo-Ramos, K.F.P., Muriel, C.A.M., Adornado, A.P., Bungay, V.C., and M.-H. Li (2016). Prediction of refractive index of binary solutions consisting of ionic liquids and alcohols (methanol or ethanol or 1-propanol) using artificial neural network. Journal of the Taiwan Institute of Chemical Engineering, 65, pp. 83-90
3. Ramos, K.F.P.O., Soriano, A.N., Muriel, C.A.M., Adornado, A.P., and V.C. Bungay (2016). Prediction of Density of Binary Mixtures of Ionic Liquids with Alcohols (Methanol/Ethanol/1-Propanol) using Artificial Neural Network. ASEAN Journal of Chemical Engineering, 2, pp. 33-50
4. Soriano, A.N., Adornado, A.P., Pajinag, A.A., Acosta, D.J.F., Averion, N.M., Leron, G.M., and V.C. Bungay (2015). Multicriterial analysis of simulated process of post-combustion capture of pure H<sub>2</sub>S and mixtures of H<sub>2</sub>S and CO<sub>2</sub> using single and blended aqueous alkanolamines. ASEAN Journal of Chemical Engineering Vol. 15 (1), pp. 72-92



## **APODACA, DAHLIA C.**

### Contact Details:

dcapodaca@yahoo.com; d\_chemist@yahoo.com

### Educational Background:

BS Medicinal and Pharmaceutical Chemistry,  
Polytechnic University of the Philippines 1996  
MS Analytical and Environmental Chemistry, De La Salle University 2001  
PhD Analytical and Polymer Chemistry, University of the Philippines  
Postdoctoral Research: Chung Yuan Christian University 2013-2014  
: University of Tokyo 2014

### Priority Research Interest:

Polymer chemistry, Advanced Functional materials Sensors, Analytical Chemistry  
and Environmental Chemistry

### Selected Journal Publications

1. Chang, W.-Q., Apodaca, D.C., Peng, W.-C., and Y.-W. Chen-Yang (2017). Protic ionic liquid-containing silica-based ionogels for nonhumidified PEMFC applications. *Ionics* pp. 1-13 Article in press.
2. Apodaca, D.C., Pernites, R.B., Ponnampati, R., Del Mundo, F.R., Advincula, R.C. (2011). Electropolymerized molecularly imprinted polymer film: EIS sensing of bisphenol A. *Macromolecules* Vol. 44 (17), pp. 6669-6682.
3. Apodaca, D.C., Pernites, R.B., Del Mundo, F.R., and R. C. Advincula (2011). Detection of 2, 4-dinitrotoluene (DNT) as a model system for nitroaromatic compounds via molecularly imprinted short-alkyl-chain SAMs. *Langmuir* Vol. 27 (11) pp. 6768-6779
4. Lagrana, C.C., Apodaca, D.C., C. P. David (2011). Toxicity of Cu<sup>2+</sup>, Cd<sup>2+</sup> and Pb<sup>2+</sup> metal ions in chironomids and factors that affect metal accumulation. *International Conference on Environment Science and Engineering IPCBEE* Vol. 8 pp. 9-13
5. Apodaca, D.C., Pernites, R.B., Ponnampati, R., Del Mundo, F.R., and R. C. Advincula (2010). Electropolymerized molecularly imprinted polymer films of a bis-terthiophene dendron: folic acid quartz crystal microbalance sensing. *ACS applied materials & interfaces* Vol. 3 (2) pp. 191-203
6. Park, Y., Apodaca, D.C., Pullen, J., and R. C. Advincula, (2010). Highly Sensitive and Selective "Turn-on" Calcium Cation Sensing from a Dendronic Terthiophene Tetraethylene Glycol (TEG) Molecule. *The Journal of Physical Chemistry B*, Vol. 114 (41), pp. 13084-13094
7. Apodaca, D.C., Pernites, R.B., Ponnampati, R., Arco, S.D., Del Mundo, F.R., and R. C. Advincula (2010). Detection of folic acid using a quartz crystal microbalance coated with molecularly imprinted polymer thin film *Abstracts of Papers of the American Chemical Society*, Vol. 239
8. Apodaca, D.C., Laurio, M.M., and C.P.C. David (2007). Response of fathead minnows (*Pimephales promelas*) to arsenic using the 96-hour toxicity test. *Research Journal of Chemistry And Environment* Vol. 11 (4), pp. 68-72
9. Alcantara, R.T., and D.C. Apodaca (2007). The mechanism of sorption of mercuric ion (Hg<sup>2+</sup>) by *Sargassum cristaefolium*. *Research Journal of Chemistry and Environment*. Vol. 11 (2) pp. 63-69
10. Alcantara, R.T., Apodaca, D.C. and M.R.D. Guzman (2007). The Effect of the Presence of Cu<sup>2+</sup> and Fe<sup>3+</sup> Metal Ions on the Sorption of Mercuric Ion (Hg<sup>2+</sup>) by *Sargassum cristaefolium*. *ASEAN Journal of Chemical Engineering*, Vol. 6 (1&2), pp. 147-156

## **AQUINO, RUTH R.**

### Contact Details:

rraquino@mapua.edu.ph

### Educational Background:

BS Chemical Engineering, Mapua Institute of Technology (1996)  
MEP Environmental Engineering Mapua Institute of Technology (2003)  
MS Material Science and Engineering, Mapua Institute of Technology (2009)  
PhD Environmental Engineering, Mapua Institute of Technology (candidate)

### Priority Research Interest:

Membrane surface enhancement, nanofibrous membrane for wastewater

### Selected Publications

1. Tolentino, M.S., Carpena, J.F., Javier, R.M., and R. R. Aquino (2017). Thermal Treatment Temperature and Time Dependence of Contact Angle of Water on Fluorinated Polystyrene as Hydrophobic Film Coating. *IOP Conference Series: Materials Science and Engineering* Vol. 205 (1), 012024



## **BASILIA, BLESSIE A.**



### Contact Details:

BABasilia@mapua.edu.ph

### Educational Background:

BS Chemical Engineering, FEATI University 1978

MS Materials Science and Engineering, 1997

PhD Materials Science and Engineering, University of the Philippines Diliman (2004)

### Priority Research Interest:

Nanotechnology, nanocrystals, nanoclay development

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### Selected Journal Publications

1. Clemente, R.Q., Basilia, B.B., and E. N. Tolentino (2016). The Significance of Heating Profiles and its effect on Sintered Ag Die Attach Agglomeration Aggregation and Adhesion On a Copper Lead Frame Surfaces International Refereed Journal of Engineering and Science (IRJES) pp. 1-8
2. De Yro, P.A.N., Salon, B.T., Basilia, B.A., De Luna, M.D., and P. Paoprasert (2016). Facile Synthesis of Nitrogen-doped Carbon Quantum Dots for Bio-imaging. MATEC Web of Conferences, Vol. 43
3. Ladaga, A.Z., Manalang, K.V., Romero, I., Sy, J.A., Arellano, I.H., and B. Basilia (2014). Ethylenediamine and ethylene glycol stabilized colloidal PbX (X= S, Se, Te) nanocrystals via amide-and ester-derivatives of 1-(propanoic acid)-3-methylimidazolium bromide ionic liquid. Materials Letters Vol. 136, pp. 420-423
4. Paglicawan, M.A., Kim, B.S., Basilia, B.A., Emolaga, C.S., Marasigan, D.D., and P.E.C. Maglalang (2014). Plasma-treated abaca fabric/unsaturated polyester composite fabricated by vacuum-assisted resin transfer molding. International Journal of Precision Engineering and Manufacturing-Green Technology, 1 (3), pp. 241-246
5. Que, M.C.O., Montesa, M., Sy, J.A., Basilia, B.A., and I.H.J. Arellano (2013). Facile in situ thermolytic growth of ZnS quantum dots in polystyrene matrix from zinc pyrrolidinedithiocarbamate as single source precursor. Materials Letters, Vol. 109, pp. 186-189
6. Paglicawan, M.A., Basilia, B.A., Navarro, M., Teresa, V., and C.S. Emolaga (2013). Influence of Nanoclay on the Properties of Thermoplastic Starch/Poly (lactic acid) Blends. Journal of Biobased Materials and Bioenergy, 7 (1), pp. 102-107
7. Paglicawan, M.A., Basilia, B.A., and B. S. Kim (2013). Water uptake and tensile properties of plasma treated abaca fiber reinforced epoxy composite. Composites Research, 26 (3)
8. Senoro, D.B., Grino, A.A. Jr., Saiyari, D.M., and B.A. Basilia (2012). Study of recycled plastic aluminates relative to environmental physical stresses as barrier material. Sustainable Environment Research, 22 (6), pp. 387-394
9. Caparanga A.R., Basilia, B.A., Dagbay K.B., and J.W.L. Salvacion (2009). Factors affecting degradation of poly(ethylene terephthalate) (PET) during pre-flotation conditioning. Waste Management, Vol. 29 No. 9, pp. 2425-2428
10. Basilia, B.A., Robles, A.P., Ledda, K.A., and K. B. Dagbay (2008). In-vitro and in-vivo screenings of electrospun polycaprolactone-carrageenan nanofibrous scaffolds for tissue engineering. Technical Proceedings of the 2008 NSTI Nanotechnology Conference and Trade Show, NSTI-Nanotech, Nanotechnology Vol. 2, pp. 306-309
11. Basilia, B.A., Panganiban, M.E.G., Collado, A.A.V.C., Pesigan, M.O.D., and P. A. De Yro (2007). Study on the Functionality of Nano-Precipitated Calcium Carbonate as Filler in Thermoplastics. Journal of Solid Mechanics and Materials Engineering, Vol. 1 (4), pp. 564-570
12. Dandal, J.A., and B. Basilia (2006). C-18 Characterization and Assessment of Nano-Grained Tungsten Carbide as a Tooling Material for Dejunk Application (Session: MIM/Tool). ASMP: Proceedings of Asian Symposium on Materials and Processing. Vol. 2006, pp. 65
13. Basilia, B.A., Panganiban, M.E.G., Collado, A.A.V.C., Pesigan, M.O.D., and P.A. De Yro (2006). D-12 Study on the Functionality of Nano-Precipitated Calcium Carbonate as Filler in Thermoplastics (Session: Polymer/Wear). ASMP: proceedings of Asian Symposium on Materials and Processing Vol. 2006, pp. 81
14. Basilia, B.A., Mendoza, H.D., and L.G. Cada (2002). Synthesis and characterization of RPET/organo-montmorillonite nanocomposites. Philippine Engineering Journal, Vol. 23 (2)



## CAPARANGA, ALVIN R.



### Contact Detail:

arcaparanga@mapua.edu.ph  
(+632) 5277021  
(+63) 9151150000

### Educational Background:

BS Chemical Engineering, Mapua Institute of Technology 1991  
MS Chemical Engineering, University of the Philippines Diliman 1996  
PhD Environmental Engineering, Mapua Institute of Technology 2008

### Priority Research Interest:

Wastewater treatment (biosorption, freeze concentration, etc.); Carbon dioxide capture using solvents/nonsolvents; Biomass and biomaterials; Membrane separation

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### Selected Journal Publications

1. Ang, M.B.M.Y., Lau, V.J., Ji, Y.-L., Huang, S.-H., An, Q.-F., Caparanga, A.R., Tsai, H.-A., Hung, W.-S., Hu, C.-C., Lee, K.-R., and J.-Y Lai (2017). Correlating PSf support physicochemical properties with the formation of piperazine-based polyamide and evaluating the resultant nanofiltration membrane performance. *Polymers*, Vol. 9 (10), No. 505
2. Lecaros, R.L.G., Mendoza, G.E.J., Hung, W.-S., An, Q.-F., Caparanga, A.R., Tsai, H.-A., Hu, C.-C., Lee, K.-R., and J.-Y Lai (2017). Tunable interlayer spacing of composite graphene oxide-framework membrane for acetic acid dehydration. *Carbon*, Vol. 123, pp. 660-667
3. Ebrahimi, M., Caparanga, A.R., Ordone, E.E., and O. B. Villaflores (2017). Evaluation of organosolv pretreatment on the enzymatic digestibility of coconut coir fibers and bioethanol production via simultaneous saccharification and fermentation. *Renewable Energy*, 109, pp. 41-48
4. Pouriman, M., Caparanga, A.R., Ebrahimi, M., and A. Dahresobh (2017). Characterization of Untreated and Alkaline-Treated Salago Fibers (*Genus Wikstroemia* Spp.). *Journal of Natural Fibers*, pp. 1-12
5. Ebrahimi, M., Caparanga, A.R., Ordone, E.E., Villaflores, O.B., and M. Pouriman (2017). Effect of ammonium carbonate pretreatment on the enzymatic digestibility, structural characteristics of rice husk and bioethanol production via simultaneous saccharification and fermentation process with *Saccharomyces cerevisiae* Hansen 2055. *Industrial Crops and Products*, 101, pp. 84-91
6. Caparanga, A.R., Balatbat, A.S., and L. Tayo (2017). Effects of heavy metals ( $\text{Fe}^{3+}/\text{Cr}^{6+}$ ) on low-level energy generation in a microbial fuel cell. *Materials Science and Engineering Conference Series*, 206 (1), pp. 012031
7. Ebrahimi, M., Villaflores, O.B., Ordone, E.E., and A.R. Caparanga (2017). Effects of acidified aqueous glycerol and glycerol carbonate pretreatment of rice husk on the enzymatic digestibility, structural characteristics, and bioethanol production. *Bioresource technology*, 228, pp. 264-271
8. Tayo, L.L., Venault, A., Constantino, V.G.R., Caparanga, A.R., Chinnathambi, A., Ali Alharbi, S., Z.heng, J., and J. Chang (2015). Design of hemocompatible poly(DMAEMA-co-PEGMA) hydrogels for controlled release of insulin. *Journal of Applied Polymer Science*, Vol. 132 (32). doi: 10.1002/APP.42365.
9. Lin, C.-M., Leron, R.B., Caparanga, A.R., and M.-H Li (2014). Henry's constant of carbon dioxide-aqueous deep eutectic solvent (choline chloride/ethylene glycol, choline chloride/glycerol, choline chloride/malonic acid) systems. *Journal of Chemical Thermodynamics*, 68 pp. 216-220.
10. Leron, R.B., Caparanga, A., and M.-H Li (2013). Carbon dioxide solubility in a deep eutectic solvent based on choline chloride and urea at  $T = 303.15\text{-}343.15\text{K}$  and moderate pressures. *Journal of the Taiwan Institute of Chemical Engineers*, 44 (6) pp. 879-885.
11. Sheng-Hong Wu, Alvin R. Caparanga, Rhoda B. Leron, and Meng-Hui Li (2013). Vapor pressures of aqueous blended-amine solutions containing (TEA/AMP/MDEA) + (DEA/MEA/PZ) at temperatures (303.15–343.15) K. *Experimental Thermal and Fluid Science*, Volume 48, Pages 1-7.
12. Zu-Jaun Hsu, Alvin R. Caparanga, Rhoda B. Leron and Allan N. Soriano. (2013). Density of PG+AMP+H<sub>2</sub>O and Solubility of N<sub>2</sub>O in PG+AMP+H<sub>2</sub>O. *Journal of Chemical Engineering of Japan*, Vol. 46, No.2, pp.93-99.
13. Huang, C.-K., Lin, K.-W., Huang, Y.-M., Caparanga, A.R., Leron, R.B., and M.-H Li (2013). Effect of thickness and phosphorus content on Au/Pd/Ni (P) metal finish of printed circuit board. *Journal of Electronic Materials*, 42 (8) pp. 2648-2657.
14. Siongco, K.R., Leron, R.B., Caparanga, A.R., and M.-H Li (2013). Molar heat capacities and electrical conductivities of two ammonium-based deep eutectic solvents and their aqueous solutions. *Thermochimica Acta* Volume 566, Pages 50-56.



15. Sheng-Hong Wu, Alvin R. Caparanga, Rhoda B. Leron, and Meng-Hui Li. (2012). Vapor Pressure of Aqueous Choline-based Deep Eutectic Solvents (Ethaline, Glyceline, Maline, and Reline) at 30-70C. *Thermochimica Acta*, Vol. 544, 20, pp. 1-5.
16. Yu-Chyi Lu, Alvin R. Caparanga, Rhoda B. Leron, and Meng-Hui Li. (2012). Molar Heat Capacity of Several Aqueous Solutions of n-[tris(hydroxymethyl)methyl-3-amino]propanesulfonic acid (TAPS) + glycol. *Thermochimica Acta*, Vol.540, 20, pp. 69-73.
17. Hsieh, Y.-P., R.B. Leron, A.N. Soriano, A.R. Caparanga, and M.-H. Li. (2012). Diffusivity, density and viscosity of aqueous solutions of choline chloride / ethylene glycol and choline chloride / malonic acid. *Journal of Chemical Engineering of Japan*, Vol. 45, No. 12, pp. 1-9.
18. M.-H. Li, A.R. Caparanga, and A. N. Soriano. (2011). Membrane Technologies and Applications: Chapter 22 - Gas Absorption of CO<sub>2</sub> and H<sub>2</sub>S Using Membrane Contactors. *Membrane Technology Applications*. Taylor and Francis, CRC Press.
19. A.N. Soriano, A.M. Agapito, L.J.L.I. Lagumbay, A.R. Caparanga and M.-H. Li. (2011). Diffusion coefficients of aqueous ionic liquid solutions at infinite dilution determined from electrolytic conductivity measurements. *Journal of the Taiwan Institute of Chemical Engineers*, Vol. 42 No. 2, pp. 258-264.
20. Y.-M. Huang, A.N. Soriano, A.R. Caparanga, and M.-H. Li. (2011). Kinetics of absorption of carbon dioxide in 2-amino-2-methyl-1-propanol + n-methyldiethanolamine + water. *Journal of the Taiwan Institute of Chemical Engineers*, Vol. 42 No.1, pp. 76-85.
21. Z.-Y. Yang, A.N. Soriano, A.R. Caparanga and M.-H. Li. (2010). Equilibrium solubility of carbon dioxide in (2-amino-2-methyl-1-propanol + piperazine + water). *The Journal of Chemical Thermodynamics*, Vol. 42 No. 5, pp. 659-665.
22. Y.-R. Chen, A.R. Caparanga, A.N. Soriano and M.-H. Li. (2010). Liquid heat capacity of the solvent system (piperazine + 2-amino-2-methyl-1-propanol + water). *The Journal of Chemical Thermodynamics*, Vol. 42, pp. 518-523.
23. M.-D. Cheng, A.R. Caparanga, A.N. Soriano and M.-H. Li. (2010). Solubility of CO<sub>2</sub> in the solvent system (water + monoethanolamine + triethanolamine). *The Journal of Chemical Thermodynamics*, Vol. 42 No. 3, pp. 342-347.
24. A.N. Soriano, A.M. Agapito, L.J.L.I. Lagumbay, A.R. Caparanga and M.-H. Li. (2010). A simple approach to predict molar heat capacity of ionic liquids using group additivity method. *Journal of the Taiwan Institute of Chemical Engineers*, Vol. 41 No. 3, pp. 307-314.
25. M.-H. Wang, A.N. Soriano, A.R. Caparanga and M.-H. Li. (2010). Binary mutual diffusion coefficient of aqueous solutions of propylene glycol and dipropylene glycol. *Journal of the Taiwan Institute of Chemical Engineers*, Vol. 41 No. 3, pp. 279-285.
26. Y.-C. Cheng, C.-H. Hsu, K.-H. Lan, J.C. Muñoz, A.R. Caparanga, A.N. Soriano and M.-H. Li. (2009). Desmearing of FR4 epoxy resin using NMP-based sweller. *Journal of Electronic Materials*, Vol. 38 No. 11, pp. 2368-2375.
27. A.R. Caparanga, B.A. Basilia, K.B. Dagbay and J.W.L. Salvacion. (2009). Factors affecting degradation of poly(ethylene terephthalate) (PET) during pre-flotation conditioning. *Waste Management*, Vol. 29 No. 9, pp. 2425-2428.
28. P.-Y. Lin, A.N. Soriano, A.R. Caparanga and M.-H. Li. (2009). Molar heat capacity and electrolytic conductivity of aqueous solutions of [Bmim] [MeSO<sub>4</sub>] and [Bmim] [triflate]. *Thermochimica Acta*, Vol. 496 No. 1-2, pp. 105-109.
29. M.-H. Wang, A.N. Soriano, A.R. Caparanga and M.-H. Li. (2009). Mutual diffusion coefficients of aqueous solutions of some glycols. *Fluid Phase Equilibria*, Vol. 285 No. 1-2, pp. 44-49.
30. A.N.B. Arugay and A.R. Caparanga. (2009). Reusability of *Sargassum cristaefolium* in sorption-desorption of Pb<sup>2+</sup>, Cu<sup>2+</sup> and Ni<sup>2+</sup> in batch and fixed-bed systems. *World Applied Sciences Journal*, Vol. 6 No. 10, pp. 1326-1334.
31. Y.-R. Chen, A.R. Caparanga, A.N. Soriano and M.-H. Li. (2009). Liquid heat capacity of the solvent system (piperazine + n-methyldiethanolamine + water). *The Journal of Chemical Thermodynamics*, Vol. 42 No. 1, pp. 54-59.
32. A.R. Caparanga, B.I. Rodriguez, Jr. and F.M. Aguilar. (2007). The effects of Na<sup>+</sup> and non-ionic surfactant on the biosorption of lead (II) using *Sargassum ilicifolium*. *Research Journal of Chemistry and Environment*, Vol. 11 No. 3, pp. 82-86.



## DE CASTRO – CRUZ, KATHLIA A.



### Contact Detail:

kadecastro@mapua.edu.ph  
(+63 2) 2475000 local 3302

### Educational Background:

BS Chemical Engineering, Mapua Institute of Technology, 2000  
MS Chemistry, Mapua Institute of Technology, 2004  
MS Law in Intellectual Property, University of Turin, Italy 2013  
PhD Chemistry, Hanyang University, South Korea, 2010

### Priority Research Interest:

Natural Products, Synthesis and Characterization, Molecular Catalysis, Environmental Chemistry

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### Selected Journal Publications

1. Sese, J.T., Ibarra, J.B.G., De Castro-Cruz, K., Borita, J.K., Catacutan, N., Jaranilla, K., and C. G. Wong (2017). Effects of different adsorbent on methane reduction on a garbage bin using MQ4 Gas Sensor. Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016 No. 7893617, pp. 455-459
2. De Castro, K.A. and H. Rhee (2014). Resin-immobilized palladium nanoparticle catalysts for Suzuki-Miyaura cross-coupling reaction in aqueous media. *Journal of Inclusion Phenomena and Macrocyclic Chemistry*. 82 (1-2), 13-24
3. Alimboyoguen, A.B., De Castro-Cruz, K.A., Shen, C.-C., Li, W.-T., and C.Y. Ragasa (2014). Chemical constituents of the bark of *aleurites moluccana* L. Willd. *Journal of Chemical and Pharmaceutical Research*, 6 (5), pp. 1318-1320
4. Alimboyoguen, A.B., De Castro-Cruz, K.A., Shen, C.-C., and C.Y. Ragasa (2014). Chemical constituents of *Anacolosia frutescens*. *Research Journal of Pharmaceutical, Biological and Chemical Sciences*, 5 (5), pp. 1189-1191
5. Ragasa, C.Y., Torres, O.B., Shen, C.-C., (...), De Castro-Cruz, K.A., and P.-W Tsai (2014). Chemical constituents of *ficus linearifolia* and *ficus triangularis*. *Chemistry of Natural Compounds*, 50 (1), pp. 172-174.
6. Tsai, P.-W., De Castro-Cruz, K.A., Shen, C.-C., and C.Y. Ragasa (2014). Chemical constituents of the stems of *Ficus triangularis*. *Der Pharmacia Lettre*, 6 (5), pp. 130-133.
7. Po-Wei Tsai, Kathlia A. De Castro-Cruz, Chien-Chang Shen, Chun-Tang Chiou, and Consolacion Y. Ragasa. (2013). Chemical constituents of *Artocarpus camansi*. *Pharmacognosy Journal*, 5 pp. 80-82.
8. P.-W. Tsai, K. A. De Castro-Cruz, C.-C. Shen, C.-T. Chiou and C. Y. Ragasa. (2012). Chemical constituents of *Ficus odorata*. *Pharm. Chem. J.* 46(4), 225-227.
9. Tsai Po-wei, De Castro-Cruz, Kathlia A. Shen Chien-Chang and Ragasa Consolacion Y. (2012) Chemical constituents of *Broussonetia luzonensis*. *Pharmacogn. J.*, 4 (31), 1-4.
10. Lim, M., De Castro, K. A., Oh, S., Lee, K., Chang, Y.-W., Kim, H., and H. Rhee (2011). Palladium nanoparticles dispersed on solid supports: synthesis, characterization and catalytic activity on selective hydrogenation of olefins in aqueous media. *Appl. Organomet. Chem.* 25, 1-8.
11. Cho, D., Ahn, J., De Castro, K. A., Ahn, H., and H. Rhee (2010). P4S10/dimethicone tandem: efficient reagent for thionation of various aromatic amides and esters. *Tetrahedron*, 5583-5588.
12. An, G., Ahn, H. De Castro, K. A., and H. Rhee (2010). Pd/C and NaBH<sub>4</sub> in Basic Aqueous Alcohol: An Efficient System for an Environmentally Benign Oxidation of Alcohols. *Synthesis*, 477-485.
13. De Castro, K.A., Byun, E. Y., and H. Rhee (2009). Diketene and Acetylated Meldrum's Acid: Agents for a Facile Teprenone Synthesis via Carroll Rearrangement. *Bull. Korean Chem. Soc*, 30, 2155-2157.
14. De Castro, K.A., Oh, S., Yun, J., Lim, J. K., An, G., Kim, D. K., and H. Rhee (2009). Colloidal Palladium Nanoparticles with In Situ H<sub>2</sub>: Reducing System for III-Unsaturated Carbonyl Compounds. *Synth. Commun.* 39, 3509-3520.
15. De Castro, K. A., and H. Rhee (2008). Selective Nosylation of 1-Phenylpropane-1,3-diol and Perchloric Acid Mediated Friedel-Crafts Alkylation: Key Steps for the New and Straightforward Synthesis of Tolterodine. *Synthesis*, 1841-1844.

### Patent

1. De Castro, K. A., Rhee, H. (2009). Intermediate of racemic Tolterodine useful for treatment of disease due to hypersensitive bladder, its preparation method, and preparation method of racemic tolterodine. KR1020090097835.
2. De Castro, K. A., Rhee, H. (2009). Manufacturing method of Tolterodine racemate by using ethyl benzoyl acetate, intermediate of Tolterodine racemate, and its manufacturing method. KR1020090066082.
3. De Castro, K. A., Rhee, H. (2008). The preparation method for Teprenone. Korean Patent Application No. 10-2008-0131298.



### DE JESUS, MEDARLO B.



#### Contact Detail:

mbdejesus@mapua.edu.ph  
(+63 2) 2475000 local 1307

#### Educational Background:

BS Chemical Engineering, Mapua Institute of Technology 1983  
MS Chemicals Engineering, Mapua Institute of Technology 2013

#### Priority Research Interest:

Thermodynamics

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#### Selected Journal Publications

1. De Jesus, M.B., Soriano, A.N., and M.-H. Li (2014). Thermophysical characterization of aqueous ternary system containing n-tris-[hydroxymethyl] methyl-3-aminopropanesulfonic acid and glycol (PG or DPG or TPG) Journal of Chemical Thermodynamics, 71 p. 249.
2. De Jesus, M.B., Soriano, A.N., and M.-H. Li (2014). Corrigendum to "Thermophysical characterization of aqueous ternary system containing n-tris-[hydroxymethyl] methyl-3-aminopropanesulfonic acid and glycol (PG or DPG or TPG)" [J. Chem. Thermodyn. 59 [80-86] (DOI:10.1016/j.jct.2012.12.005), (2013) Journal of Chemical Thermodynamics.
3. De Jesus, M.B., A.N. Soriano, and M.-H. Li (2013). Thermophysical characterization of aqueous ternary system containing n-tris-[hydroxymethyl] methyl-3-amino propanesulfonic acid and glycol (PG or DPG or TPG). The Journal of Chemical Thermodynamics, Vol. 59 (4), pp.80-86

### DE YRO, PERSIA ADA



#### Contact Details:

pandeyro@mapua.edu.ph

#### Educational Background:

BS Metallurgical Engineering, University of the Philippines Diliman 2000  
MS Materials Science and Engineering,  
University of the Philippines Diliman 2007  
PhD Materials Science and Engineering,  
University of the Philippines Diliman (candidate)

#### Priority Research Interest:

Engineering, Materials Engineering, Chemistry, Materials Science, Nanotechnology,  
Physics, Surface Chemistry, Biomaterials

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#### Selected Journal Publications

1. De Yro, P.A.N., Salon, B.T., Basilia, B.A., De Luna, M.D., and P. Paoprasert (2016). Facile Synthesis of Nitrogen-doped Carbon Quantum Dots for Bio-imaging. MATEC Web of Conferences, Vol. 43
2. Basilia, B.A., Panganiban, M.E.G., Collado, A.A.V.C., Pesigan, M.O.D., and P. A. De Yro (2007). Study on the Functionality of Nano-Precipitated Calcium Carbonate as Filler in Thermoplastics. Journal of Solid Mechanics and Materials Engineering, Vol. 1 (4), pp. 564-570



## DOMA, BONIFACIO JR. T.



### Contact Detail:

btdoma@mapua.edu.ph  
(+63 2) 2475000 local 1307

### Educational Background:

BS Chemical Engineering, Mapua Institute of Technology 1986  
MS Chemical Engineering, University of the Philippines Diliman 1992  
PhD Chemical Engineering, University of the Philippines Diliman 1999

### Priority Research Interest:

Bioreactor, Molecular Simulation, Biosorption of Toxic Materials, Biomaterials, Electromagnetic Remediation of Hazardous Chemicals, EIA Review of Power Systems and Waste Treatment System, Biochemical Engineering, Pesticide Product Development

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### Selected Journal Publications

1. Laohaprapanon, S., Vanderlipe, A.D., Doma, B.T., Jr., and S.-J. You (2017). Self-cleaning and antifouling properties of plasma-grafted poly (vinylidene fluoride) membrane coated with ZnO for water treatment. *Journal of the Taiwan Institute of Chemical Engineers*, 70, pp. 15-22
2. D.P. Bernabe, R.A.S. Herrera, Doma, B.T., Jr., M.-L. Fu, Y. Dong, and Y.-F. Wang. (2015). Adsorption of low concentration formaldehyde in air using ethylene-diamine- modified diatomaceous earth. *Aerosol and Air Quality Research*, 15, 1651-1661.
3. A.G. Espiritu, B.T. Doma, Jr., Y.-F. Wang, and F.C.P. Masim. (2014). Efficacy of methanol extracts of *Mentha haplocalyx* Briq. and *Paeonia suffruticosa* Andr. for potential antibacterial activity. *Sustain. Environ. Res.*, 24(5), 319-324.
4. Romero, V.J.M., Tsai, J.-F., Doma, B.T., Jr., and H.-P. Chao (2014). Development of functionalized carbon spheres from glucose and sucrose for the adsorption of cationic moieties in aqueous solutions. *Sustainable Environment Research*, 24 (5), pp. 339-347
5. J.P.D. Garcia, M.-F. Hsieh, B.T. Doma, Jr., D.C. Peruelo, I.-H. Chen and H.-M. Lee (2014). Synthesis of Gelatin-γ-Polyglutamic Acid-Based Hydrogel for the In Vitro Controlled Release of Epigallocatechin Gallate (EGCG) from *Camellia Sinensis*, *Polymers*, 6, 39-58.
6. A.N. Soriano, B.T. Doma, Jr. and M.-H. Li. (2010). Density and refractive index measurements of 1-ethyl-3-methylimidazolium-based ionic liquids. *Journal of the Taiwan Institute of Chemical Engineers*, Vol. 41 No. 1, pp. 115-121.
7. A.N. Soriano, B.T. Doma, Jr. and M.-H. Li. (2009). Carbon dioxide solubility in 1-ethyl-3-methylimidazolium trifluoromethanesulfate. *The Journal of Chemical Thermodynamics*, Vol. 41 No. 4, pp. 525-529.
8. A.N. Soriano, B.T. Doma, Jr. and M.-H. Li. (2009). Measurements of the density and refractive index for 1-n-butyl-3-methylimidazolium-based ionic liquids. *The Journal of Chemical Thermodynamics*, Vol. 41 No. 3, pp. 301-307.
9. A.N. Soriano, B.T. Doma, Jr. and M.-H. Li. (2009). Carbon dioxide solubility in some ionic liquids at moderate pressures. *Journal of the Taiwan Institute of Chemical Engineers*, Vol. 40 No. 4, pp. 387-393.
10. A.N. Soriano, B.T. Doma, Jr. and M.-H. Li. (2008). Solubility of carbon dioxide in 1-ethyl-3-methylimidazolium 2-(2-methoxyethoxy) ethylsulfate. *The Journal of Chemical Thermodynamics*, Vol. 40 No. 12, pp. 1654-1660.
11. A.N. Soriano, B.T. Doma, Jr. and M.-H. Li. (2008). Solubility of carbon dioxide in 1-ethyl-3-methylimidazolium tetrafluoroborate. *Journal of Chemical and Engineering Data*, 53 (11), pp. 2550-2555,



## **ELEAZAR, ELISA G.**



### Contact Detail:

egeleazar@mapua.edu.ph  
+63-2-2475000 local 3302

### Educational Background:

BS in Chemical Engineering, Mapua Institute of Technology 1998  
MS in Environmental Engineering, Mapua Institute of Technology 2004  
PhD in Environmental Engineering, Mapua Institute of Technology (in progress)

### Priority Research Interest

Carbon Capture, Rotating Packed Bed, Optimization and Mass Integration.

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### Selected Journal Publications

1. S.-Y. Pan, E.G. Eleazar, E.-E. Chang, Y.-P. Lin, H. Kim, and P.-C. Chiang. (2015). Systematic approach to determination of optimum gas-phase mass transfer rate for high-gravity carbonation process of steelmaking slags in a rotating packed bed. *Applied Energy*, 148, 23-31.
2. Gurylev, V., A.N. Soriano, E.G. Eleazar, A.R. Caparanga and M.-H. Li. (2014). Densities of aqueous glycol-amine systems containing (DEG or TEG or T4EG) as glycol and 2-amino-2-methyl-1-propanol as amine. *PICHE Journal*, Vol. 15, No.1, pp. 21-29.
3. E.G. Eleazar, B.T. Doma Jr, Nieva, Aileen D., and Raymond R. Tan (2005). Water Minimization for a Copper Mill Plant using Mathematical Programming, *Proceedings of the 66th PICHE National Convention*, January.

## **ESPIRITU, ELIZABETH S.**



### Contact Detail:

esespiritu@mapua.edu.ph  
(+63 2) 2475000 local 3302

### Educational Background:

BS Chemical Engineering, Mapua Institute of Technology, 1979  
MS Chemical Engineering, Mapua Institute of Technology, 2013

### Priority Research Interest:

Thermodynamics

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### Selected Journal Publications

1. Elizabeth S. Espiritu, Allan N. Soriano, and Meng-Hui Li. (2013). Thermophysical property characterization of ternary system containing {glycol (DEG/TEG/T4EG) + 2-amino-2-hydroxymethyl-1, 3-propanediol + water}. *The Journal of Chemical Thermodynamics*, Volume 59, Pages 121-126.



## LERON, RHODA B.



### Contact Detail:

rbleron@mapua.edu.ph  
(+63 2) 2475000 local 3302

### Educational Background:

BS Chemical Engineering, Mapua Institute of Technology 2000  
MS Environmental Engineering, Mapua Institute of Technology 2004  
PhD Chemical Engineering, Chung Yuan Christian University 2012

### Priority Research Interest:

Measurements of vapour-liquid equilibrium data for and thermophysical properties of advanced carbon dioxide absorbents.

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### Selected Publications

1. Liang, K.-L., Leron, R.B., and M. – H. Li (2016). Heat capacities of aqueous binary and ternary mixtures (with piperazine) of N-(2-aminoethyl)-piperazine and N, N, N'-trimethylethylenediamine at temperatures (303.2–353.2) K. *The Journal of Chemical Thermodynamics*, 105, pp. 51-58
2. Liang, K.-L., Lin, Y.-F., Leron, R.B., and M.-H. Li (2015). Molar heat capacity of aqueous solutions of 1,3-iaminopropane and 1,4-diaminobutane and their piperazine blends. *Thermochimica Acta*, 616, pp. 42-48.
3. Z.-W. Chen, R.B. Leron, and M.-H. Li. (2015). Equilibrium solubility of carbon dioxide in aqueous potassium l-asparaginate and potassium l-glutamate solutions. *Fluid Phase Equilibria*, 400, 20-26.
4. Chang, Y.-T., Leron, R.B., Li, M.-H. (2015). Carbon dioxide solubility in aqueous potassium salt solutions of L-proline and DL- $\alpha$ -aminobutyric acid at high pressures. *Journal of Chemical Thermodynamics*, 83, pp. 110-116.
5. A.A.R. Garcia, R.B. Leron, A.N. Soriano, and M.-H. Li. (2015). Thermophysical property characterization of aqueous amino acid salt solutions containing  $\alpha$ -aminobutyric acid. *Journal of Chemical Thermodynamics*, 81, 136-142.
6. Navarro, S.S., Leron, R.B., Soriano, A.N., and M. – H. Li (2014). Thermophysical property characterization of aqueous amino acid salt solution containing serine. *Journal of Chemical Thermodynamics*, 78 pp. 23-31.
7. Tirona, L.-A., Leron, R.B., Soriano, A.N., and M.-H. Li (2014). Densities, viscosities, refractive indices, and electrical conductivities of aqueous alkali salts of  $\alpha$ -alanine. *Journal of Chemical Thermodynamics*, 77 pp. 116-122.
8. Hsu, Y.-H., Leron, R.B., and M.-H. Li (2014). Solubility of carbon dioxide in aqueous mixtures of (reline + monoethanolamine) at T = (313.2 to 353.2) K. *Journal of Chemical Thermodynamics*, 72 pp. 94-99.
9. Olivia, R.W., Leron, R.B., and M.-H. Li (2014). Molar heat capacities of aqueous 2-amino-2-ethyl-1,3-propanediol solutions and their ternary mixtures containing piperazine or lithium salts. *Fluid Phase Equilibria*, 365 pp. 74-79.
10. Lin, S.-Y., Leron, R.B., and M.-H. Li (2014). Molar heat capacities of aqueous binary and ternary mixtures (with piperazine) of two diamines: N,N,N',N'-Tetramethylethylenediamine and N,N,N',N'-tetramethyl-1,3-propanediamine. *Journal of the Taiwan Institute of Chemical Engineers*, pp. 45 (4) 1291-1297.
11. Lin, C.-M., Leron, R.B., Caparanga, A.R., and M.-H. Li (2014). Henry's constant of carbon dioxide-aqueous deep eutectic solvent (choline chloride/ethylene glycol, choline chloride/glycerol, choline chloride/malonic acid) systems. *Journal of Chemical Thermodynamics*, 68 pp. 216-220.
12. Lin, S.-Y., Leron, R.B., and M.-H. Li (2014). Molar heat capacities of diethylenetriamine and 3-methylamino propylamine, their aqueous binaries, and aqueous ternaries with piperazine. *Thermochimica Acta*, 575 pp. 34-39.
13. Liao, C.-P., Leron, R.B., and M.-H. Li (2014). Mutual diffusion coefficients, density, and viscosity of aqueous solutions of new polyamine CO<sub>2</sub> absorbents. *Fluid Phase Equilibria*, 363 pp. 180-188.
14. Leron, R.B., Caparanga, A., and M.-H. Li (2013). Carbon dioxide solubility in a deep eutectic solvent based on choline chloride and urea at T = 303.15-343.15K and moderate pressures. *Journal of the Taiwan Institute of Chemical Engineers*, 44 (6) pp. 879-885.
15. Siongco, K.R., Leron, R.B., Caparanga, A.R., and M.-H. Li (2013). Molar heat capacities and electrical conductivities of two ammonium-based deep eutectic solvents and their aqueous solutions. *Thermochimica Acta*, Volume 566, pp. 50-56.
16. Chang, Y.-C., Leron, R.B., and M.-H. Li (2013). Equilibrium solubility of carbon dioxide in aqueous solutions of (diethylenetriamine + piperazine). *Journal of Chemical Thermodynamics*, Volume 64, pp. 106-113.
17. Kathrina R. Siongco, Rhoda B. Leron, and Meng-Hui Li (2013). Densities, refractive indices, and viscosities of N, N-diethylethanol ammonium chloride–glycerol or –ethylene glycol deep eutectic solvents and their aqueous solutions. *The Journal of Chemical Thermodynamics*, Volume 65, pp. 65-72.



18. Sheng-Hong Wu, Alvin R. Caparanga, Rhoda B. Leron, and Meng-Hui Li (2013). Vapor pressures of aqueous blended-amine solutions containing (TEA/AMP/MDEA) + (DEA/MEA/PZ) at temperatures (303.15–343.15) K. *Experimental Thermal and Fluid Science*, Volume 48, pp. 1-7.
19. Zu-Jaun Hsu, Alvin R. Caparanga, Rhoda B. Leron, and Allan N. Soriano (2013). Density of PG+AMP+H<sub>2</sub>O and Solubility of N<sub>2</sub>O in PG+AMP+H<sub>2</sub>O. *Journal of Chemical Engineering of Japan*, Vol. 46, No.2, pp.93-99.
20. Huang, C.-K., Lin, K.-W., Huang, Y.-M., Caparanga, A.R., Leron, R.B., and M.-H. Li (2013). Effect of thickness and phosphorus content on Au/Pd/Ni (P) metal finish of printed circuit board. *Journal of Electronic Materials*, 42 (8) pp. 2648-2657.
21. R.B. Leron and M.H. Li (2012). High-pressure volumetric properties of choline chloride–ethylene glycol based deep eutectic solvent and its mixtures with water. *Thermochimica Acta*, Vol. 546, pp. 54-60.
22. R.B. Leron and M.H. Li (2012). High-pressure density measurements for choline chloride: Urea deep eutectic solvent and its aqueous mixtures at T = (298.15 to 323.15) K and up to 50 MPa. *The Journal of Chemical Thermodynamics*, 54, 293-301.
23. S.H. Wu, A.R. Caparanga, R.B. Leron, and M.H. Li (2012). Vapor pressure of aqueous choline chloride-based deep eutectic solvents (ethaline, glyceline, maline and reline) at 30–70°C. *Thermochimica Acta*, 544, 1-5.
24. Y.C. Liu, A.R. Caparanga, R.B. Leron and M. H. Li (2012). Molar heat capacity of several aqueous solutions of n-[tris (hydroxymethyl)methyl-3-amino]propanesulfonic acid (TAPS) + glycol. *Thermochimica Acta*, 540, 69-73.
25. R.B. Leron, A.N. Soriano, and M.H. Li (2012). Densities and refractive indices of the deep eutectic solvents (choline chloride + ethylene glycol or glycerol) and their aqueous mixtures at the temperature ranging from 298.15 to 333.15 K. *Journal of the Taiwan Institute of Chemical Engineers*, Vol. 43, 551 -557.
26. R.B. Leron and M.-H. Li (2012). Molar heat capacities of choline chloride-based deep eutectic solvents. *Thermochimica Acta*, 530, 52-57.
27. Hsieh, Y.-P., R.B. Leron, A.N. Soriano, A.R. Caparanga and M.-H. Li (2012). Diffusivity, density and viscosity of aqueous solutions of choline chloride / ethylene glycol and choline chloride / malonic acid. *Journal of Chemical Engineering of Japan*, 45(12), 1-9.
28. P.Y. Lin, A.N. Soriano, R.B. Leron and M.H. Li (2011). Measurements and correlations of electrolytic conductivity and molar heat capacity for the aqueous ionic liquid systems containing [Emim][EtSO<sub>4</sub>] or [Emim][CF<sub>3</sub>SO<sub>3</sub>]. *Experimental Thermal and Fluid Science*, 35 (6), 1107-1112.
29. H.C. Hu, A.N. Soriano, R.B. Leron, and M. H. Li (2011). Molar heat capacity of four aqueous ionic liquid mixtures. *Thermochimica Acta*, 519(1-2), 44-49.
30. H.C. Hu, A.N. Soriano, R.B. Leron, and M. H. Li (2011). Measurements and correlations of electrical conductivity of some aqueous solutions of ionic liquids. *Journal of Chemical Engineering of Japan*, Vol. 44 No. 4, pp. 209-213.
31. S.W. Peng, A. N. Soriano, R. B. Leron and M.-H. Li (2011). Ternary diffusion coefficients of DEG and LiBr in aqueous glycol-salt system (DEG + LiBr + H<sub>2</sub>O). *Journal of the Taiwan Institute of Chemical Engineers*, 42 (2), pp.230-239.
32. P.Y. Lin, A.N. Soriano, R. B. Leron and M.H. Li (2010). Electrolytic conductivity and molar heat capacity of two aqueous solutions of ionic liquids at room-temperature: measurements and correlations. *The Journal of Chemical Thermodynamics*, 42( 8), 994-998.

### **MARQUEZ, MENANDRO C.**



Contact Details:

mcmarquez@mapua.edu.ph

Educational Background:

BS Applied Science, University of the Philippines Los Baños (2007)

MS Materials Science and Engineering, University of the Philippines, Diliman (2012)

PhD Material Science and Engineering, University of the Philippines, Diliman (candidate)



#### Selected Journal Publications:

1. Montalbo, R.C.K. and M.C. Marquez (2017). Polyaniline – Carrageenan - Polyvinyl Alcohol Composite Material Synthesized Via Interfacial Polymerization, its Morphological Characteristics and Enhanced Solubility in Water. IOP Conference Series: Materials Science and Engineering, 229 (1), 012030 doi:10.1088/1757-899X/229/1/012030
2. Marquez, M.C., Mascarinas, V. and H. Ramos (2017). Ion Implantation of Silver Nanoparticles on Electrodeposited Polycarbazole via Plasma Sputter Type Negative Ion Sources. . IOP Conference Series: Materials Science and Engineering, 229 (1), 012022 doi:10.1088/1757-899X/229/1/012022
3. Mariscal, A.R. and M.C. Marquez (2017). Evolution of Cobalt Oxide Nanostructures on Glass Substrate via Two Step Solution Route Synthesis. IOP Conference Series: Materials Science and Engineering, 205, pp. 012028 doi:10.1088/1757-899X/205/1/012028
4. Cosico, J.A.M., Ruales, P.K., and M.C. Marquez (2017). Optical and Morphological Characterization of Sonochemically Assisted Europium Doped Copper (I) Oxide Nanostructures. IOP Conference Series: Materials Science and Engineering, 205, 012027
5. Marquez, M.C., and F. C. Sumera (2012). Solar Power Goes Organic. Asia Research News 2012, ISSN 2042-0536 (Print) and ISSN 2042-0544 (online) p.39

#### **NIEVA, AILEEN D.**



##### Contact Detail:

adnieva@mapua.edu.ph  
(+63 2) 2475000 local 3302

##### Educational Background:

BS Chemical Engineering, Mapua Institute of Technology 1995  
Master of Engineering Program (Chemical Engineering),  
Mapua Institute of Technology 1998  
PhD Chemical Engineering, Mapua Institute of Technology (candidate)

##### Priority Research Interest:

chemical and environmental engineering, biosorption using agricultural wastes, life cycle assessment

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#### Selected Journal Publications

1. Adornado, A.P., Soriano, A.N., Orfiana, O.N., Pangon, M.B.J., and A. D. Nieva (2017). Simulated Biosorption of Cd (II) and Cu (II) in Single and Binary Metal Systems by Water Hyacinth (Eichhornia crassipes) using Aspen Adsorption. ASEAN Journal of Chemical Engineering, 2, pp. 21-43
2. Duga, N.D.F., Imperial, P.E.A., Soriano, A.N., Nieva, A.D. (2016) Packed Bed Biosorption of Lead and Copper Ions Using Sugarcane Bagasse. ASEAN Journal of Chemical Engineering, 1, pp. 23-37
3. Chao, H.-P., Chang, C.-C, and A. Nieva (2014). Biosorption of heavy metals on Citrus maxima peel, passion fruit shell, and sugarcane bagasse in a fixed-bed column. Journal of Industrial and Engineering Chemistry, Vol. 20 (5) pp. 3408-3414
4. Cedula, K., and Nieva, A. D. (2012). Removal of oxytetracycline in simulated wastewater by coagulation GSTF Digital Library DOI: 10.5176/2301-3761\_CCECP 46 Coagulation @Proceedings of 1st Annual International Conference on Chemistry, Chemical Engineering and Chemical Process ISSN: 2301-3761, E-periodical: 2301-377X
5. Castillo, A., Nieva, A.D., and A. R. Caparanga (2012). Improved emulsion breaking for treatment of bilge water by induced-air flotation. AIChE 2012 - 2012 AIChE Annual Meeting, Conference Proceedings 2012, 1p.

#### **SALVACION, JONATHAN W. L.**



##### Contact Detail:

jlsalvacion@mapua.edu.ph  
(+63 2) 2475000 local 2103

##### Educational Background:

BS Chemical Engineering, University of the Philippines Diliman,  
MS Chemical Engineering, University of the Philippines Diliman,  
PhD Chemical Engineering, Tokyo Institute of Technology 1996

##### Priority Research Interest:

Polymer degradation, Waste engineering



#### Selected Journal Publications

1. Shakeri, H., Arshadi, M., and J. W.L. Salvacion (2016). Removal of BTEX by using a surfactant–Bio originated composite. *Journal of Colloid and Interface Science*, 446, 186-197
2. Arshadi, M., Shakeri, H., and J. W.L. Salvacion (2016). A green adsorbent for the removal of BTEX from aqueous media. *Royal Society of Chemistry*, 6 (17), 14290-14305
3. Soleymanzadeh, M., Arshadi, M., Salvacion, J.W.L., and F. SalimiVahid (2015). A new and effective nanobiocomposite for sequestration of Cd (II) ions: Nanoscale zerovalent iron supported on sineguelas seed waste. *Chemical Engineering Research and Design*, 93, 696-709.
4. M. Arshadi, M. Soleymanzadeh, J.W.L. Salvacion and F. SalimiVahid (2014). Nanoscale Zero-Valent Iron (NZVI) supported on sineguelas waste for Pb (II) removal from aqueous solution: Kinetics, thermodynamic and mechanism. *Journal of Colloid and Interface Science*, 426, 241–251.
5. Mary Jane C. Calagui, Delia B. Senoro, Chi-Chuan Kan, Jonathan W.L. Salvacion, Cybelle Morales Futralan, and Meng-Wei Wan (2014). Adsorption of indium (III) ions from aqueous solution using chitosan-coated bentonite beads. *Journal of Hazardous Materials*, 277, 10-126
6. Arshadi, M., Salimivahid, F., Salvacion, J.W.L., and M. Soleymanzadeh (2014). Adsorption studies of methyl orange on an immobilized Mn-nanoparticle: Kinetic and thermodynamic. *RSC Advances*, 4 (31), 16005-16017.
7. Arshadi, M., Salimi Vahid, F., Salvacion, J.W.L. and M. Soleymanzadeh (2013). A practical organometallic decorated nano-size SiO<sub>2</sub>-Al<sub>2</sub>O<sub>3</sub> mixed-oxides for methyl orange removal from aqueous solution. *Applied Surface Science*, 280, 726-736.
8. A.R. Caparanga, B.A. Basilia, K.B. Dagbay and J.W.L. Salvacion (2009). Factors affecting degradation of poly (ethylene terephthalate) (PET) during pre-flotation conditioning. *Waste Management*, 29 (9), 2425-2428.

#### SORIANO, ALLAN N.



##### Contact Detail:

ansoriano@mapua.edu.ph;  
allansoriano@yahoo.com  
(+63) 9189900116

##### Educational Background:

BS Chemical Engineering, Mapua Institute of Technology 2000  
Master of Engineering in Chemical Engineering, Mapua Institute of Technology 2004  
PhD in Chemical Engineering, Chung Yuan Christian University (Taiwan) 2009

##### Priority Research Interest:

Carbon dioxide absorption using various absorbents (such as alkanolamines, ionic liquids, deep eutectic solvents, and amino acids): measurement of properties (thermophysical, kinetics and transport) and development of correlations (mathematical and theoretical models). Property measurement and correlation development of specialty chemicals such as (i) desiccant mixed solvent systems like aqueous glycols with salt, (ii) biological buffer like TRIS and TAPS, (iii) desmearing solutions for PCB, and (iv) etchant solutions for texturization of monocrystalline silicon wafer for solar cells.

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#### Selected Journal Publications

1. M.F.R. Gamit, E.R. Halabaso, S.R.B. Feliciano, J.A.D. Marquez, M.S. Tolentino, L.N. Abian, R.A.T. Cruz, M.I.L. Ticzon, V.F. Acosta and A.N. Soriano. (2017). Thermodynamics research in the Philippines: a Review. *PICChE Journal*, Vol. 18(1), 1-19.
2. J.M. Bito-on, A.E. Manuel, Jr., N.S. Dumpit, A.P. Adornado, and A.N. Soriano. (2016). Tagaytay Highlands sewage treatment plant retrofit with PGI BioCleaner system. *PICChE Journal*, 17(1), 43-49.
3. Soriano, A.N. and A.P. Adornado (2016). A predictive correlation for estimating constant-pressure liquid heat capacity of ionic liquid [bmim][PF<sub>6</sub>] (1-butyl-3-methylimidazolium hexafluorophosphate) using derived properties. *PICChE Journal*, 2016, 17(1), 1-7.
4. A.N. Soriano, O.N. Orfiana, M.B.J. Pangon, A.D. Nieva, A.P. Adornado (2016). Simulated biosorption of Cd(II) and Cu(II) in single and binary metal systems by water hyacinth (*Eichhornia crassipes*) using Aspen Adsorption®. *ASEAN Journal of Chemical Engineering*, 16(2), 21-43.



5. N.D.F. Duga, P.E.A. Imperial, A.N. Soriano, A.D. Nieva (2016). Packed bed biosorption of lead and copper ions using sugarcane bagasse. *ASEAN Journal of Chemical Engineering*, 16(1), 23-37.
6. A.N. Soriano, K.F.P. Ornedo-Ramos, C.A.M. Muriel, A.P. Adornado, V.C. Bungay, M.-H. Li. (2016). Prediction of refractive index of binary solutions consisting of ionic liquids and alcohols (methanol or ethanol or 1-propanol) using artificial neural network. *Journal of the Taiwan Institute of Chemical Engineers*, 65(8), pp. 83-90.
7. K.F.P. Ornedo-Ramos, C.A.M. Muriel, A.P. Adornado, A.N. Soriano, V.C. Bungay (2015). Prediction of density of binary mixtures of ionic liquids with alcohols (methanol/ethanol/1-propanol) using artificial neural network. *ASEAN Journal of Chemical Engineering*, Vol. 15, No. 2, pp. 33-50.
8. A.N. Soriano, A.P. Adornado, A.A. Pajinag, D.J.F. Acosta, N.M. Averion, G.M. Leron, V.C. Bungay. (2015). Multicriterial analysis of simulated process of post-combustion capture of pure H<sub>2</sub>S and mixtures of H<sub>2</sub>S and CO<sub>2</sub> using single and blended aqueous alkanolamines. *ASEAN Journal of Chemical Engineering*, Vol. 15, No. 1, pp. 72-93.
9. Masilungan-Manuel, J.T., M.C. Manuel, P.-T. Lin, A.N. Soriano. (2015). Optimization of the drying parameters for the short-form spray dryer producing powdered egg with 20% tapioca starch additive. *Advances in Mechanical Engineering*, Vol. 7, No. 8, pp.1-11.
10. Garcia, A.A., R.B. Leron A.N. Soriano and M.-H. Li (2015). Thermophysical property characterization of aqueous amino acid salt solution containing  $\alpha$ -aminobutyric acid. *The Journal of Chemical Thermodynamics*, Vol. 81, No. 2, pp.136-142.
11. A.N. Soriano, R.V. Entrolizo, C.M.A. Era, J.S.H. San Diego, M.-H. Li (2014). Prediction of diffusion coefficients of heavy metal ions at infinite dilution through electrolytic conductivity data. *PICHe Journal*, Vol. 15, No.2, pp. 54-71.
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44. Ya-Hung Yu, Allan N. Soriano, Meng-Hui Li. (2009) Heat capacities and electrical conductivities of 1-ethyl-3-methylimidazolium-based ionic liquids. Journal of Chemical Thermodynamics, vol. 41, no. 1, pp. 103-108.
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53. Allan N. Soriano, Bonifacio T. Doma Jr., Meng-Hui Li, (2009) Carbon dioxide solubility in 1-ethyl-3-methylimidazolium trifluoromethanesulfonate. *Journal of Chemical Thermodynamics*, vol. 41, no. 4, pp. 525-529.
54. Chi-Kwang Li, Allan N. Soriano, Meng-Hui Li, (2009) Heat capacities of the mixed-solvents desiccants (glycols + water + salts). *Thermochemical Acta*, vol. 487, no. 1, pp. 26-32.
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### **TAYO, LEMUEL L.**

#### Contact Detail:

lltayo@mapua.edu.ph  
lemueltayo@yahoo.ca  
(+63) 9189901980



#### Educational Background:

BS Chemistry, Pamantasan ng Lungsod ng Maynila 1997  
MS Biochemistry, University of the Philippines Manila 2001  
PhD Marine Science (Biotechnology),  
University of the Philippines Diliman 2010

#### Priority Research Interest:

Biochemical Pharmacology and Environmental Toxicology, Development of Chemical, Biochemical and Molecular Tools for Marine Biology Studies, Marine Pollution, Development of Marine Natural Products as Drugs, Nanoparticle Technology for Drug and Gene Delivery; Membrane Separation

1. Caparanga, A.R., Balatbat, A.S., and L. Tayo (2017). Effects of heavy metals (Fe<sup>3+</sup>+Cr<sup>6+</sup>) on low-level energy generation in a microbial fuel cell. *Materials Science and Engineering Conference Series*, 206 (1), 012031
2. Shih, Y., Venault, A., Tayo, L.L., Chen, S.H., Higuchi, A., Deratani, A., Chinnathambi, A., Alharbi, S.A., Quemener, D., and Y. A. Chang (2017). Zwitterionic-Shielded Carrier with pH-Modulated Reversible Self-Assembly for Gene Transfection. *Langmuir*, 33 (8), 1914-1926
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4. Gou, Y.Y., Hsu, Y.C., Chao, H.R., Que, D.E., Tayo, L.L., Lin, C.H., Huang, S.M., Tsai, C.-H., and S.-I. Shih (2016). Pollution characteristics and diurnal variations in polybrominated diphenyl ethers in indoor and outdoor air from vehicle dismantler factories in southern Taiwan. *Aerosol Air Qual. Res.*, 16, 1931-1941
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9. S. Bhatia, Y.J. Kil, B. Ueberheide, B. Chait, L.L. Tayo, L.J. Cruz, B. Lu, J.R. Yates III and M. Bern. (2011) Constrained De Novo sequencing of peptides with application to conotoxins. *International Conference on Research on Computational Molecular Biology*, LNBI 6577, 16-30.
10. Lemmuel L. Tayo, Bingwen Lu, Lourdes J.Cruz and John R Yates III. (2010). Proteomic Analysis Provides Insights on Venom Processing in Conus textile Venom. *Journal of Proteome Research*, 9 (5), 2292–2301.



## CRUZ, EDGARDO S.



### Contact Detail:

engredgar2k@yahoo.com  
engredgar2k@gmail.com  
(+632) 2475000 local 5201

### Educational Background:

BS Civil Engineering, University of Santo Tomas 1997  
MS Civil Engineering, University of the Philippines Diliman 2006

### Priority Research Interest:

Structural analysis, concrete design, steel design

### Selected Publications

1. Delia B. Senoro, Mehra Pourbeheshtiansabet, Edgardo S. Cruz and Blessie A. Basilia. (2014). Resistance factors and reliability index of recycled plastic aluminates as roofing shingles using LFRD methods. *Sustain. Environ. Res.* 24(5). 357-364.

## QUEANO, KARLO L.



### Contact Detail:

klqueano@mapua.edu.ph  
(+632) 2475000 local 5201

### Educational Background:

BS Geology, University of the Philippines Diliman 1993  
MS Petroleum Geosciences, Universiti Brunie Darussalam 1999  
PhD Earth Sciences, University of Hongkong 2006

### Priority Research Interest:

geochemistry, geophysics, and geology; geologic hazard, landslide occurrence, group rupture

### Selected Journal Publications

1. Guotana, J.M.R., Payot, B.D., Dimalanta, C.B., Ramos, N.T., Faustino-Eslava, D.V., Queano, K.L., and G.P. Yumul, Jr. (2017). Petrological and geochemical characteristics of the Samar Ophiolite ultramafic section: implications on the origins of the ophiolites in Samar and Leyte islands, Philippines. *International Geology Review*, pp. 1-17
2. Queano, K.L., Marquez, E.J., Dimalanta, C.B., Aitchison, J.C., Ali, J.R., and G.P. Yumul, Jr. (2017). Mesozoic radiolarian faunas from the northwest Ilocos Region, Luzon, Philippines and their tectonic significance. *Island Arc*, 26 (4), No. e12195
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6. Yumul, G.P., Brown, W.W., Dimalanta, C.B., Ausa, C.A., Faustino-Eslava, D.V., Payot, B.D., Ramos, N.T., Lizada, A.N.L., Buena, A.E., Villaplaza, B.R.B., Manalo, P.C., Queno, K.L., Guotana, J.M.R., and N.A.D. Pacle (2017). Adakitic rocks in the Masara gold-silver mine, Compostela Valley, Mindanao, Philippines: Different places, varying mechanisms? *Journal of Asian Earth Sciences*, 142, pp. 45-55



7. Guotana, J.M.R., Payot, B.D., Dimalanta, C.B., Ramos, N.T., Faustino-Eslava, D.V., Queno, K.L., Yumul, G.P. Jr. (2017). Petrological and geochemical characteristics of the Samar Ophiolite ultramafic section: implications on the origins of the ophiolites in Samar and Leyte islands, Philippines. *International Geology Review*, pp. 1-17
8. Queano, K.L., Marquez, E.J., Dimalanta, C.B., Aitchison, J.C., Ali, J.R., Yumul, G.P. (2017). Mesozoic radiolarian faunas from the northwest Ilocos Region, Luzon, Philippines and their tectonic significance. *Island Arc*, 6 (4)
9. Manalo, P.C., Dimalanta, C.B., Ramos, N.T., Faustino-Eslava, D.V., Queno, K.L., Yumul, G.P. (2016) Magnetic Signatures and Curie Surface Trend Across an Arc–Continent Collision Zone: An Example from Central Philippines. *Surveys in Geophysics*, 37 (3), pp. 557-578
10. Manalo, P.C., Dimalanta, C.B., Faustino-Eslava, D.V., Payot, B.D., Ramos, N.T., Queno, K.L., Perez, A.D.C., Yumul, G.P. Jr. (2015) Geochemical and Geophysical Characteristics of the Balud Ophiolitic Complex (BOC), Masbate Island, Philippines: Implications for its Generation, Evolution and Emplacement. *Terrestrial, Atmospheric & Oceanic Sciences*, 26 (2)
11. Balmater, H.G., Manalo, P.C., Faustino-Eslava, D.V., Queno, K.L., Dimalanta, C.B., Guotana, J.M.R., Ramos, N.T., Payot, B.D., Yumul, G.P. (2015) Paleomagnetism of the Samar Ophiolite: Implications for the Cretaceous sub-equatorial position of the Philippine island arc. *Tectonophysics*, 664, pp. 214-224
12. Dimalanta, C.B., Salapare, R.C., Faustino-Eslava, D.V., Ramos, N.T. Queaño, K.L., Yumul, G.P., Yang, T.F. (2015) Post-emplacement history of the Zambales Ophiolite Complex: Insights from petrography, geochronology and geochemistry of Neogene clastic rocks. *Journal of Asian Earth Sciences*, 104, pp. 215-227
13. Manalo, P.C., 12. Dimalanta, C.B., Faustino-Eslava, D.V., Ramos, N.T., Queno, K.L., Yumul, G.P. (2015) Crustal thickness variation from a continental to an island arc terrane: Clues from the gravity signatures of the Central Philippines. *Journal of Asian Earth Sciences*, 104, pp. 205-214
14. Salapare, R.C., Dimalanta, C.B., Ramos, N.T., Manalo, P.C., Faustino-Eslava, D.V., Queno, K.L., Yumul, G.P. Jr. (2015) Upper crustal structure beneath the Zambales Ophiolite Complex, Luzon, Philippines inferred from integrated gravity, magnetic and geological data. *Geophysical Journal International*, 201 (3), pp. 1522-1533
15. Queano, K.L., Marquez, E.J., Aitchison, J.C., Ali, J.R. (2013) Radiolarian biostratigraphic data from the Casiguran Ophiolite, Northern Sierra Madre, Luzon, Philippines: Stratigraphic and tectonic implications. *Journal of Asian Earth Sciences*, 65, pp. 131-142.
16. Canto, A.P.B., Padrones, J.T., Concepcion, R.A.B., Perez, A.D.C., Tamayo, R.A., Dimalanta, C.B., Faustino-Eslava, D.V., Queaño, K.L., Yumul, G.P. (2012) Geology of northwestern Mindoro and its offshore islands: Implications for terrane accretion in west Central Philippines. *Journal of Asian Earth Sciences*, 61, pp. 78-87.
17. Concepcion, R.A.B., Dimalanta, C.B., Yumul Jr., G.P., Faustino-Eslava, D.V., Queaño, K.L., Tamayo Jr., R.A., Imai, A. (2012) Petrography, geochemistry, and tectonics of a rifted fragment of Mainland Asia: Evidence from the Lasala Formation, Mindoro Island, Philippines. *International Journal of Earth Sciences*, 101 (1), pp. 273-290.
18. Gabo, J.A.S., Dimalanta, C.B., Asio, M.G.S., Queaño, K.L., Yumul Jr., G.P., Imai, A. (2009) Geology and geochemistry of the clastic sequences from Northwestern Panay (Philippines): Implications for provenance and geotectonic setting. *Tectonophysics*, 479 (1-2), pp. 111-119.
19. Queaño, K.L., Ali, J.R., Pubellier, M., Yumul Jr., G.P., Dimalanta, C.B. (2009) Reconstructing the Mesozoic-early Cenozoic evolution of northern Philippines: Clues from palaeomagnetic studies on the ophiolitic basement of the Central Cordillera. *Geophysical Journal International*, 178 (3), pp. 1317-1326.
20. Yumul Jr., G.P., Dimalanta, C.B., Marquez, E.J., Queaño, K.L. (2009) Onland signatures of the Palawan microcontinental block and Philippine mobile belt collision and crustal growth process: A review. *Journal of Asian Earth Sciences*, 34 (5), pp. 610-623.



## SENORO, DELIA B.



### Contact Detail:

dbsenoro@mapua.edu.ph  
drsenoro@gmail.com  
(+632) 2475000 local 5109  
(+63) 917 8223786

### Educational Background:

BS Civil Engineering, West Negros University, Bacolod, 1983  
MS Environmental Engineering, University of the Philippines Diliman 2006  
PhD Environmental Engineering, University of the Philippines Diliman 2009  
Advanced Studies in Health Risks Assessment (in collaboration with the Doctoral Programme in Environmental Factors and Health), Institute of Environmental Medicine, Karolinska Institute, Sweden 2014

### Priority Research Interest:

Waste Utilization, Toxic and Hazardous Substances and Wastes Engineering, Constructed Wetlands as Treatment Wetlands, Environmental Impact and Risk Assessment, Health Risks Assessment, Environmental Infrastructure, Non-toxic Environment, and Risks Reduction

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### Selected Journal Publications

1. Lin, C., Nguyen, K.A., Vu, C.T., Senoro, D., and M. C. Villanueva (2017). Contamination levels and potential sources of organic pollution in an Asian river. *Water Science and Technology*, 76 (9), 2434-2444
2. Lin, C., Vu, T., Senoro, D., and M. C. Villanueva (2017). The Investigation of Volatile and Semi-volatile Organic Contaminations in Houjing River, Kaohsiung City, Southern Taiwan. *ASM Science Journal, ICT-BIO*, pp. 74-81
3. Senoro, D.B., Maravillas, S.L., Ghafari, N., Rivera, C.C., Quiambao, E.C., and M.C.M. Lorenzo (2016). Modeling of the residue transport of lambda cyhalothrin, cypermethrin, malathion and endosulfan in three different environmental compartments in the Philippines. *Sustainable Environment Research*, 26 (4), 168-176
4. Delia B. Senoro, Mehra Pourbeheshtiansabet, Edgardo S. Cruz and Blessie A. Basilia (2014). Resistance factors and reliability index of recycled plastic aluminates as roofing shingles using LFRD methods. *Sustain. Environ. Res.* 24(5). 357-364.
5. Mary Jane C. Calagui, Delia B. Senoro, Chi-Chuan Kan, Jonathan W.L. Salvacion, Cybelle Morales Futalan, and Meng-Wei Wan (2014). Adsorption of indium (III) ions from aqueous solution using chitosan-coated bentonite beads. *Journal of Hazardous Materials*, 277, 10-126
6. Cruz, N.K.O., Semblante, G.U., Senoro, D.B., You, S.-J., and S.-C. Lu (2014). Dye degradation and antifouling properties of polyvinylidene fluoride/titanium oxide membrane prepared by sol-gel method. *Journal of the Taiwan Institute of Chemical Engineers*, 45 (1), 192-201.
7. Chyan, J.-M., Tan, F.J., Chen, I.-M., Lin, C.-J., Senoro, D.B., and M.P.C. Luna, (2014). Effects of porosity on flow of free water surface constructed wetland in a physical model. *Desalination and Water Treatment*, 52 (4-6), 1077-1085.
8. Chyan, J.-M., Senoro, D.-B., Lin, C.-J., Chen, P.-J., and I.-M Chen (2013). A novel biofilm carrier for pollutant removal in a constructed wetland based on waste rubber tire chips. *International Biodeterioration and Biodegradation*, 85, 638-645.
9. Jih-Ming Chyan, Fibor Jacobo Tan, I-Ming Chen, Chien-Jung Lin, Delia Bantillo Senoro and Mario Paul Carmino Luna (2013). Effects of Porosity on flow of free water surface constructed wetland in a physical model. *Desalination and Water Treatment*, 52(4-6), 1077-1085
10. Jih-Ming Chyan, Delia-B. Senoro, Chien-Jung Lin, Po-Jai Chen, and I-Ming Chen (2013). A novel biofilm carrier for pollutant removal in a constructed wetland based on waste rubber tire chips. *International Biodeterioration & Biodegradation*, 85, 638-645
11. Natalie Kristine O. Cruz, Galilee Uy Semblante, Delia B. Senoro, Sheng-Jie You, and Shao-Chung Lu (2013). Dye degradation and antifouling properties of polyvinylidene fluoride/titanium oxide membrane prepared by sol-gel method. *Journal of the Taiwan Institute of Chemical Engineers*, 45(1), 192-201
12. Delia B. Senoro, Albert A. Griño, Jr., Donamel M. Saiyari and Blessie A. Basilia (2012). Study of recycled plastic aluminates relative to environmental physical stresses as barrier material. *Sustainable Environment Research*, 22(6), 387 – 394.



## **TAN, FIBOR J.**



### Contact Detail:

FJTan@mapua.edu.ph  
(+63) 917 2705464  
(+63) 922 4824763

### Educational Background:

BS Civil Engineering, University of the Philippines Diliman 2002  
MS Environmental Engineering, University of the Philippines Diliman 2008  
PhD Civil Engineering, University of the Philippines Diliman (candidate)

### Priority Research Interest:

Water Resources  
Surface flow constructed wetland

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### Selected Journal Publications

1. Monjardin, C.E.F., Uy, F.A.A., and F. J. Tan (2017). Estimation of River Discharge at Ungauged Catchment using GIS Map Correlation Method as Applied in Sta. Lucia River in Mauban, Quezon, Philippines. IOP Conference Series: Materials Science and Engineering, 216 (1), No. 012045
2. Ternate, J.R., Celeste, M.I., Pineda, E.F., Tan, F.J., and F.A.A. Uy (2017). Floodplain Modelling of Malaking-Ilog River in Southern Luzon, Philippines Using LiDAR Digital Elevation Model for the Design of Water-Related Structures. IOP Conference Series: Materials Science and Engineering, 216 (1), No. 012044
3. Chyan, J.-M., Tan, F.J., Chen, I.-M., Lin, C.-J., Senoro, D.B and M.P.C. Luna (2014). Effects of porosity on flow of free water surface constructed wetland in a physical model. Desalination and Water Treatment, 52 (4-6), 1077-1085.

## **UY, FRANCIS ALDRINE A.**



### Contact Detail:

faauy@mapua.edu.ph; faauy@yahoo.co.ph  
(+632) 2475000 local 5200; (+632) 5278456

### Educational Background:

BS Civil Engineering, Mapua Institute of Technology 2000  
MS Civil Engineering (Structural Engineering),  
Technological University of the Philippines 2004  
PhD Civil Engineering (Transportation Engineering),  
University of the Philippines Diliman 2011

### Priority Research Interest:

Intelligent Transportation Systems; Environmentally Sustainable Transportation (EST);  
Non-Motorized Transportation (NMT); Public Mass Transportation System; Road Safety  
Engineering; Development of Mobile Content for Engineering Education and Practice;  
Crowdsourcing Techniques in Engineering Research; Sustainable Development Rating  
System (Green Building Rating); Geospatial Information and Civil Systems (GICS)

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### Selected Journal Publications

1. Gaviña, J.R., Uy, F.A., and J. D. Carreon (2017). Wireless Smart Sensor Network System Using SmartBridge Sensor Nodes for Structural Health Monitoring of Existing Concrete Bridges. IOP Conference Series: Materials Science and Engineering, 216 (1), 012050
2. Monjardin, C.E.F., Uy, F.A.A., and F.J. Tan (2017). Estimation of River Discharge at Ungauged Catchment using GIS Map Correlation Method as Applied in Sta. Lucia River in Mauban, Quezon, Philippines. IOP Conference Series: Materials Science and Engineering, 216 (1), 012045
3. Ternate, J.R., Celeste, M.I., Pineda, E.F., Tan, F.J. and F.A.A. Uy (2017). Floodplain Modelling of Malaking-Ilog River in Southern Luzon, Philippines Using LiDAR Digital Elevation Model for the Design of Water-Related Structures. IOP Conference Series: Materials Science and Engineering, 216 (1), 012044
4. Lim, M.B.B., Lim, H.R., Jr., Piantanakulchai, M., and F.A. Uy (2015). A household-level flood evacuation decision model in Quezon City, Philippines. Natural Hazards, 80 (3), 1539-1561



## AVENDANO, GLENN O.



### Contact Detail:

goavendano@mapua.edu.ph  
(+632) 2475000 local 2100

### Educational Background:

BS Electronics and Communications Engineering,  
Mapua Institute of Technology 1996  
Master of Engineering Program (ECE), Mapua Institute of Technology 2004  
PhD in ECE, Mapua Institute of Technology 1996 (in-progress)

### Priority Research Interest:

IC design, computer networking

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### Selected Journal Publications

1. Sejera, M.P., Avendano, G.O., Grecia, J.N.J., Neri, L.P.G., Sanz, J.H., Sison, P.J.V., and M.V. C. Caya (2017). Extension of a 3-cm range of transmission and reception of a visible light communication system through varying modulation technique. Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016, No. 7893620, 468-471
2. Yumang, A.N., Avendano, G.O., Cruz, J.C.D., Ballado, A., Agustin, L.E., Del Mundo, D.M., Dacalos, J.E., Roble, J.K., and M.V. Caya (2017). Microcontroller-based fertilizer dispenser for rice crop. Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016 No. 7893619, 464-467
3. Yumang, A.N., Paglinawan, A.C., Avendano, G.O., Paglinawan, C.C., Sejera, M.M., Aquino, N.J.J., Garvida, A.J.C. and R.J.L. Datu (2017). Gamified teaching and learning platform for Christian Academy of Manila. Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016, No. 7893604, 386-391
4. Yumang, A.N., Paglinawan, A.C., Avendano, G.O., Paglinawan, C.C., Sejera, M.M., Aquino, N.J.J., Garvida, A.J.C. and R.J.L. Datu (2017). Gamified outcomes-based teaching and learning assessment tool for Mapúa Institute of Technology. Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016, No. 7893603, 380-385
5. Cruz, F.R.G., Avendaño, G.O., Manlises, C.O., Avellanosa, J.J.G., Abina, J.C.F., Masaquel, A.M., Siapno, M.L.O. and W.-Y. Chung (2017). Tele-operated search robot for human detection using histogram of oriented objects. Proceedings of SPIE - The International Society for Optical Engineering, 10225, 102250K
6. Ballado, A.H., Dela Cruz, J.C., Avendano, G.O., Echano, N.M., Ella, J.E., Medina, M.E.M., and B.K.C. Paquiz (2016). Philippine currency paper bill counterfeit detection through image processing using Canny Edge Technology. 8th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management, HNICEM 2015, No. 7393184
7. Paglinawan, A.C., Paglinawan, C.C., Avendano, G.O., Wang, Y.-H., and W.-Y. Chung (2011). A novel mode switching power management system IC design for implantable biomedical instrumentations. International Symposium on Integrated Circuits, ISIC 2011 6131925, 563-566.
8. Yumang, A.N., Avendano, G.O., and G. C. Talisic (2011). Greening Data Communications and Computer Networks through the Networking Academy. Proceedings of the World Congress on Engineering. WCE 2011, 1, 355-359.

## BALLADO, ALEJANDRO JR. H.



### Contact Detail:

ahballado@mapua.edu.ph  
(+632) 2475000 local 2300

### Educational Background:

Electronics and Communications Engineering,  
Mapua Institute of Technology 1995  
Master of Engineering (ECE), Mapua Institute of Technology 1999  
PhD in Electronics Engineering, De La Salle University (in-progress)

### Priority Research Interest:

Smart Antenna, Wireless Systems, Microwaves, RF, and Wave Propagation



#### Selected Journal Publications

1. David, L.G.C. and A. H. Ballado (2016). Object-based land use and land cover mapping from LiDAR data and orthophoto application of decision tree-based data selection for SVM classification. Humanitarian Technology Conference (R10-HTC), 2016 IEEE Region, 10 pp. 1-5
2. David, L.G.C., Ballado, A.H., Sarte, S.M., and R.A. Pula (2016). Mapping inland aquaculture from orthophoto and LiDAR data using object-based image analysis. Humanitarian Technology Conference (R10-HTC), 2016 IEEE Region 10, pp. 1-5
3. Ballado, A.H., Lazaro, J.B., Aquino, E.J.A., Balaga, A.J.B., Hernandez, A.S., and M.V.C. Caya (2016). Water Penetrating Sensor for Feature Extraction of Benthic Habitat using Remotely Sensed Information in Shallow Water. Control System, Computing and Engineering (ICCSCE), 2016 6th IEEE International Conference, pp. 472-475
4. Garcia, R.G., Ballado, A.H., Paglinawan, A.C., Paglinawan, C.C., Gavino, R.B., Magcamit, B.A.J., Miranda, J.C.S., and M. F. Tiongson (2016). Hand tremor analyzer using accelerometry for preliminary diagnosis, classification and monitoring of selected movement disorders. Control System, Computing and Engineering (ICCSCE), 2016 6th IEEE International Conference on, 392-396
5. Cruz, J.C.D., Ballado, A.H., Valiente, F.L., Lubrin, M.L.M, Matoza, K.N.D., Pineda, J.C. and A. M. Polancos (2016). Design of microstrip TV antenna for in-campus digital broadcast system at 479 MHz. Region 10 Conference (TENCON), 2016 IEEE, 1560-1564
6. Dela Cruz, J., Ballado, A., Valiente, F., Cajili, P.R., Carranza, F.J., Flores, J.D. and A.J Uy (2015). Optimal antenna position analysis for in campus information dissemination through digital TV broadcasting. Humanitarian Technology Conference (R10-HTC), 2015 IEEE Region 10, pp. 1-5
7. Ballado, A.H.; Dela Cruz, J.C.; Sejera, M.P.; Ingco, W.M.; Juan, C.M.; Nanao, D.N.; and J. A. Navarro (2014). Design of indoor microstrip TV antenna for integrated services digital broadcast — Terrestrial (ISDB-T) signal reception at 677 MHz. Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2014 International Conference on, 1-6, doi: 10.1109/HNICEM.2014.7016228
8. A. H. Ballado Jr. and F. S. Caluyo (2011). Design of a 7-Element Electronically Steerable Passive Array Radiator (ESPAR) Antenna for the ISM Band. Proceedings of IEEE COMCAS 2011, 1-4
9. A.H. Ballado Jr. F.S. Caluyo, N.B. Linsangan, C.V. Nvalta and R.V.M. Santiago (2011). Shifting to Outcomes-Based Education: The Mapua Institute of Technology Experience. World Congress on Engineering and Computer Science 2011 Vol. I WCECS 2011, ISBN: 978-988-18210-9-6 ISSN: 2078-0958 (Print); ISSN: 2078-0966 (Online).

#### **CALUYO, FELICITO S.**

##### Contact Detail:

fscaluyo@mapua.edu.ph  
(+632) 2475000 local 2300

##### Educational Background:

BS Electrical Engineering, University of the Philippines, Diliman, 1970  
Master of Engineering (EE), University of the Philippines, Diliman, 1977  
Maitrise en Electronique et Communication  
Diplome d'Etudes Approfondies (Communications Optiques et Microondes),  
Universite de Limoges, France, 1985  
PhD in Electronics (Communications Optiques et Microondes),  
University de Limoges, France 1990

##### Priority Research Interest:

Energy systems, Control Systems, Signal Processing, Microwaves and Optical Communications, Microelectronics, Machine Learning and Pattern Recognition



#### Selected Journal Publications

1. Dinglasan-Fenol, S., Caluyo, F.S., and J. L. Lorenzo (2017). Simulation and modeling of charging and discharging of supercapacitors. 2017 International Conference on Circuits, System and Simulation, ICCSS 2017, No. 8023172, 14-17
2. Dinglasan-Fenol, S., Caluyo, F.S., and W. Sugimoto (2017). Effect of charging methods on self-discharge and leakage current of supercapacitors. 4th International Conference on Control Engineering and Information Technology, CEIT 2016, No. 7929024
3. Yao, C.B., Rogelio, J.P., Baldovino, R.G., Caluyo, F.S. (2017) A fuzzy-pulse width modulation (PWM) control algorithm for a computer numerical control (CNC) laser machine. Source of the Document Advanced Science Letters, 23 (5), 4419-4423



4. Balbin, J.R., Padilla, D.A., Caluyo, F.S., Fausto, J.C., Hortinela, C.C., Manlises, C.O., Bernardino, C.K.S., Finones, E.G., and L.T. Ventura (2017). Sign language word translator using Neural Networks for the Aurally Impaired as a tool for communication. Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016, No. 7893611, 425-429
5. Balbin, J.R., Padilla, D.A., Caluyo, F.S., Hortinela, C.C., Cruz, F.R.G., Fausto, J.C., Garcia, R.G., Vergara, E.M., Baluyot, G.P.S., De Luna, C.Y.B., and J.C.R. Orio (2017). ZigBee and Power Line Communications interconnectivity applied to fuzzy logic controlled automated lighting system. Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016, No. 7893612, 430-434
6. Lorenzo, J.J., Caluyo, F.S., and S. D. Fenol (2016). Parameter extraction method for fractional order supercapacitor system model. IEEE International Conference on Semiconductor Electronics, Proceedings, ICSE 2016-September, No. 7573601, 101-104
7. Tabal, K.M.R., Caluyo, F.S. and J.B.G. Ibarra (2016). Document Microcontroller-implemented artificial neural network for electrooculography-based wearable drowsiness detection system. Lecture Notes in Electrical Engineering, 362, 461-472
8. Dela Cruz, J.C. and F. S. Caluyo (2014). Heuristic modelling of path loss inside residences at 677MHz. Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2014 International Conference on, 1-5, 12-16 doi: 10.1109/HNICEM.2014.7016246
9. Gonzalez, E.A., Dorčák, L., Monje, C.A., Valsa, J., Caluyo, F.S., and I. Petráš (2014). Conceptual design of a selectable fractional-order differentiator for industrial applications. Fractional Calculus and Applied Analysis, 17 (3), 697-716.
10. Beltran Jr., A.A. and Felicito S. Caluyo (2014). Design and Implementation of Fuzzy Logic Controlled Uninterruptible Power Supply Integrating Renewable Solar Energy. International Journal of Engineering Research, 3(3), 162-166
11. Nograles, A.H.H. and F. S. Caluyo (2013). Wireless system for pregnancy detection in cows by monitoring temperature changes in body. Proceedings - 2013 IEEE 9th International Colloquium on Signal Processing and its Applications, CSPA 2013. 6530005, 11-16.
12. Dela Cruz, J.C., and F. S. Caluyo (2013). Heuristic modelling of outdoor path loss for 9m, 3m and 1.5m antenna at 677 MHz. Proceedings of the 2013 IEEE Conference on Cybernetics and Intelligent Systems, CIS 2013, 6751589, 117-122.
13. Ambata, L.U., and F. S. Caluyo (2012). Background change detection using wavelet transform. Conference Paper). IEEE Region 10 Annual International Conference, Proceedings/TENCON 2012, 6412298.
14. N.B.Linsangan, A.G.Panganiban, and F.S.Caluyo. (2012). Implementation of Wavelet Transform-Based Algorithm for Iris Recognition System. International Journal of Information and Electronics Engineering. 2(3), 328-332
15. Caluyo, F.S. and J.C. Dela Cruz (2012). Antenna characterization and determination of path loss exponents for 677MHz channel using fixed and portable digital terrestrial television. Progress in Electromagnetics Research C, 29, 149-161.
16. Panganiban, A.G., Linsangan, N.B. and Felicito S. Caluyo (2011). Wavelet-based Feature Extraction for Iris Recognition System. Journal of Information Processing Systems, 11E02-006.

### **CRUZ, FEBUS REIDJ G.**

Contact Detail:

frgcruz@mapua.edu.ph  
(+63 2) 2475000 local 2300

Educational Background:

BS Electronics and Communications Engineering,  
Mapua Institute of Technology 1995  
MS Electronics and Communications Engineering,  
Chung Yuan Christian University 2008  
PhD Electronics and Communications Engineering (on-going)

Priority Research Interest:

Circuit development, remote multi-ion sensing



### Selected Journal Publications

1. Manlises, C.O., Cruz, F.R., Chung, W.Y., and A. Paglinawan (2017). Characterization of an ISFET with Built-in Calibration Registers through Segmented Eight-Bit Binary Search in Three-Point Algorithm Using FPGA. Journal of Low Power Electronics and Applications, 7 (3), 19
2. Balbin, J.R., Padilla, D.A., Caluyo, F.S., Hortinela, C.C., Cruz, F.R.G., Fausto, J.C., Garcia, R.G., Vergara, E.M., Baluyot, G.P.S., De Luna, C.Y.B. and J.C.R. Orio (2016). ZigBee and Power Line Communications interconnectivity applied to fuzzy logic controlled automated lighting system. Control System, Computing and Engineering (ICCSCE), 2016 6th IEEE International Conference on, pp. 430-434



3. Heredia, A.P.D., Cruz, F.R., Balbin, J.R., and W.-Y. Chung (2016). Olfactory classification using electronic nose system via artificial neural network. Region 10 Conference (TENCON), 2016 IEEE, pp. 3569-3574
4. Cruz, F.R.G., Hortinela, C.C., Redosendo, B.E., Asuncion, B.K.P., Leoncio, C.J.S., Linsangan, N.B., and W.-Y. Chung (2016). Iris Recognition using Daugman algorithm on Raspberry Pi. Region 10 Conference (TENCON), 2016 IEEE, 2126-2129
5. Cruz, F.R.G., Magsipoc, C.M., Alinea, F.E.B., Baronia, M.E.P., Jumahadi, M.M., Garcia, R.G., and W.-Y. Chung (2016). Application specific integrated circuit (ASIC) for Ion Sensitive Field Effect Transistor (ISFET) L-Asparagine biosensor. Region 10 Conference (TENCON), 2016 IEEE, 2698-2702
6. Bagaporo, R.C., Paglinawan, A., Cruz, F.R., and C. Paglinawan (2016). Development of a graphics processing unit accelerated stereo vision system for depth estimation. Region 10 Conference (TENCON), 2016 IEEE, 607-611
7. Carpio, J.N., Cruz, F.R.G., and W.-Y. Chung (2016). An earthquake activated power interrupting device using a triaxis accelerometer. Region 10 Conference (TENCON), 2016 IEEE, 2414-2417
8. Cruz, F.R.G., Chung, W.-Y., Sejera, M.M., Martinez, J.M., Cosme, T.A.N., Guray, V.E.C., Agustin, D.G.B., and P.A.E. Palmero (2016). Efficiency comparison of Voltage Multiplier and boost converter topologies for Radio Frequency energy harvesting circuit using HSPICE. Region 10 Conference (TENCON), 2016 IEEE, 2142-2146
9. Manlises, C.O., Cruz, F.R.G., and W.-Y. Chung (2016). ISFET with built-in calibration registers through segmented eight-bit binary search in three-point algorithm using FPGA. SoC Design Conference (ISOCC), 2016 International, 81-82
10. Lim, J.V.M., Linsangan, N.B., Cruz, F.R.G., and W.-Y. Chung (2016). Temperature Compensated Electronic Nose for Fruit Ripeness Determination Using Component Correction Principal Component Analysis. International Journal of Computer and Communication Engineering, 5 (5), 331
11. Valenzuela, I.C., and F.R.G. Cruz (2015). Opto-electric characterization of pH test strip based on optical absorbance using tri-chromatic LED and phototransistor. Humanitarian Technology Conference (R10-HTC), 2015 IEEE Region 10, pp. 1-6
12. Tolentino, L.K.S., Cruz, F.R.G., Garcia, R.G., and W.-Y. Chung (2015). Maximum power point tracking controller IC based on ripple correlation control algorithm. Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2015 International Conference on, pp. 1-6
13. Cruz, F.R.G., Latina, M.A.E., and W.-Y. Chung (2015). CMOS RC oscillator using 0.35 micron for portable mosquito-repel circuit. TENCON 2015-2015 IEEE Region 10 Conference, pp. 1-4
14. Angelo N. Rodriguez, Febus Reidj G. Cruz, and Ronnie Z. Ramos (2015). Design of 900 Mhz AC to DC Converter Using Native Cmos Device of TSMC 0.18 Micron Technology for RF Energy Harvest Application. Universal Journal of Electrical and Electronic Engineering, 3, 99 - 105. doi: 10.13189/ujee.2015.030306.
15. Yalung, C.N., Cruz, F.R.G., Paglinawan, A.C., Balbin, J.J.R., Dela Cruz, J.C., Silverio, A., Ngo, J.A. and Wen-Yaw Chung (2014). Full-wave AC-DC converter in CMOS 0.18 micron for vibration electromagnetic energy harvest," in Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2014 International Conference on, 12-16 doi: 10.1109/HNICEM.2014.7016241

#### Patent

1. W.Y. Chung, S.C. Cheng, C.C. Chuang, F.R.G. Cruz, and D.G. Pijanowska. Signal readout circuit of amperometric sensor. US Patent, US 7,919,959 B2. April 5, 2011.

#### DELA CRUZ, JENNIFER C.

Contact Detail:

jcdelacruz@mapua.edu.ph  
(+63 2) 2475000 local 2300



Educational Background:

BS Electronics Engineering, Mapua Institute of Technology 1990  
MS Electronics and Communications Engineering, De La Salle University 1997  
PhD Electronics and Communications Engineering, De La Salle University 2012

Priority Research Interest:

Antenna Systems, Transmission Lines Systems, RF Modelling, Digital TV

#### Selected Journal Publications

1. Penas, R.T.L. and J.C. Dela Cruz (2016). Accuracy improvement of ESPRIT-extracted direction-of-arrival estimates using least mean-squares filter for passive RFID inventory application. 8th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management, HNICEM 2015, 7393216
2. Dela Cruz, J.C., Paglinawan, A.C., Bonifacio, M.I.R., Flores, A.J.D. and E.V.B. Hurna (2016). Biometrics based attendance checking using Principal Component Analysis. IEEE Region 10 Humanitarian Technology Conference, R10-HTC 2015 - co-located with 8th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management, HNICEM 2015, 7391860



3. Cruz, J.D., Ballado, A., Valiente, F., Cajili, P.R., Carranza, F.J., Flores, J.D. and A.J. Uy (2016). Optimal antenna position analysis for in campus information dissemination through digital TV broadcasting. IEEE Region 10 Humanitarian Technology Conference, R10-HTC 2015 - co-located with 8th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management, HNICEM 2015, 7391859
4. Ballado, A.H., Dela Cruz, J.C., Avendano, G.O., Echano, N.M., Ella, J.E., Medina, M.E.M. and B.K.C. Paquiz (2016). Philippine currency paper bill counterfeit detection through image processing using Canny Edge Technology. 8th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management, HNICEM 2015, 7393184
5. Ballado, A.H., Dela Cruz, J.C., Sejera, M.P., Ingco, W.M., Juan, C.M., Nanao, D.N. and J. A. Navarro (2014) Design of indoor microstrip TV antenna for integrated services digital broadcast — Terrestrial (ISDB-T) signal reception at 677 MHz. Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2014 International Conference on, 12-16 doi: 10.1109/HNICEM.2014.7016228
6. Dela Cruz, J.C., and F. S. Caluyo (2014). Heuristic modelling of path loss inside residences at 677MHz. in Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2014 International Conference on , 1-5, 12-16 doi: 10.1109/HNICEM.2014.7016246
7. Orillo, J.W., Dela Cruz, J., Agapito, L., Jensen Satimbre, P. and I. Valenzuela (2014). Identification of diseases in rice plant (oryza sativa) using back propagation Artificial Neural Network," in Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2014 International Conference on , vol., no., pp.1-6, 12-16 doi: 10.1109/HNICEM.2014.7016248
8. Penas, R.T.L.; Dela Cruz, J.C., (2014) "Effect of varying the step-size of least mean squares filter in the accuracy of extraction of passive RFID root-music direction-of-arrival estimates," in Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2014 International Conference on , vol., no., pp.1-7, 12-16 doi: 10.1109/HNICEM.2014.7016238
9. Yalung, C.N., Cruz, F.R.G., Paglinawan, A.C., Balbin, J.J.R., Dela Cruz, J.C., Silverio, A., Ngo, J.A., and Wen-Yaw Chung (2014). Full-wave AC-DC converter in CMOS 0.18 micron for vibration electromagnetic energy harvest. Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2014 International Conference on , 1-4, 12-16 doi: 10.1109/HNICEM.2014.7016241
10. Dela Cruz, J.C. and F. S. Caluyo (2013). Heuristic modelling of outdoor path loss for 9m, 3m and 1.5m antenna at 677 MHz. Proceedings of the 2013 IEEE Conference on Cybernetics and Intelligent Systems, CIS 2013, 6751589, 117-122.
11. Caluyo, F.S.a, and J.C. Dela Cruz (2012). Antenna characterization and determination of path loss exponents for 677MHz channel using fixed and portable digital terrestrial television. Progress In Electromagnetics Research C, 29, 149-161.
12. J.C. Dela Cruz, and F. S. Caluyo (2012). Antenna characterization and determination of path loss exponents for 677 mhz channel using fixed and portable digital terrestrial television. Progress in Electromagnetic Research (PIER C), 29, 149-161. ISSN 1937-8718.
13. J.C. Dela Cruz, and F. S. Caluyo (2012). Path loss at the exact location of tv inside residences using digital terrestrial television at 677 mhz. International Journal of Scientific and Technology Research (IJSTR), 1(6), 24-28. ISSN 2277-8616,

### **LAZARO, JOSE JR. B.**



#### Contact Detail:

jblazaro@mapua.edu.ph  
(+63 2) 2475000 local 2300

#### Educational Background:

BS Computer Engineering, Adamson University 1996  
MS Computer Engineering, Mapua Institute of Technology 2013

#### Priority Research Interest:

Artificial intelligence, machine learning, image/signal processing, embedded systems, microelectronics and digital systems

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#### Selected Journal Publication

1. Ballado, A.H., Lazaro, J.B., Aquino, E.J.A., Balaga, A.J.B., Hernandez, A.S., and M.V.C. Caya (2016). Water Penetrating Sensor for Feature Extraction of Benthic Habitat using Remotely Sensed Information in Shallow Water. Control System, Computing and Engineering (ICCSCE), 2016 6th IEEE International Conference on, 472-475
2. Abuan, D. D., Abad, A.C., Lazaro Jr., J.B., and Elmer P. Dadios (2014). Security Systems for Remote Farm. Journal of Automation and Control Engineering, 2(2), 115-118, doi: 10.12720/joace.2.2.115-118
3. Lazaro Jr., J.B., Abuan, D.D., Linsangan, N.B. and Ayra G. Panganiban (2014). Surface Electromyography Signal for Control of Myoelectric Prosthesis of the Upper-Limb Using Independent Component Analysis. Journal of Automation and Control Engineering, 2(1), 94-98, doi: 10.12720/joace.2.1.94-98.



## **LINSANGAN, NOEL B.**



### Contact Detail:

nblinsangan@mapua.edu.ph  
(+63 2) 2475000 local 2300

### Educational Background:

BS Computer Programming Engineering, Mapua Institute of Technology 1988  
M. Engineering Computer, Pamantasan ng Lungsod ng Maynila 2000

### Priority Research Interest:

Wavelength algorithm, Wireless computer system, Computer Networking

### Selected Journal Publications:

1. Aglibut, J.M.G., Alonzo, L.L., Coching, M.F.B., Torres, J.L. and N. B. Linsangan (2017). Skin Disease Identification System using Gray Level Co-occurrence Matrix. Proceedings of the 9th International Conference on Computer and Automation Engineering, 136-140
2. Cruz, F.R.G., Hortinela, C.C., Redosendo, B.E., Asuncion, B.K.P., Leoncio, C.J.S., Linsangan, N.B., and W.-Y. Chung (2016). Iris Recognition using Daugman algorithm on Raspberry Pi. Region 10 Conference (TENCON), 2016 IEEE, 2126-2129
3. Lim, J.V.M., Linsangan, N.B., Cruz, F.R.G., and W.-Y. Chung (2016). Temperature Compensated Electronic Nose for Fruit Ripeness Determination Using Component Correction Principal Component Analysis. International Journal of Computer and Communication Engineering, 5 (5), 331
4. Manalo, K.D., Linsangan, N.B., and J.L. Torres (2016). Classification of Myoelectric Signals Using Multilayer Perceptron Neural Network with Back Propagation Algorithm in a Wireless Surface Myoelectric Prosthesis. International Journal of Information and Education Technology, 6 (9), 686
5. Madariaga, N.E.Q., and N. B. Linsangan (2016). Application of Artificial Neural Network and Background Subtraction for Determining Body Mass Index (BMI) in Android Devices Using Bluetooth. International Journal of Engineering and Technology, 8 (5), pp. 366
6. Jumelyn L. Torres and Noel B. Linsangan (2014). Application of Genetic Algorithm for Optimization of Data in Surface Myoelectric Prosthesis for the Transradial Amputee. International Journal of Information and Education Technology, 5(2), 113-118.
7. Jose B. Lazaro Jr., Donabel D. Abuan, Noel B. Linsangan, and Ayra G. Panganiban (2014). Surface Electromyography Signal for Control of Myoelectric Prosthesis of the Upper-Limb Using Independent Component Analysis. Journal of Automation and Control Engineering, 2(1), 94-98, doi: 10.12720/joace.2.1.94-98.
8. N.B.Linsangan, A.G.Panganiban and F.S.Caluyo (2012). Implementation of Wavelet Transform-Based Algorithm for Iris Recognition System. International Journal of Information and Electronics Engineering, 2 (3), 328-332.
9. N.B.Linsangan, A.Panganiban and F.S.Caluyo (2011). Wavelet-based Feature Extraction Algorithm for an Iris Recognition System. Journal of Information Processing Systems, 7. ISSN 1976-913X.
10. A.H. Ballado Jr. F.S. Caluyo, N.B. Linsangan, C.V. Navalta and R.V.M. Santiago (2011). Shifting to Outcomes-Based Education: The Mapua Institute of Technology Experience, World Congress on Engineering and Computer Science 2011 Vol. I WCECS 2011, ISBN: 978-988-18210-9-6 ISSN: 2078-0958 (Print); ISSN: 2078-0966 (Online). San Francisco, USA.
11. N.B.Linsangan, J.A.Adriano, E.Aquino, C.J.Cabael, J.K.Delicana, K.N.Jamoralin, and C.Ontimare (2010). Wireless Gesture-based Computer Systems Controller Using Infra-Red Motion Sensing. MacMillan Advanced Research Series: Trends and Techniques in ICT. ISBN 10: 0230-32941-1, ISBN 13: 978-0230-32941-6. MacMillan Publishers India Ltd.

## **MANLISES, CYREL ONTIMARE**



### Contact Detail:

ccontimare@mymail.mapua.edu.ph  
cyrel\_ontimare@yahoo.com  
(+63 2) 2475000 local 2300

### Educational Background:

B. S. Computer Engineering, AMA University 1999  
M. S. Computer Science, AMA University 2004  
PhD Biomedical Engineering, National Cheng Kung University (in-progress)

### Priority Research Interest:

Wireless Computer System, Pattern Recognition and Microelectronics application



#### Selected Journal Publications:

1. Manlises, C.O., Cruz, F.R., Chung, W.-Y., and A. Paglinawan (2017). Characterization of an ISFET with built-in calibration registers through segmented eight-bit binary search in three-point algorithm using FPGA. *Journal of Low Power Electronics and Applications*, 7 (3), 19
2. Manlises, C.O., Yumang, A.N., Marcelo, M.M., Adriano, A.J.B., and J.R.V. Reyes (2017). Indoor navigation system based on computer vision using CAMShift and D<sub>x</sub> algorithm for visually impaired. *Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016*, 7893623, 481-484
3. Manlises, C.O., Dela Cruz, J.C., Fausto, J.C., Muralla, L.M.A, Payas, D.M.T. and M.J.T. Posada (2017). Monitoring of Blood Pressure Using Photoplethysmographic (PPG) Sensor with Aromatherapy Diffusion. *Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016*, 7893622, 476-480
4. Balbin, J.R., Padilla, D.A., Caluyo, F.S., Fausto, J.C., Hortinela, C.C., Manlises, C.O., Bernardino, C.K.S., Finones, E.G. and L.T. Ventura (2017). Sign language word translator using Neural Networks for the Aurally Impaired as a tool for communication. *Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016*, 7893611, 425-429
5. C. Ontimare, N.B.Linsangan, J.A.Adriano, E.Aquino, C.J.Cabael, J.K.Delicana and K.N.Jamoralin (2010). *Wireless Gesture-based Computer Systems Controller Using Infra-Red Motion Sensing*. MacMillan Advanced Research Series: Trends and Techniques in ICT. ISBN 10: 0230-32941-1, ISBN 13: 978-0230-32941-6. MacMillan Publishers India Ltd.

#### **PACIS, MICHAEL C.**

##### Contact Detail:

mcpacis@mapua.edu.ph; mikeinmars@yahoo.com  
(+63 2) 2475000 local 2300  
(+63) 9164911254

##### Educational Background:

BS in Electrical Engineering, Mapua Institute of Technology 2001  
Master of Engineering in Electrical Engineering (Power Systems),  
Mapua Institute of Technology 2003  
PhD Electrical and Electronics Engineering-Power Systems,  
University of the Philippines Diliman (in progress)

##### Priority Research Interest:

Power Systems: Modelling, Protection, Reliability, Stability and Control /  
Distributed Generation



#### Selected Journal Publications:

1. Pacis, M.C., Sese, J., Caya, M.V., and R. F. Bersano (2017). Effect of widespread variation of distributed generation (DG) on the line performance of a radial distribution network. *Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016*, 7893598, 354-359
2. Pacis, M.C., Sese, J.T., Blastique, H.A., Casibang, M.D.C., Ladisla, G.G., and R.G.D. Villano (2017). Metering of surplus energy on PV systems using ZigBee Wireless Technology. *Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016*, 7893597, 348-353
3. Alipour, A., and M. Pacis (2017). Optimal coordination of directional overcurrent relays (DOCR) in a ring distribution network with distributed generation (DG) using genetic algorithm. *IEEE Region 10 Annual International Conference, Proceedings/TENCON*, 7848621, 3109-3112
4. Alipour, A., Asis, C.A.C., Avanzado, J.J.P. and M.C. Pacis (2017). Study in the impact of Distributed Generator (DG) placement and sizing on a ring distribution network. *IEEE Region 10 Annual International Conference, Proceedings/TENCON*, 7848201, 1198-1203
5. Abad, J.R., Capucan, M.D., Legaspi, L.D., Martinez, J. and M.C. Pacis (2017). Energy Contraption design using playground seesaw for lighting load applications. *IEEE Region 10 Annual International Conference, Proceedings/TENCON*, 7848301, 1670-1673
6. Dela Cruz, E.F., Mabalot, A.N., Marzo, R.C., Pacis, M.C., and J.H.S. Tolentino (2017). Algorithm development for Power System Contingency screening and ranking using Voltage-Reactive Power Performance Index. *IEEE Region 10 Annual International Conference, Proceedings/TENCON*, 7848425, 2232-2235
7. Pacis, M.C. (2016) Development of search algorithm for contingency case identification using matlab (2016) *IEEE Region 10 Humanitarian Technology Conference, R10-HTC 2015 - co-located with 8th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management, HNICEM 2015* No. 7391848



8. Pacis, M.C., Estoy, K.D., Pepito, L.C., Martinez, J.M., Linsangan, N.B. (2016) Design of a solar powered LED lighting system using the dual axis tracking system. IEEE Region 10 Humanitarian Technology Conference, R10-HTC 2015 - co-located with 8th International Conference on Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management, HNICEM 2015 No. 7391847
9. J.M. Martinez, J.V. Tecson, M.C. Pacis (2010). Modeling and Simulation of Active Power Filters for Harmonic Compensation, Voltage Sags and Swell Mitigation and Power Factor Correction. WCECS 2010 Proceedings, pages 1015-1020.

### **PAGLINAWAN, ARNOLD C.**

#### Contact Detail:

acpaglinawan@mapua.edu.ph  
(+63 2) 2475000 local 2300

#### Educational Background:

BS Electronics and Communications Engineering,  
Mapua Institute of Technology 1996  
Master of Engineering Program (ECE), Mapua Institute of Technology 2005  
PhD Electronics and Communications Engineering,  
Chung Yuan Christian University 2011

#### Priority Research Interest:

Microelectronics Applications, IC Design for Biomedical Applications, Digital IC Design, SOC Applications, Embedded Design

#### Selected Journal Publications:

1. Manlises, C.O., Cruz, F.R., Chung, W.Y., and A. Paglinawan (2017). Characterization of an ISFET with Built-in Calibration Registers through Segmented Eight-Bit Binary Search in Three-Point Algorithm Using FPGA. Journal of Low Power Electronics and Applications, 7 (3), 19
2. Garcia, R.G., Ballado, A.H., Paglinawan, A.C., Paglinawan, C.C., Gavino, R.B., Magcamit, B.A.J., Miranda, J.C.S. and M. F. Tiongson (2016). Hand tremor analyzer using accelerometry for preliminary diagnosis, classification and monitoring of selected movement disorders. Control System, Computing and Engineering (ICCSCE), 2016 6th IEEE International Conference on, pp. 392-396
3. Yumang, A.N., Paglinawan, A.C., Perez, L.A.A., Fidelon, J.F.F. and J.B.C. Santos (2016). Soil infiltration rate as a parameter for soil moisture and temperature based Irrigation System. Control System, Computing and Engineering (ICCSCE), 2016 6th IEEE International Conference on, pp. 286-291
4. Yumang, A.N., Paglinawan, A.C., Avendano, G.O., Paglinawan, C.C., Sejera, M.M., Aquino, N.J.J., Garvida, A.J.C., and R.J.L. Datu (2016). Gamified teaching and learning platform for Christian Academy of Manila. Control System, Computing and Engineering (ICCSCE), 2016 6th IEEE International Conference on, pp. 386-391
5. Yumang, A.N., Paglinawan, A.C., Avendano, G.O., Paglinawan, C.C., Sejera, M.M., Aquino, N.J.J., Garvida, A.J.C and R.J.L. Datu (2016). Gamified outcomes-based teaching and learning assessment tool for Mapúa Institute of Technology. Control System, Computing and Engineering (ICCSCE), 2016 6th IEEE International Conference on, pp. 380-385
6. Bagaporo, R.C., Paglinawan, A., Cruz, F.R., and C. Paglinawan (2016). Development of a graphics processing unit accelerated stereo vision system for depth estimation. Region 10 Conference (TENCON), 2016 IEEE, pp. 607-611
7. Frenila, J.B., Silvela, O.B. and A. C. Paglinawan (2015). Novel approach to urban farming: A case study of a solar-powered automated mushroom cultivation in a plastic box. Humanitarian Technology Conference (R10-HTC), 2015 IEEE Region 10, pp. 1-6
8. Cruz, J.C.D., Paglinawan, A.C., Bonifacio, M.I.R., Flores, A.J.D. and E.V.B. Hurna (2015). Biometrics based attendance checking using Principal Component Analysis. Humanitarian Technology Conference (R10-HTC), 2015 IEEE Region 10, pp. 1-5
9. Paglinawan, A.C., Paglinawan, C.C., Javier, J.T., Paa, A.O., So, J.A.L.B., Tiu, E.A. and W.-Y. Chung (2014). A design of a drug driver system for controlling an insulin pump and microcontroller hardware implementation using two-point calibration algorithm. Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2014 International Conference, on pp. 1-6
10. Navarro, E. and A. C. Paglinawan (2014). Application of MEMS as the hardware sensor on network access intrusion detection system using ALBA framework. Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2014 International Conference on , pp.1-6, doi: 10.1109/HNICEM.2014.7016208
11. Paglinawan, A.C., Paglinawan, C.C., Javier, J.T., Paa, A.O., So, J.A.L.B., Tiu, E.A., and Wen Chung (2014). A design of a drug driver system for controlling an insulin pump and microcontroller hardware implementation using two-point calibration algorithm. Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2014 International Conference on , pp.1-6, doi: 10.1109/HNICEM.2014.7016209



12. Yalung, C.N.; Cruz, F.R.G.; Paglinawan, A.C.; Balbin, J.J.R.; Dela Cruz, J.C.; Silverio, A.; Ngo, J.A. and Wen-Yaw Chung, (2014). Full-wave AC-DC converter in CMOS 0.18 micron for vibration electromagnetic energy harvest. Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2014 International Conference on, pp.1-4, doi: 10.1109/HNICEM.2014.7016241
13. A.C. Paglinawan, W.Y. Chung, Y.H. Wang, S.C. Cheng, W.H. Lee, A. Albason, C.C. Chuang, and S.L. Lou (2011). A System Design with Mode-Switching Power Management for Closed-Loop Implantable Glucose Biosensor. Journal of Medical and Biological Engineering, 31(5), 321-329.
14. A.C. Paglinawan, Y.H. Wang, S.C. Cheng, C.C. Chuang, and W.Y. Chung (2009). CMOS temperature sensor with constant power consumption multi-level comparator for implantable bio-medical devices. Electronics letters, 45(25), 1291-1292.
15. Paglinawan, A.C., Paglinawan, C.C., Cheng, S.-C. and W.-Y. Chung. (2012). A novel dual-modulation design low input impedance current comparator. IEEE Region 10 Annual International Conference, Proceedings/TENCON 2012, 6412233.
16. A.C. Paglinawan, C.C. Paglinawan, G.O. Avendano, Y.H. Wang, and W.Y. Chung (2011). Novel mode switching power management system IC design for implantable biomedical instrumentations. IEEE, 2011, pp. 563-566.
17. Wen-Yaw Chung, Shao-Chun Cheng, Chiung-Cheng Chuang, Febus Reidj G. Cruz, Arnold C. Paglinawan, Dorota G. Pijanowska and Wladyslaw Torbicz (2010). Signal Processor Design for Amperometric Electrochemical Sensor Interfacing. 107th International Center of Biocybernetics Seminar "Micro and Nanosystems in Biochemical Diagnosis – Principles and Applications,
18. W.Y. Chung, A.C. Paglinawan, Y.H. Wang, and T.T. Kuo (2007). A 600  $\mu\text{m}$  readout circuit with potentiostat for amperometric chemical sensors and glucose meter applications. IEEE Electron Devices and Solid-State Circuits, 1087

### **PAGLINAWAN, CHARMINE C.**

Contact Detail:

ccpaglinawan@mapua.edu.ph  
(+63 2) 2475000 local 2300



Educational Background:

B.S. Electrical Engineering, Mapua Institute of Technology 2002  
M.S. ECE, Chung Yuan Christian University 2009  
PhD Electronics and Communications Engineering,  
Mapua Institute of Technology (in-progress)

Priority Research Interest:

Applications Development, IT Solutions, RF and Microwave Systems, Wireless Communications Systems, Application Specific Integrated Circuit (ASIC)

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#### Selected Journal Publications:

1. Yumang, A.N., Paglinawan, C.C., Sejera, M.M., Lazam, A.S., Jr., Pagtakhan, J.C. and J.S.B. Santos (2017). ZigBee Based Monitoring of Temperature and Humidity of Server Rooms using Thermal Imaging. Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016, 7893616, 452-454
2. Yumang, A.N., Paglinawan, A.C., Avendano, G.O., Paglinawan, C.C., Sejera, M.M., Aquino, N.J.J., Garvida, A.J.C., and R.J.L. Datu (2017). Gamified teaching and learning platform for Christian Academy of Manila. Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016, 7893604, 386-391
3. Yumang, A.N., Paglinawan, A.C., Avendano, G.O., Paglinawan, C.C., Sejera, M.M., Aquino, N.J.J., Garvida, A.J.C. and R.J.L. Datu (2017). Gamified outcomes-based teaching and learning assessment tool for Mapúa Institute of Technology. Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016, 7893603, pp. 380-385
4. Garcia, R.G., Ballado, A.H., Jr., Paglinawan, A.C., Paglinawan, C.C., Gavino, R.B., Magcamit, B.A.J., Miranda, J.C.S., and M. F. Tiongson (2017). Hand tremor analyzer using accelerometry for preliminary diagnosis, classification and monitoring of selected movement disorders. Proceedings - 6th IEEE International Conference on Control System, Computing and Engineering, ICCSCE 2016, No. 7893605, pp. 392-396
5. Bagaporo, R.C., Paglinawan, A., Cruz, F.R., and C. Paglinawan (2017). Development of a graphics processing unit accelerated stereo vision system for depth estimation. IEEE Region 10 Annual International Conference, Proceedings/TENCON, No. 7848074, pp. 607-611
6. Paglinawan, A.C., Paglinawan, C.C., Javier, J.T.; Paa, A.O., So, J.A.L.B., Tiu, E.A. and Wen Chung (2014). A design of a drug driver system for controlling an insulin pump and microcontroller hardware implementation using two-point calibration algorithm. Humanoid, Nanotechnology, Information Technology, Communication and Control, Environment and Management (HNICEM), 2014 International Conference on , pp.1-6, 12-16 doi: 10.1109/HNICEM.2014.7016209
7. Paglinawan, A.C., Paglinawan, C.C., Cheng, S.-C. and W.-Y. Chung (2012). A novel dual-modulation design low input impedance current comparator. IEEE Region 10 Annual International Conference, Proceedings/TENCON 2012, Article number 6412233



8. A.C. Paglinawan, C.C. Paglinawan, G.O. Avendano, Y.H. Wang, and W.Y. Chung, (2011). A novel mode switching power management system IC design for implantable biomedical instrumentations. IEEE, pp. 563-566.

**SANTIAGO, RONALD VINCENT M.**

Contact Detail:

rvmsantiago@mapua.edu.ph  
(+632) 2475000 local 8009



Educational Background:

BS Electrical Engineering, Mapua Institute of Technology 1989  
Master of Engineering-Major in Electrical Engineering,  
Mapua Institute of Technology 2000  
MS EE (Completed Academic Units)

Priority Research Interest:

Renewable Energy Systems, Energy Conservation, Power System Operations,  
Economic Operation of Power Systems

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Selected Journal Publications

1. A.H. Ballado Jr. F.S. Caluyo, N.B. Linsangan, C.V. Navalta and R.V.M. Santiago (2011). Shifting to Outcomes-Based Education: The Mapua Institute of Technology Experience. World Congress on Engineering and Computer Science 2011, Vol. I WCECS 2011, ISBN: 978-988-18210-9-6 ISSN: 2078-0958 (Print); ISSN: 2078-0966 (Online). San Francisco, USA.

**SALVADOR, CATHERINE S.**

Contact Detail:

cssalvador@mapua.edu.ph  
(+632) 2475000 local 2100



Educational Background:

BS Electrical Engineering  
Mindanao University of Science and Technology (MUST) 1990  
Master of Science in Electrical Engineering Technological University of the  
Philippines (TUP Manila) 1997  
PhD Mgt, Adamson University 2001

Priority Research Interests:

Renewable Energy, Instrumentation and Control, Power Quality

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Selected Peer-Reviewed Conference Publications:

1. Salvador, Catherine S. and Allen Aldous L. Manalo (2017). Planned Renewable Energy Usage during Power Outage. Proceeding of the 25th International Conference on Systems Engineering (ICSeng2017), Las Vegas Nevada, USA, pp. 377-385, DOI 10.1109/ICSeng.2017.79, ISBN 978-1-5386-0610-0/17 ©2017IEEE
2. Salvador, C. S., Caliwag, A., Zaldivar, N., Angeles, V., Mark Bernabe (2017). Modeling of Roof-Mountable Thermoelctric Generators. Proceeding of the 25th International Conference on Systems Engineering (ICSeng2017), Las Vegas Nevada, USA, pp. 113-120, DOI 10.1109/ICSeng2017.2017.75, ISBN 978-1-5386-0610-0/17 ©2017IEEE
3. Salvador, C. S., Valverde, E.C., Leano, A., Camacho, J.R., SO, J., and Senen Fenomeno (2017). Implementation of a Small-Scale Savonious Type Wind Turbine for Transmission Line Sensor Nodes. Proceeding of the 25th International Conference on Systems Engineering (ICSeng2017), Las Vegas Nevada, USA, pp. 357-362, DOI 10.1109/ICSeng.2017.40, ISBN 978-1-5386-0610-0/17 ©2017IEEE
4. Salvador, C. S., Teresa, J. A., Martinez, J.M., Bacasnot, M.C., Orilla, K.V., Cabana, R.J. and Wencell Iza Ladaran. Design and Construction of Arc Shaped and Disc Shaped Pendulum for Vortex Bladeless Wind Generator. Proceeding of the 25th International Conference on Systems Engineering (ICSeng2017), Las Vegas Nevada, USA, pp. 363-369, DOI 10.1109/ICSeng.2017.39, ISBN 978-1-5386-0610-0/17 ©2017IEEE
5. Salvador, C. S., Abas, M.C.A., Teresa, J.A., Castillo, M.E., Dimaano, K., Sangalang, J. and Christian Luis Velasco (2017). Deveopment of a Traffic Noise Energy Harvesting Standalone System. Proceeding of the 25th International Conference on Systems Engineering (ICSeng2017), Las Vegas Nevada, USA, pp. 370-376, DOI 10.1109/ICSeng.2017.77, ISBN 978-1-5386-0610-0/17 ©2017IEEE
6. Salvador, C. S., Vallesterio, G. and Larry Luisma (2017). Distribution Impact (DIS) for Net-Metering with Photovoltaic Renewable Energy Resource using SynerGEE. Proceeding of the 25th International Conference on Systems Engineering (ICSeng2017), Las Vegas Nevada, USA, pp. 129-137, DOI 10.1109/ICSeng.2017.78, ISBN 978-1-5386-0610-0/17 ©2017IEEE



7. Salvador, C. S., Vallesteros, G. and Albert Espenida (2017). Design and Implementation of Hydro Pico Hydropower Generator with Solar Photovoltaic System. Proceeding of the 25th International Conference on Systems Engineering (ICSeng2017), Las Vegas Nevada, USA, pp. 121-128, DOI 10.1109/ICSeng.2017.76, ISBN 978-1-5386-0610-0/17 ©2017IEEE

### **TORRES, JUMELYN L.**

Contact Detail:

JLTorres@mapua.edu.ph  
(+63 2) 2475000 local 2300  
(+63) 917-2080735



Educational Background:

BS Electronics and Communications Engineering,  
Mapua Institute of Technology 2000  
MS Computer Engineering, Mapua Institute of Technology 2012

Priority Research Interest:

LiDAR, Dengue (Detection of Aedes Egypti), genetic algorithm

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Selected Journal Publications:

1. Aglibut, J.M.G., Alonzo, L.L., Coching, M.F.B., Torres, J.L., and N.B. Linsangan (2017). Skin Disease Identification System using Gray Level Co-occurrence Matrix. Proceedings of the 9th International Conference on Computer and Automation Engineering, pp. 136-140
2. De Los Reyes, A.M.M., Reyes, A.C.A., Torres, J.L., Padilla, D.A. and J. Villaverde (2016). Detection of Aedes Aegypti mosquito by digital image processing techniques and support vector machine. Region 10 Conference (TENCON), 2016 IEEE, pp. 2342-2345
3. Manalo, K.D., Linsangan, N.B., and J.L. Torres (2016). Classification of Myoelectric Signals Using Multilayer Perceptron Neural Network with Back Propagation Algorithm in a Wireless Surface Myoelectric Prosthesis. International Journal of Information and Education Technology, 6 (9), 686
4. Torres, J. L. and Noel B. Linsangan (2014). Application of Genetic Algorithm for Optimization of Data in Surface Myoelectric Prosthesis for the Transradial Amputee. International Journal of Information and Education Technology, 5(2), 113-118.

## **SCHOOL OF INDUSTRIAL ENGINEERING AND ENGINEERING MANAGEMENT**

### **ESTEMBER, RENE D.**

Contact Detail:

rdestember@mapua.edu.ph  
(+632) 336-5112; (+632) 247-5000 loc. 6202



Educational Background:

BS in Management and Industrial Engineering, Mapua Institute of Technology 1979  
Master of Business Administration, Ateneo de Manila University 1994  
MS in Industrial Engineering, University of the Philippines 2008  
Doctor in Business Administration (candidate)

Priority Research Interest:

Human Factors and Ergonomics, Operations Research

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Selected Journal Publications:

1. Estember, R.D., and M.J.R. Maraña (2016). Forecasting of stock prices using brownian motion-Monte Carlo simulation. Proceedings of the International Conference on Industrial Engineering and Operations Management, 8-10, pp. 704-713
2. Estember, R.D., Balares, K.K.I., Janice, M., and J. Gumasing (2016). Effects of different interruptions while driving for field independent and dependent individuals. Proceedings of the International Conference on Industrial Engineering and Operations Management, 8-10, pp. 2322
3. Rene D. Estember, Regil Panugot, and Angelica Vale (2015). The musculoskeletal disorder effects on the use of single and dual monitor workstations. IEEE Xplore ISBN 978-1-47996064-4.





### **ROBIELOS, REX AURELIUS C.**

#### Contact Detail:

racrobielos@mapua.edu.ph  
(+63 2) 2475000 local 6202

#### Educational Background:

Bachelor of Science in Applied Mathematics,  
University of the Philippines at Los Baños 1194  
Diploma in Industrial Engineering,  
University of the Philippines Diliman 1999  
MS in Industrial Engineering,  
University of the Philippines Diliman 2001  
Doctor of Philosophy in Industrial Management,  
National Taiwan University of Science and Technology (in progress)

#### Priority Research Interest:

Intelligent Tutoring Systems, Affective/Emphatic Computing, Languages and Signal Processing and Educational Technology.

#### Selected Journal Publications:

1. Kuo, T.C., Hanafi, J., Sun, W.C. and R.A.C. Robielos (2016). The effects of national cultural traits on BOP consumer behavior. Sustainability (Switzerland), 8 (3), 272
2. Chen, P.-S., Yang, K.-H., Robielos, R.A.C., Cancino, R.A.C., and L.A.M. Dizon (2016). Patient referral mechanisms by using simulation optimization. Simulation Modelling Practice and Theory, 61, 14-27
3. Chen, P. S., Robielos, R. A. C., Palaña, P. K. V. C., Valencia, P. L. L., & Chen, G. Y. H (2015). Scheduling Patients' Appointments: Allocation of Healthcare Service Using Simulation Optimization. Journal of healthcare engineering, 6(2), 259-280.

## **SCHOOL OF INFORMATION TECHNOLOGY**



### **VEA, LARRY A.**

#### Contact Detail:

LAVea@mapua.edu.ph  
(+63 2) 8910514

#### Educational Background:

Bachelor of Science in Electrical Engineering,  
Mariano Marcos State University 1987  
M.S. Computer Science, De La Salle University 2002  
Doctor of Program in Computer Science,  
Ateneo De Manila University 2017

#### Priority Research Interest:

My areas of research are Intelligent Tutoring Systems, Affective/Emphatic Computing, Languages and Signal Processing and Educational Technology.

#### Selected Journal Publications:

1. Vea, L., and M.M. Rodrigo (2017). Modeling negative affect detector of novice programming students using keyboard dynamics and mouse behavior. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 10004 LNAI, pp. 127-138
2. Estrada, J.E. and L. A. Vea (2016). Real-time human sitting posture detection using mobile devices. Proceedings - 2016 IEEE Region 10 Symposium, TENSYP 2016, No. 7519393, pp. 140-144
3. Corpus, K.R., Gonzales, R.J.D.L., Morada, A.S., and L. A. Vea (2016). Mobile user identification through authentication using keystroke dynamics and accelerometer biometrics. Proceedings - International Conference on Mobile Software Engineering and Systems, MOBILESoft 2016, pp. 11-12
4. Espinosa, F.A.T., Guerrero, G.G.E., and L. A. Vea (2016). Modeling free-form handwriting gesture user authentication for android smartphones. Proceedings - International Conference on Mobile Software Engineering and Systems, MOBILESoft 2016, pp. 3-6
5. Vea, L.A., and M.M. Rodrigo (2016). Modeling negative affect of novice programming students using keyboard dynamics and mouse behavior. Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics), 9684, 449-450



## CASTILLO, JOHN CHRISTOPHER D.



### Contact Detail:

jcdcastillo@mapua.edu.ph  
(+63) 9177926206

### Educational Background:

BS Social Work, Centro Escolar University 2008  
MS Social Work, Centro Escolar University 2012  
PhD in Educational Psychology  
major in Human Development and Learning (on-going)

### Priority Research Interest:

Educational Psychology, Social Psychology

### Selected Journal Publications:

1. Quinto, E.J.M. & Castillo, J.C.D. (2016). Reconceptualizing the language motivation of Timorese ELLs in the Philippines. *GEMA Online Journal of Language Studies*, 16(3), 71-82.
2. Castillo, J.C.D. (2013). The biopsychosocial needs of the elderly: A Meta- Analysis. *SLHS Review*, 2, 99-113.
3. Castillo, J.C.D. (2012). Is the Philippine classroom ready for K+12: Reflections from current research, *SLHS Review*, 1, 17-30.
4. Pablo, L.D. & Castillo, J.C.D. (2012). *Training Modules on Climate Change*. Manila: Centro Escolar University
5. Castillo, J.C.D. (2011). Wellness Concept and Practices of the Elderly: Basis for a Wellness Program. *Philippine Journal of Social Work*, 56, 1- 26. ISSN2094-358X

## MACAYAN, JONATHAN V.



### Contact Detail:

jvmacayan@mapua.edu.ph  
(+632) 2475000 local 1302  
(+63) 9473627522

### Educational Background:

BS Psychology, New Era University 1996  
MA Psychology, Pamantasan ng Lungsod ng Maynila 2002  
PhD Educational Psychology (Major in Quantitative Methods),  
De La Salle University 2011

### Priority Research Interest:

Psychometric Test Development and Analysis; Educational Psychology; Human Performance; Personality, Motivation, & Cognition

### Selected Journal Publications:

1. Macayan, J. V. M. (2017) Implementing Outcome-Based Education (OBE) Framework: Implications for Assessment of Students' Performance. *Educational Measurement and Review*, 8(1), 1-10.
2. Macayan, J. V. M., & Quinto, E. J. M. (2015). Fortifying Identities in the Engineering Classroom: The Motivational Role of Possible Selves. *Proceedings from the International Conference on Engineering, Teaching, and Learning Innovation (ICEE-PHIL 2015)*.
3. Macayan, J. V. M., & San Jose, D. R. R. (2013). An Experimental Analysis on the Interactivity of Prior Knowledge and Motivational Goal Structure to the Learners' Task Performance in Digital Art: Integrating the Factors of Goal Orientation and Cognitive Load Theory. *SLHS Review*, 2, 22-56.
4. Macayan, J. V. M. (2012). Asians' Conception of Achievement Goals: An Analytic Review. *SLHS Review*, 1, 1-11
5. Macayan, J. V. M., & Ofalia, B. C. O. (2011). Determining experts and novices in college algebra: A psychometric test development and analysis using the Rasch model (1PL-IRT). *Educational Measurement and Evaluation Review*, 2, 62-76.
6. Macayan, J. V. M. (2010). The assessment of personality and learning styles of engineering students: Advocating learner-centered approach in engineering education system. *The Assessment Handbook*, 4(1), 20-37.
7. David A. P., & Macayan, J. V. M. (2010). Assessment of teacher performance. *The Assessment Handbook*, 3, 65-76.



### **OFALIA, BERNARDINO C.**



#### Contact Detail:

bcofalia@mapua.edu.ph  
(+632) 2475000 local 1411  
(+63) 9065119010

#### Educational Background:

BS Psychology, Pamantasan ng Lungsod ng Maynila 1992  
MA in Industrial Psychology, Pamantasan ng Lungsod ng Maynila 2000  
Doctor of Education major in Educational Administration,  
Pamantasan ng Lungsod ng Maynila 2011

#### Priority Research Interest:

Educational Psychology, Developmental Psychology, Counselling and Program Development, Motivation

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#### Selected Journal Publications:

1. Macayan, J.V. and B.C. Ofalia (2011). Determining experts and novices in college algebra: A psychometric test development and analysis using the Rasch model (1PL-IRT). Educational Measurement and Evaluation Review, 2, 62 – 76.

### **PINUGU, JASMINE NADJA J.**



#### Contact Detail:

jnjpigu@mapua.edu.ph  
(+632) 2475000 local 1411  
(+63) 9175777326

#### Educational Background:

BS Psychology, St. Paul College 1995  
MA Counselling, De La Salle University 2005  
PhD Educational Psychology major in Human Development and Learning  
(Candidate)

#### Priority Research Interest:

Educational Psychology, Developmental Psychology, Counselling and Program Development, Motivation

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#### Selected Journal Publications:

1. Balbin, J. R., Pinugu, J. N. J., Bautista, J. I. C., Nebres, P. D., Hipolito, C. M., Santella, J. A. A. (2017). Color vision deficiency compensation for Visual Processing Disorder using Hardy-Rand-Rittler test and color transformation. Proceedings of SPIE - The International Society for Optical Engineering Vol. 10443, 1044313
2. Balbin, J. R., Pinugu, J. N. J., Basco, A. J. S., Cabanada, M. B., Gonzales, P. M. V., Marasigan, J. C. C. (2017). Cloud storage based mobile assessment facility for patients with post-Traumatic stress disorder using integrated signal processing algorithm. Proceedings of SPIE - The International Society for Optical Engineering Vol. 10443, 104431K
3. Pinugu, J. N. J. (2013). College self-efficacy and academic satisfaction moderated by academic stress. The International Journal of Research and Review, 10(3), 34-52.
4. Pinugu, J. N. J. (2013). Making the Choice to be a Teacher: The Role of Teaching Efficacy and its Impact on Teaching Commitment. SLHS Review, 2, 2-22.
5. Ouano, J. A., and Pinugu, J. N. J. (2012). Social goals of Filipino adolescents: Do they contribute to student life satisfaction? International Journal of Research Studies in Psychology, 1(3), 43-51.
6. Pinugu, J. N. J. (2012). The effects of perceived parental behavior on adolescent emotional regulation. The Assessment Handbook, 8, 1-15.
7. Pinugu, J. N. J. (2012). Making that Transition: Impact of Transition Programs on Student Outcomes. SLHS Review, 1, 31-45



## QUINTO, EDWARD JAY M.



### Contact Detail:

ejmquinto@mapua.edu.ph  
ejmquinto@yahoo.com.ph  
(+632) 212-5229

### Educational Background:

AB Mass Communication – Journalism, Centro Escolar University 2009  
MA in Applied Linguistics (English), Centro Escolar University 2012  
PhD in Applied Linguistics, De La Salle University (candidate)

### Priority Research Interest:

Language Motivation, Identity and ELT, Discourse Analysis, Applied Linguistics

### Selected Journal Publications:

1. Quinto, E. J. M., & Dita, S. N. (2016). A Description of Nominal Phrases in Paranan. *Philippine Journal of Linguistics*, 47, 1-27.
2. Quinto, E. J. M., & Castillo, J. C. D. (2016). Reconceptualizing the language motivation of Timorese ELLs in the Philippines. *GEMA Online Journal of English Language Studies*, 16(3), 71-82.
3. Malasig, B. J. C., & Quinto, E. J. M. (2016). Functions of and Communication Behavior on Twitter after the 2015 Nepal Earthquake. *Jurnal Komunikasi: Malaysian Journal of Communication*, 32(1), 87-102.
4. Quinto, E. J. M., & Santos, J. C. G. (2016). Abrogation and Appropriation in Selected Pre-War Philippine Short Stories in English. *GEMA Online Journal of English Language Studies*, 16(1), 157-168.
5. Macayan, J. V., & Quinto, E. J. M. (2015). Fortifying identities in the engineering classroom: The motivational role of possible selves. *Proceedings from the International Conference on Engineering Teaching and Learning Innovation ICEE-PHIL2015*. Manila, PH: PATE.
6. Quinto, E. J. M. (2015). Dichotomizing Ideological Representations in President Benigno Aquino III's 30th October Address. *The Sociolinguistic Journal of Korea*, 23(2), 65-96. doi: <http://dx.doi.org/10.14353/sjk.2015.23.2.01>
7. Borlongan, A. M., & Quinto, E. J. M. (2015). Some Notes on the Sociology of English in East Timor. *Program and Abstracts from the 36th National Conference of the Japanese Association for Asian Englishes*. Nagoya, JP: JAF AE.
8. Quinto, E. J. M. (2015). Attitude and Motivation Towards a Working Language: Case of East Timorese Students in the Philippines. *3L: The Southeast Asian Journal of English Language Studies*, 21(1), 1-12. doi: 10.17576/3L-2015-2101-01
9. Quinto, E. J. M. (2015). Physical and Topical Structures of Manpower Discourse: A Contrastive Rhetoric Analysis in Southeast Asia. *GEMA Online Journal of English Language Studies*, 15(1), 91-110. doi: 10.17576/GEMA-2015-1501-06
10. Quinto, E. J. M. (2015, March 12). [Review of the Book *Issues and trends in applied linguistics in the Philippines: a decade in retrospect*, by S.N. Dita], *Asian Englishes*, 17:1, 80-84. doi: 10.1080/13488678.2015.998362
11. Quinto, E. J. M. (2014). Stylistic Analysis of Deictic Expressions in President Benigno Aquino III's October 30 Speech. *3L: The Southeast Asian Journal of English Language Studies*, 20(2), 1-18.
12. Quinto, E. J. M. (2014). Self-Consciousness and Assertiveness as Predictors of Discourse and Strategic Competency. *SLHS Review*, 3, 20-42.
13. Quinto, E. J. M. (2014). Outcomes-based language assessment: The Mapúa Experience. In *Malaysian English Language Teaching Association (Ed.), MELTA Annual 2014* (p. 58-61). Selangor, Malaysia: Malaysian English Language Teaching Association.
14. Quinto, E. J. M., & Velasco, Y. P. (2013). Emotion-Related Language Choice among Filipino and English Bilinguals, *SLHS Review*, 2, 47-82.
15. Quinto, E. J. M. (2012). English in East Timor: Functions, Policy and Future Directions, *SLHS Review*, 1, 64-88.
16. Canlas, G.L., & Quinto, E. J. M. (2012). Current Discussions on Language Teaching: Towards Outcomes-based Language Education, *SLHS Review*, 1, 89-102.





## CALDERON, ALDRIN D.

### Contact Detail:

adcalderon@mapua.edu.ph  
(+63 2) 2475000 local 2105

### Educational Background:

BS in Mechanical Engineering, Mapua Institute of Technology 2003  
MS in Material Science for Engineering, Mapua Institute of Technology 2010  
PhD in Energy Engineering, University of the Philippines 2015

### Priority Research Interest:

Renewable Energy for Sustainable Development CO2 Capture and Gas Separation Using Membrane

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### Selected Journal Publications:

1. Calderon, A. D., Basilia B.A., Monsada, A.M., Casa, E.P., Milo, L.C., and Margarito, M.T. (2015). Dealumination and Na activation of natural zeolite for CO2 adsorption on biogas. International Journal of Engineering Research and Development, 11(4), 60-66
2. Calderon, A.D., (2015). Selection of CO2 adsorption technology for Small Scale Low-pressured Biogas from backyard farm Swine Industry in the Philippines using Geographic Information System and Analytic Hierarchy Process. International Journal of Advanced Engineering Research and Studies, E-ISSN2249-8974.
3. Calderon, A., Que, M.C., Premacio, A. and D. Marasigan (2014). Morphological characterization of electrospun zeolite-filled Acrylonitrile Butadiene Styrene fibrous membrane for low-pressured CO2 adsorption. Sustainable Environment Research, 24 (5), 365-371.



## JUDILLA, ROEL JOHN C.

### Contact Detail:

rjcjudilla@mapua.edu.ph  
(+63 2) 2475000 local 2105

### Educational Background:

BS in Mechanical Engineering, Mapua Institute of Technology 1995  
Master in Engineering (Mechanical Engineering),  
Mapua Institute of Technology 1998  
hD in Energy Engineering, University of the Philippines Diliman (candidate)

### Priority Research Interest:

Energy Storage System/Micro-concrete Technology, Mechatronics, Robotics

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### Selected Journal Publications:

1. Dagum, L.J., Corpuz, F.J., Soriano, M., Jauod, J., Capili, E., and R. J. Judilla (2015). Stitching algorithm applied to camera array images for the visualization of Tubbataha reef grounding scars. 2014 Oceans - St. John's, OCEANS 2014, 7003154 doi: 10.1109/OCEANS.2014.7003154
2. Corpuz, F.J., Naval Jr., P., Capili, E., Jauod, J., Judilla, R.J. and M. Soriano (2012). Rapid shallow coastal coral reef mapping using the teardrop system. OCEANS 2012 MTS/IEEE: Harnessing the Power of the Ocean 6405113, doi: 10.1109/OCEANS.2012.6405113
3. Corpuz, F.J., Naval, P., Capili, E., Jauod, J., Judilla, R.J., and M. Soriano (2012). Coral reef mosaicking using Teardrop and Fast Image Labeling. Program Book - OCEANS 2012 MTS/IEEE Yeosu: The Living Ocean and Coast - Diversity of Resources and Sustainable Activities, 6263575, doi: 10.1109/OCEANS-Yeosu.2012.6263575



## MANUEL, MARK CHRISTIAN E.



### Contact Detail:

mcemanuel@mapua.edu.ph  
(+63 2) 2475000 local 2105

### Educational Background:

BS in Mechanical Engineering, Mapua Institute of Technology 2008  
MS in Environmental Engineering, Mapua Institute of Technology 2010  
PhD in Mechanical Engineering, Chung Yuan Christian University 2016

### Priority Research Interest:

Energy Engineering, Resource Optimization on Thermal Applications

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### Selected Journal Publications:

1. Manuel, M.C.E., Lin, P.T., and M. Chang (2017). Optimal duct layout for HVAC using topology optimization. *Science and Technology for the Built Environment*, pp. 1-8
2. Manuel, M.C.E., Hsu, K.S., Lin, S.P., and P.T. Lin (2017). User Preference-Oriented Design of Heat Dissipating Elements for Densely Packaged Transistors With Consideration of Design Robustness. *Journal of Thermal Science and Engineering Applications*, 9 (2), 021012
3. Lin, P.T., Manuel, M.C.E., Zhang, J., Jaluria, Y., and H.C. Gea (2017). Multi-Objective Design Optimization of Multiple Microchannel Heat Transfer Systems Based on Multiple Prioritized Preferences. *Journal of Thermal Science and Engineering Applications*, 9 (2), 021011
4. Manuel, M.C.E., and P.T.L. Lin (2017). Design Explorations of Heat Conductive Pathways. *International Journal of Heat and Mass Transfer*, 104, 835-851
5. Manuel, M.C.E., Huang, Y.C., and P.T. Lin (2016). Simulation and Verification of the Underfloor Air Distribution (UFAD) System - the Case Study of the PSVARE Laboratory, Mapua Institute of Technology (Intramuros Manila). *Journal of Advanced Engineering*, 11 (2), 105-109
6. Manuel, M.C.E., Lin, S.P., Lu, W.H., and P.T. Lin (2016). Errors in Thermographic Camera Measurement Caused by Known Heat Sources and Depth Based Correction. *International Journal of Automation and Smart Technology*, 6 (1), 5-12
7. Manuel, M.C.E., and P.T. Lin (2016). Insights on Automated Design using Topology Optimization and Its Implications on Tangible Design. 2015 Asia Design Engineering Workshop (2015 A-DEWS), pp. 62-66
8. Lin, P.T., Manuel, M.C.E., Liu, Y.H., Chou, Y.C., Ting, Y., Shyu, S.S., Chen, C.K. and C.L. Lee (2015). A multifaceted approach for safety design and probabilistic optimization. *Mathematical Problems in Engineering*, Vol. 2015
9. Bosshard, H.F.R. and M.C.E. Manuel (2015). 1990s and Beyond: Toward a GREEN\*-er Philippines Chronicles of Refrigeration and Air-Conditioning in Tropical Philippines. *The Cold Facts*, pp. 92-108
10. Masilungan-Manuel, J.T., Manuel, M.C.E., Lin, P.T. and A. N. Soriano (2015). Optimization of the drying parameters for the short-form spray dryer producing powdered egg with 20% tapioca starch additive. *Advances in Mechanical Engineering*, 7 (9), 1-11.
11. Po Ting Lin, Mark Christian E. Manuel, Yi-Hung Liu, et al., (2015). A Multifaceted Approach for Safety Design and Probabilistic Optimization. *Mathematical Problems in Engineering*, Vol. 2015, Article ID 817820, pp.14 doi:10.1155/2015/817820
12. Po Ting Lin, Yu-Cheng Chou, Mark Christian E. Manuel and Kuan Sung Hsu (2014). Investigation of Numerical Performance of Partitioning and Parallel Processing of Markov Chain (PPMC) for Complex Design Problems. *Proc. ASME*. 46322; Volume 2B: 40th Design Automation Conference, V02BT03A028. DETC2014-34652 doi: 10.1115/DETC2014-34652.





### **VEA, REYNALDO B.**

Contact Detail:

RBVea@mapua.edu.ph  
(+63 2) 2475000 local 1200

Educational Background:

B.S. in Mechanical Engineering, University of the Philippines Diliman 1978  
M.S. in Naval Architecture and Marine Engineering,  
Massachusetts Institute of Technology 1981  
Doctor of Philosophy major in Marine Transportation Systems,  
University of California Berkeley 1991

Priority Research Interest:

Engineering Education and Practice, Ship Propeller Design, Ship Propulsion,  
Ship Operation and Port Operation

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Selected Journal Publications:

1. The Challenges to Philippine Education, The Philippine Engineer, Vol. 1 No.1, Philippine Technological Council, January 2015
2. Philippine Curricula for Engineering Technologist and Engineering Technician Degree Programs, National Academy of Science and Technology (NAST), Republic of the Philippines, April 2014.
3. Industry-Academe Collaboration for R&D, Philippine Institute for Development Studies (PIDS), August 2013.
4. A Review of the Physical Flood Control System in the Pasig-Marikina River System. National Academy of Science and Technology (NAST), February 2012.
5. Implications of K to 12: Reform on Tertiary Education and Proposed Transition Mechanism, Proceedings of the Ninth Ambassador Alfonso Yuchengco Policy Conference, Yuchengco Center, Manila, February 2012.
6. Philippine Infrastructure Development for New Economic Opportunities, Proceedings of the Seventh Secretary Alfonso Yuchengco Policy Conference, Yuchengco Center, Manila, February 2010.
7. Filipino Engineers: From the Trenches of Zapote to Every Corner of the World, Education Section, Philippine Star, April 23, 2009.
8. Revolution in Philippine Engineering Accreditation through a Rapid Evolution, co-authored with Jose B. Cruz, Jr. and Dr. Ceferino L. Follosco, 2008 Global Colloquium on Engineering Education (GCEE), American Society for Engineering Education (ASEE), October 2008
9. Vea, R.B. (1994) Method to optimize the on-time performance of containerships. Marine Technology, 31 (1), 52-65

## **DEPARTMENT OF MATHEMATICS**



### **ADINA, EDGAR M.**

Contact Detail:

emadina@mapua.edu.ph  
(+63 2) 2475000 local 1301

Educational Background:

BS in Mathematics, University of the Philippines-Baguio 1993  
MS in Mathematics, University of the Philippines-Diliman 2002  
PhD in Mathematics, Ateneo de Manila University (in-progress)

Priority Research Interest:

Graph Theory, Mathematics Education

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Selected Journal Publications:

1. Silva, D.L., Sabino, L.D., Lanuza, D.M., Adina, E.M., Villaverde, B.S., and E. G. Pena (2014). Silva's management competency theory: A factor-item analytic approach utilizing oblique rotation direct oblmin method under kaiser-bartlett's test of sphericity. Lecture Notes in Engineering and Computer Science, 1, 300-305.
2. Silva, D.L., Sabino, L.D., Lanuza, D.M., Adina, E.M., Villaverde, B.S., Gonzales, D.R., Buluran, J.S., Jaballas, M.M, and E.G. Pena (2013). Toward Improving Patterns of Teaching Applications in Differential Equations: Reform and the Curriculum Process. Proceeding of the 2nd International Conference on Computer Science and Computational Mathematics (ICCSCM 2013). Kuala Lumpur, Malaysia. ISBN:978-967-11414-2-7



## **LANUZA, DIONISIA M.**



### Contact Detail:

DMLanuza@mapua.edu.ph  
(+63 2) 2475000 local 1301

### Educational Background:

BS Chemical Engineering, Mapua Institute of Technology 1979  
MAEd with specialization in Computer Assisted Instruction,  
De La Salle University 2000  
Doctor of Philosophy in Technology Management,  
Pamantasan ng Lungsod ng Maynila 2013

### Priority Research Interest:

Mathematics; diffusion of innovation

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### Selected Journal Publications:

1. Silva, D.L., Sabino, L.D., Lanuza, D.M., Adina, E.M. and R. S. Lazaro (2016). The effectiveness of the technology module (WileyPLUS) as learning management system tool in teaching Differential Equations. Lecture Notes in Engineering and Computer Science, Vol. 2223, pp. 78-83
2. Silva, D.L., Sabino, L.D., Lanuza, D.M., Adina, E.M., Villaverde, B.S. and E.G. Pena (2014). Silva's management competency theory: A factor-item analytic approach utilizing oblique rotation direct oblmin method under kaiser-bartlett's test of sphericity. Lecture Notes in Engineering and Computer Science, 1, 300-305.
3. Silva, D.L., Sabino, L.D., Lanuza, D.M., Adina, E.M., Villaverde, B.S., Gonzales, D.R., Buluran, J.S., Jaballas, M.M, and E.G. Pena (2013). Toward Improving Patterns of Teaching Applications in Differential Equations: Reform and the Curriculum Process. Proceeding of the 2nd International Conference on Computer Science and Computational Mathematics (ICCSCM 2013). Kuala Lumpur, Malaysia. February 9-10, 2013. ISBN:978-967-11414-2-7.

## **SABINO, LILIBETH D.**



### Contact Detail:

Idsabino@mapua.edu.ph  
(+63 2) 2475000 local 1300, 1301

### Educational Background:

BS Mathematics, Adamson University 1980  
MAEd with specialization in Computer Assisted Instruction, Adamson University 1999  
Doctor of Technology, Technological University of the Philippines 2008

### Priority Research Interest:

Educational Pedagogy, mathematics, technology; computer assisted instruction

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### Selected Journal Publications:

1. Silva, D.L., Sabino, L.D., Lanuza, D.M., Adina, E.M., and R.S. Lazaro (2016). The effectiveness of the technology module (WileyPLUS) as learning management system tool in teaching Differential Equations. Lecture Notes in Engineering and Computer Science, 2223, pp. 78-83
2. Silva, D.L., Sabino, L.D., Lanuza, D.M., Adina, E.M., Villaverde, B.S. and E.G. Pena (2014). Silva's management competency theory: A factor-item analytic approach utilizing oblique rotation direct oblmin method under kaiser-bartlett's test of sphericity. Lecture Notes in Engineering and Computer Science, 1, 300-305.
3. Silva, D.L., Sabino, L.D., Lanuza, D.M., Adina, E.M., Villaverde, B.S., Gonzales, D.R., Buluran, J.S., Jaballas, M.M, and E.G. Pena (2013). Toward Improving Patterns of Teaching Applications in Differential Equations: Reform and the Curriculum Process. Proceeding of the 2nd International Conference on Computer Science and Computational Mathematics (ICCSCM 2013). Kuala Lumpur, Malaysia. February 9-10, 2013. ISBN:978-967-11414-2-7



## SILVA, DANTE L.



### Contact Detail:

dlsilva@mapua.edu.ph  
dantesilva2000@yahoo.com  
(+63 2) 2475000 local 1301

### Educational Background:

BS Civil Engineering, Mapua Institute of Technology 1985  
MS in Teaching major in Mathematics, De La Salle University 1992  
PhD in Educational Management, De La Salle University 1999

### Priority Research Interest:

Civil engineering, construction engineering, mathematics, educational management;  
outcomes based education, sustainable development

### Selected Journal Publications:

1. Silva, D.L., Sabino, L.D., Lanuza, D.M., Adina, E.M., Lazaro, R.S. (2016) The effectiveness of the technology module (WileyPLUS) as learning management system tool in teaching Differential Equations. Lecture Notes in Engineering and Computer Science, 2223, 78-83
2. Silva, D.L., Sabino, L.D., Lanuza, D.M., Adina, E.M., Villaverde, B.S. and E.G. Pena (2014). Silva's management competency theory: A factor-item analytic approach utilizing oblique rotation direct oblmin method under kaiser-bartlett's test of sphericity. Lecture Notes in Engineering and Computer Science, 1, pp. 300-305.
3. Silva, D.L., Sabino, L.D., Lanuza, D.M., Adina, E.M., Villaverde, B.S., Gonzales, D.R., Buluran, J.S., Jaballas, M.M. and E.G. Pena (2013). Toward Improving Patterns of Teaching Applications in Differential Equations: Reform and the Curriculum Process. Proceeding of the 2nd International Conference on Computer Science and Computational Mathematics (ICCSCM 2013), Kuala Lumpur, Malaysia. February 9-10, 2013. ISBN:978-967-11414-2-7

## DEPARTMENT OF PHYSICS

## GABAYNO, JACQUE LYNN F.



### Contact Detail:

jlfgabayno@mapua.edu.ph  
(+63 2) 2475000 local 4301

### Educational Background:

BS in Applied Physics, University of the Philippines Diliman 2002  
MS in Physics, University of the Philippines Diliman 2005  
PhD in Physics, University of the Philippines Diliman 2010

### Priority Research Interest:

Optical Materials and Testing, magnetic nanomaterials for biomedical applications,  
nanotechnology, Physics Education

### Selected Journal Publications:

1. Chen, P.-C., Chang, M., Gabayno, J.L., Wang, X. and X. Liu (2017). High resolution topography utilizing a line scan stereo vision technique. Microsystem Technologies, 23(6), 1653-1659 doi: 10.1007/s00542-015-2675-4
2. Chang, M., Gabayno, J.L.F., Huang, K.W. and Y.J. Chang (2017). Mixing Efficiency Enhancing in Micromixer by Controlled Magnetic Stirring of Fe<sub>3</sub>O<sub>4</sub> Nanomaterial. Microsystem Technologies, 23(2), 457-463
3. Chang, M., Lin, Y.-H., Gabayno, J.L., Li, Q., and X. Liu (2017). Thrombolysis based on magnetically-controlled surface-functionalized Fe<sub>3</sub>O<sub>4</sub> nanoparticle. Bioengineered. 8 (1), 29-35
4. Chen, P.C., Chang, M., Lai, W.C. and J.L.F. Gabayno (2016). Bond Line Thickness and Die Tilt Inspection in Die Bonding Process. Journal of the Chinese Institute of Engineers, 39(4), 508-512
5. Chang, M., Chen, B.-C., Gabayno, J.L., and M.-F. Chen (2016). Development of an optical inspection platform for surface defect detection in touch panel glass. International Journal of Optomechatronics, 10 (2), 63-72
6. Chang, M., Chang, M.-Y., Lin, W.-S., and J.L. Gabayno (2017). Magnetic Control of Fe<sub>3</sub>O<sub>4</sub> Nanomaterial for Fat Ablation in Microchannel. Materials, 8 (11) pp. 7813-7820



7. Hao Zhao, Ming Chang, Jacque Lynn Gabayno, Xiaojun Liu, and Wei Siou Lin (2015). Automated Electrical Measurements of Single ZnO Nanowire with Cu and Au Electrodes Under Axial Strain. *Science of Advanced Materials*, 7(2), 287–294 <http://dx.doi.org/10.1166/sam.2015.2020>
8. Ming CHANG, Jacque Lynn GABAYNO, Ming-Yi CHANG, Yu-Hao LIN, and Ke-Wei Huang (2015). Magnetic Field-Driven Manipulation System and Its Applications in Micromixing and Microablation. *Applied Mechanics and Materials*, 736, 152-157 doi:10.4028/www.scientific.net/AMM.736.152
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### MACALALAD, ERNEST P.

Contact Details:

[epmacalalad@mapua.edu.ph](mailto:epmacalalad@mapua.edu.ph)

Educational Background:

BS Physics with Specialization in Computer Electronics,  
De La Salle University 2004

MS Physics, De La Salle University 2006

PhD Space Science, National Central University, Taiwan 2014

Priority Research Interest:

Physics Atmospheric and Ionospheric Physics Space Science Remote Sensing GNSS Applications



1. Vergara, R.L., Macalalad, E.P., Bagtasa G., Vallar, E.A., Galvez, M.C.D. and R.V. Francisco (2017). Correlation of Aerosol Optical Properties with Surface Meteorological Parameters over Manila. *Advanced Science Letters*, 23 (2), 1448-1451
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