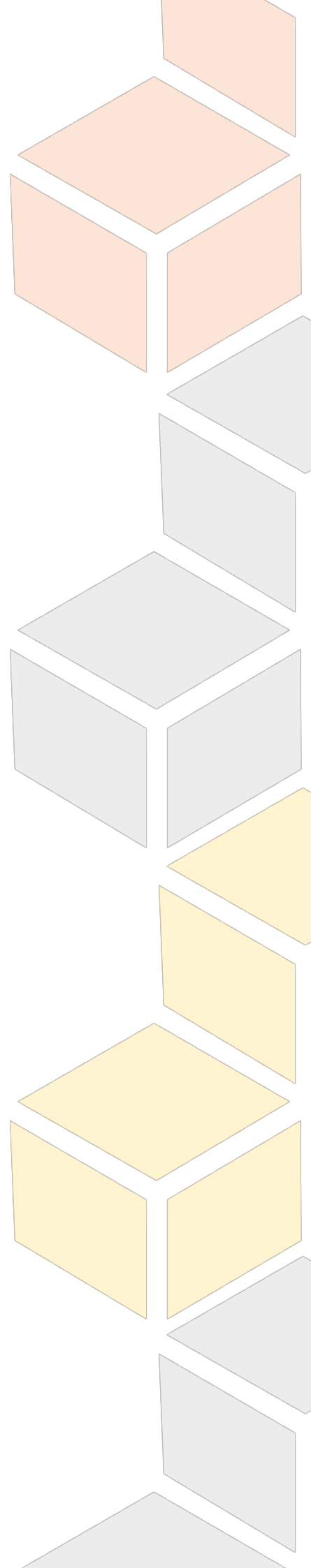




(December 2017- October 2020)

# **CEAT End-of-Term Report**

*Gearing Up for the Future*



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**CEAT Executive Committee (2018-2020)**

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Dr. Richelle G. Zafra  
DCE Chair

aP Annie Liza C. Pintor  
DEE Chair

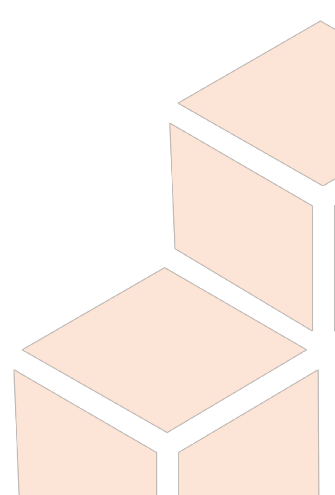
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Dr. Arthur L. Fajardo  
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Secretariat



## MESSAGE FROM THE DEAN



  
**DR. ARNOLD R. ELEPAÑO**  
Dean

This term report with the theme “Gearing Up for the Future” shows how CEAT has improved and developed for the past years with the help of every faculty, researchers and extensionists, staff, students, alumni and industry partners. Without this teamwork, we would never reach this point of progress in the college.

Therefore, I would like to extend my deepest gratitude to all the people who have helped in the improvement and development of CEAT’s academic events, social events and academe-industry linkages— from the UPLB Chancellor and it’s administration, the CEAT Executive Committee, the CEAT academic units, research and extension units, and support staff units, it is an honor to work with you in the past years.

Moreover, as dean of the college, I would also like to thank all CEAT students who have been doing their best despite any circumstances. Additionally, our alumni, through the initiatives of the CEAT Alumni Association, has been one of our biggest supporters in making projects for the benefits of our students. We will also not forget the help of our industry partners for the college and students.

I am looking forward to more years of CEAT working together as a whole. Let’s dream bigger and work harder for the future of CEAT.

# **ABOUT THE COLLEGE OF ENGINEERING AND AGRO-INDUSTRIAL TECHNOLOGY**

The College of Engineering and Agro-industrial Technology (CEAT) traces its roots to the former Department of Agricultural Engineering created in 1912 as one of the departments of the UP College of Agriculture. In 1976, the Department of Agricultural Engineering was elevated to the Institute of Agricultural Engineering and Technology (INSAET). On February 24, 1983, CEAT was finally established upon the approval of the UP Board of Regents in its 958th meeting.

Since its institution, CEAT envisions itself to be a premier institution of higher learning in engineering education; a center of excellence in engineering instruction, research, and extension; a leader in the generation and promotion applied technologies; and a partner of the government, industries, and international agencies for agro-industrial development. It aims to upgrade and continually improve and develop its programs to be become one of the best engineering colleges in the country that will produce quality graduates, who will generate innovational technologies that will serve the Filipino people.

Further, it aims to generate and promote quality engineering technologies and establish a strong academe-government-industry-international agency partnership that will lead to coordinated programs geared towards national and international development. Hence, this will make CEAT a model of other engineering schools in the country.

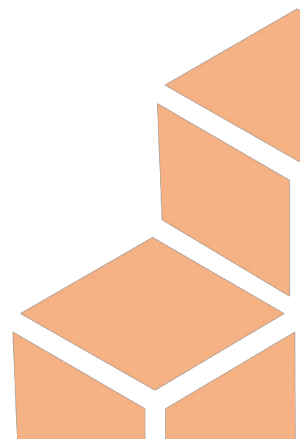
In the present, CEAT consistently produces top graduates in all fields of engineering for managerial positions in government and private agencies. It also has an outstanding record of passing rates and top ranking scores in several national government licensure examinations.

CEAT also focuses in research, development and extension programs to give solutions in various problems in energy, agriculture and food security, climate change and the environment. The College pursues research collaborations with government and non-government organizations, the private sector, and international organizations towards the development of the country's engineering sector. CEAT also implements extension projects for the benefit of engineering stakeholders, particularly the farmers.

## **OBJECTIVES/ GOALS**

The College of Engineering and Agro-Industrial Technology (CEAT) aims to:

- produce quality engineering graduates needed for agricultural and industrial development of the country;
- advance the frontier of knowledge in engineering and generate quality technologies in support of the agro-industrial thrusts of the country; and
- promote the utilization of useful technologies by private sectors.



The past years has yet to be one of the most challenging terms of the College of Engineering and Agro-industrial Technology.

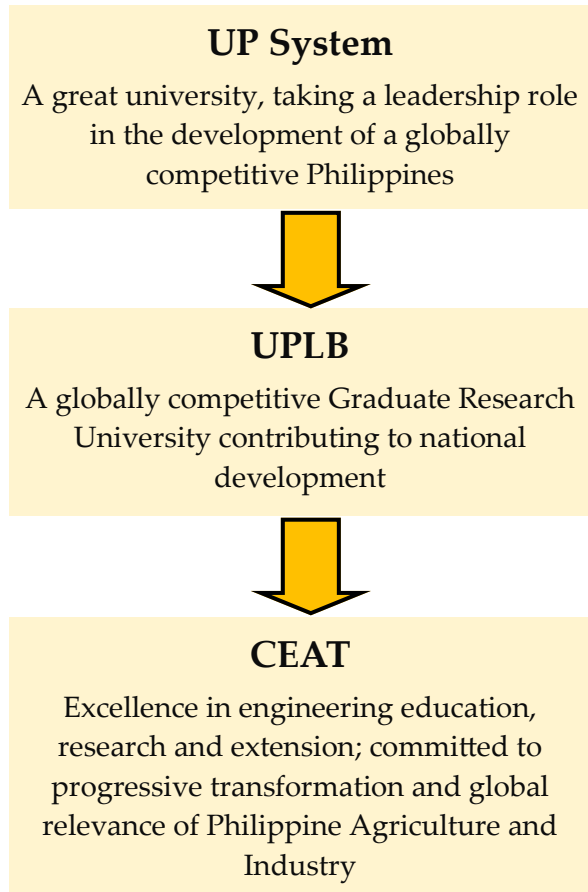
In 2018, the college started implementing the four year undergraduate degree programs and welcomed the first graduates of the first batch of Senior High School since the implementation of the K-12 curriculum in the country.

The college and the university, in general, made a lot of adjustments and modifications in order to cater the educational needs of the students. While it may seem difficult and laborious, the college took it as a challenge in order to also improve its service and to enhance its academic flexibility and efficiency.

Meanwhile, in the start of 2020, the sudden eruption of Taal Volcano affected many students of the college living in CALABARZON and the National Capital Region areas. Donation drives, through the initiative of the CEAT Student Council, were conducted to give financial and material support to the families who were greatly affected by the calamity. In March 2020, the breakout of the Coronavirus disease, most popularly known as COVID-19, halted all the university's academic classes and activities and have resulted to the mass "Oplan Hatid" from UPLB to the students' homeplace to ensure safety of the students..

While it may seem challenging to teach students through remote learning, which is the new normal of academic learning in the present, the college is doing its best to cater the needs of the students especially those who have no stable internet connectivity and technological equipment. The college is also conducting surveys, through the Office of the College Secretary, to know the needs of our students now that they are in a new way of learning process.

Although there are lots of challenges and hurdles in the present, the college still continue its mandate to be excellent in engineering education and research and extension. With the help of its 6 academic units and 2 R&E units, the college, from December 2017 to June 2020, has tallied 45 completed research projects and 68 ongoing projects. There are also 251 publications in the form of journals,



proceedings, books and book chapters and policy papers.

Faculty and staff have attended local and international conferences, workshops, fora and seminars to present papers and posters and to serve as moderators, resource and plenary speakers.

Center for Agri-Fisheries and Biosystems Mechanization (BIOMECH) and Agribiosystems Machinery and Power Engineering Division (AMPED) have conducted lectures, trainings and seminars as part of their extension responsibilities. Meanwhile, AMTEC and AMPED have imparted technical assistance to both private and government organizations.

Lastly, Agricultural Machinery Testing and Evaluation Center has also tested 1,385 machines for the said period.

<b>CEAT ACCOMPLISHMENTS (December 2017– October 2020)</b>			
<i>PROJECTS</i>	<b>68</b> <i>Ongoing</i>	<b>45</b> <i>Completed</i>	
<i>PUBLICATIONS</i>	<b>116</b> <i>Journals</i>	<b>120</b> <i>Proceedings</i>	
	<b>10</b> <i>Books &amp; Book Chapters</i>	<b>5</b> <i>Policy Papers</i>	
<i>CONFERENCES</i>	<b>201</b> <i>Local</i>	<b>81</b> <i>International</i>	
<i>TRAININGS/ SEMINARS CONDUCTED</i>		<b>76</b>	

# REPORT ON CEAT'S ACADEME- INDUSTRY LINKAGES

FROM THE ASSOCIATE DEAN

For the last three years, CEAT continued to pursue one of its strategic thrusts which was not only to increase its research and extension/training volume but also to improve its industry-government-academe and alumni linkages and the college reputation.

With the active involvement of CEAT's Committee on Public Affairs and through the support of CEAT Executive Committee, the college was able to hold Annual Job Fairs, Roadshows and Seminars which benefited majority of the students.

One of the major moves that CEAT initiated is the signing of Memoranda of Understanding with several partner companies and government institutions. These agreements paved the way for the establishment of the CL Folloso Innovationeering Laboratory at the new IABE Building through the generous support of CL Folloso Group of Companies. Another major milestone for the college is the creation of UPLB SIBOL Fabrication Laboratory, a joint collaboration between the Department of Trade and Industry (DTI), UPLB Technology Transfer and Business Development Office (TTBDO) and CEAT. As a shared services facility this fablab caters to stakeholders that require rapid prototyping services, small-volume manufacturing and computer modeling.

During this pandemic, CEAT faculty and staff who are members of The Technology and Facility Innovation Committee of the UPLB Task Force Laban Ng Bayan Kontra COVID-19 were able to fabricate face shields, ear guards, ventilator splitters and other ventilator parts through this facility.



The college also received road safety devices from Denso Philippines which are being used by the Department of Civil Engineering for instruction's purposes. Partnerships with companies also resulted to the establishment of CEAT's Program Advisory Council, a pool of experts from different companies and government institutions which gives advice to the college on such matters as: program relevance; advancement of new technology and engineering innovations; and their inclusion in the curriculum.

It is also envisioned that the agreements between the UPLB and partner companies will support the college's implementation of the Internship and Engineering Industry Research (EIR) programs with the goal of improving the skills of students by putting their knowledge of engineering into practice.







Recognizing the importance of a strong alumni linkage, CEAT is also reaching out to its graduates, by conducting the annual CEAT Alumni Homecoming after the UPLB Loyalty parade, where the college also bestow recognition awards to outstanding young CEAT alumni from the five undergraduate programs.

In response, alumni are extending their hands to the plans and programs of the college for the benefit of the current undergraduate students. The newly implemented CEAT Adopt-a-Student program being managed by the UPLB CEAT Alumni Association (UPLB CEAT AA) was bolstered with financial donations not only from CEAT alumni but also from the Turalba Foundation, Inc. and Aliling Group of Companies. On the other hand, BP Integrated Technologies (BPIT) committed on giving financial support for three years (2019-2021) to students who are conducting their thesis.



To increase the college visibility, CEAT website was redesigned using word press and is now being constantly maintained and updated. CEAT is also active in social media through its Facebook, Twitter, Instagram and Youtube accounts, a platform used by the college to reach out to its students, alumni and industry partners. An official AVP for the college was also created last year and is now being used by the college in its official events and programs.

CEAT has also actively participated in various university events. The college have successfully hosted the UPLB Palaro in 2018; garnered the Most Symbolic Float in 2018 and 2<sup>nd</sup> Place in Float Competition in 2019. All of these accomplishments were achieved by CEAT through the collective efforts of its faculty, staff and students.







## MESSAGE FROM THE ASSOCIATE DEAN



  
**DR. MYRA G. BORINES**  
Associate Dean

I wish to extend my heartfelt thanks to Dean Arnold R. Elepaño for his unwavering support to the industry-academe linkage program and to every activity of the college.

My sincere gratitude also goes to the CEAT Dean's Office Staff especially to Engr. Mary Louise P. Pascual and Ms. Mary Jane F. Gallardo for their invaluable assistance in every college activity that I lead.

I would like to thank the UPLB Administration especially Chancellor Fernando O. Sanchez Jr. for supporting the programs and activities of the college.

I wish to thank the UPLB CEAT Alumni Association, through the leadership of Engr. Panataleon "Tally" LL. Tabanao, for being an active partner of the college in providing financial support to under privileged students.

And of course to our partner companies, institutions and CEAT alumni, thank you for believing in CEAT's goal of producing globally competitive engineers.

I hope that all the efforts that this current CEAT administration have put in to strengthen the college's industry academe linkage program will gear up CEAT into the future.

To God be the glory!!

## MESSAGE FROM THE COLLEGE SECRETARY



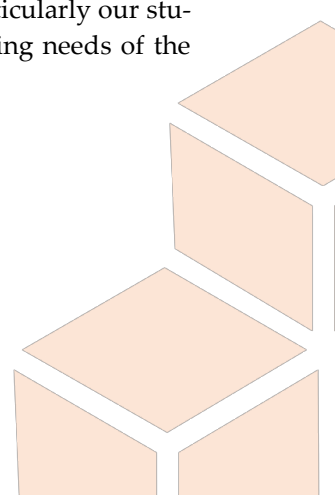
*AC Ani*  
**ASST. PROF. ANGELO C. ANI**  
College Secretary

Greetings!

In recent years, we have seen major transformations in the college particularly in curriculum and instruction. In particular, we saw a two-year drop in enrollment in tertiary education as the country's basic education shifts to K12. We also started the implementation of the new 4-year engineering curricula in 2018. Currently, we experience how the Covid-19 pandemic drastically changes the global education landscape.

Indeed, these transformations range from being challenging to exciting and -- for Covid's impact to the most vulnerable -- worrying. It is my hope that during the crucial periods of the transition, the Office of the College Secretary, as a support unit of the college, stands as an able partner of CEAT academic units as we collectively pursue honor and excellence. True to our commitment to serve -- particularly our students -- may the initiatives of the Office continue to proactively respond to the changing needs of the studentry.

Maraming maraming salamat po!



In response to the K-12 curriculum program of the Department of Education, the College of Engineering and Agro-industrial Technology revised its curricular programs with a duration from five-year to four-year. This move was made to acknowledge the changes made in the basic education system of the country which implemented the additional two years (Senior High School) in 2018.

### **BACHELOR OF SCIENCE IN AGRICULTURAL AND BIOSYSTEMS ENGINEERING**

The undergraduate program provides the basic education for developing skills and professional knowledge common to the specialized fields of agriculture and biosystems engineering. The curriculum integrates engineering science and design with applied biological, environmental and agricultural sciences that allows the students to develop professional command of a particular specialized area of discipline such as agricultural and bio-process engineering, agrometeorology and farm structures or land and water resources engineering. The BS curriculum provides the basic entry level competencies into engineering designs, biosystems and agro-industrial development, operation processes and services including teaching and research.

Undergraduate students enroll in a four-year curriculum that meets the minimum requirements set by the Commission on Higher Education and for the Professional Regulations Commission board examination for agricultural engineers. Graduates of the program are expected to apply their professional knowledge in tapping emerging technologies that will provide safe food and water to consume, renewable energy, a stable environment and products and processes that will improve quality of life and contribute to the agro-industrial development needs of the country.

#### **CHANGES MADE BY THE COLLEGE**

BSABE CURRICULUM COMPONENTS	FROM	TO
GE Courses and Legislated Course	39 units SSP(15 - includes PI10), AH (15), MST (9)	27 units ARTS 1 (3), COMM 10 (3), ETHICS 1 (3), KAST 1/ HIST 1 (3), STS 1 (3), PI 10 (3), Elective GE (9)
Foundation Courses	74 units	56 units
Core Courses	60 units	53 units
Specialization Courses	9 units	9 units
Elective Courses	6 units	6 units
Undergraduate Seminar	1 unit	1 unit
Internship	-	3 units
Thesis/ Innovationeering/ Engineering Industry Research	6 units	6 units
<b>Total</b>	<b>195 units</b>	<b>161 units</b>

## BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

The graduates of this curriculum are expected to meet the technical manpower requirements of the newly emerging agri-based industries and traditional chemical process industries, specifically in the area of bio-process engineering and chemical process engineering. Chemical engineers with some understanding of bio-processes are needed to scale up production from laboratory to bench levels into industrial level. In the long run, local processing of raw materials into consumer and industrial products should help raise rural income, generate foreign exchange and protect the Philippine economy from adverse external trade conditions.

The inclusion of microbiology, biochemistry and biotechnology courses in the curriculum will strengthen the student's background in agri-based industries.

### CHANGES MADE BY THE COLLEGE

	BSCHE GENERAL CURRICULUM COMPONENTS		BSCHE MAJOR IN SUGAR TECHNOLOGY CURRICULUM COMPONENTS		BSCHE MAJOR IN PULP TECHNOLOGY CURRICULUM COMPONENTS	
	FROM	TO	FROM	TO	FROM	TO
GE Courses and Legislated Course	39 units SSP(15 - includes PI10), AH (15), MST (12)	27 units ARTS 1 (3), COMM 10 (3), ETHICS 1 (3), KAST 1/ HIST 1 (3), STS 1 (3), PI 10 (3), Elective GE (9)	39 units SSP(15 - includes PI10), AH (15), MST (12)	27 units ARTS 1 (3), COMM 10 (3), ETHICS 1 (3), KAST 1/ HIST 1 (3), STS 1 (3), PI 10 (3), Elective GE (9)	39 units SSP(15 - includes PI10), AH (15), MST (12)	27 units ARTS 1 (3), COMM 10 (3), ETHICS 1 (3), KAST 1/ HIST 1 (3), STS 1 (3), PI 10 (3), Elective GE (9)
Foundation Courses	63 units	46 units	63 units	46 units	66 units	46 units
General Engineering Courses	22 units	20 units	22 units	20 units	22 units	20 units
Core Courses	42 units	39 units	42 units	39 units	42 units	39 units
Specialization Courses	15 units	15 units	21 units	21 units	20 units	23 units
Cognate Courses	6 units	6 units	-	-		
Undergraduate Seminar	1 unit	1 unit	1 unit	1 unit	1 unit	1 unit
Internship	---	3 units	---	3 units	---	3 units
Thesis/ Innovationeering/ Engineering Industry Research	6 units	6 units	6 units	6 units	6 units	6 units
<b>TOTAL</b>	<b>194 units</b>	<b>163 units</b>	<b>194 units</b>	<b>163 units</b>	<b>196 units</b>	<b>165 units</b>



## BACHELOR OF SCIENCE IN CIVIL ENGINEERING

One of the most important aspects of rural development in the Philippines is the continuing need for infrastructures for transportation, communication, commerce, education, human settlements, energy development and agriculture. In the age of modern technology and interdependence of people and institutions, civil engineers constitute a specialized group of trained manpower whose expertise is indispensable for the design and construction of infrastructures for public and private use.

The Southern Tagalog Region, in particular, is an emerging agro-industrial center with a high-projected need for irrigation and drainage, roads, bridges, manufacturing plants, agro-processing facilities, warehouses and port development. There are parallel high growth needs in residential homes, business offices, water supply systems and waste-disposal facilities. In the total picture, competent civil engineering graduates with other professionals are needed to affect the development of structural systems that are safe, economical and efficient. The UPLB seeks to help upgrade in the long run, the quality of civil engineering education in the country, particularly in the Southern Tagalog Region.

This undergraduate program aims to produce civil engineers whose expertise is indispensable for the design and construction of infrastructures for public and private use. It is dedicated in preparing its students to become globally competitive engineers by educating them with the basic principles of structural, hydraulic, geotechnical, transportation, sanitary, and environmental engineering and construction management. The department aims to produce well-rounded graduates that can become industry leaders and pioneers in research and development.

### CHANGES MADE BY THE COLLEGE

BSCE CURRICULUM COMPONENTS	FROM	TO
GE Courses and Legislated Course	39 units SSP(15 - includes PI10), AH (15), MST (12)	27 units ARTS 1 (3), COMM 10 (3), ETH- ICS 1 (3), KAST 1/ HIST 1 (3), STS 1 (3), PI 10 (3), Elective GE (9)
Foundation Courses	39 units	27 units
Core Courses	105 units	96.nits
Internship	-	3.Units
Undergraduate Seminar	1 Unit	1 Unit
Undergraduate Thesis/ Innovationeering	6 Units	6 Units
<b>Total</b>	<b>190 units</b>	<b>160 units</b>

## BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

The curricular program offers an excellent opportunity for the students to acquire solid academic preparations in electrical and electronic circuit theory and analysis. Graduates of the program are expected to be fully equipped and able to enhance the level of their competencies as they chart their professional careers in the development mainstreams, particularly in power, electronics and computer engineering including power generation and distribution, analog and digital electronics, robotics, instrumentation, telecommunications, broadcasting and acoustics, robotics, microcomputers, machine learning and similar fields.

The curricular program was conceived in response to the dire need for well-trained electrical and electronic engineers in all sectors of development, both the local and global scales. In the Philippines, graduates of electrical engineering are key players as the country modernizes in agriculture systems and accelerates in rural-urban and industrial base for the 21st century.

Each student can specialize in one or more of the following fields: (a) Power Engineering, (b) Electronic Engineering and (c) Computer Engineering. Moreover, the student may choose a thesis research or practicum as a specialization course.

### CHANGES MADE BY THE COLLEGE

BSEE CURRICULUM COMPONENTS	FROM	TO
GE Courses and Legislated Course	39 units SSP(15 - includes PI10), AH (15), MST (9)	27 units ARTS 1 (3), COMM 10 (3), ETH- ICS 1 (3), KAST 1/ HIST 1 (3), STS 1 (3), PI 10 (3), Elective GE (9)
Foundation Courses	36 units	19 units
Core Courses	93 units	88 units
Specialization Courses	9 units	9 units
Elective Courses	6 units	6 units
Undergraduate Seminar	1 unit	1 unit
Internship	-	3 units
Thesis/ Innovationeering/ Engineering Industry Research	6 units	6 units
<b>Total</b>	<b>190 units</b>	<b>159 units</b>

## BACHELOR OF SCIENCE IN INDUSTRIAL ENGINEERING

This curricular program aims to enable its students to have the competence to plan, design, install and evaluate integrated systems of personnel, materials, equipment, energy and information in ways that reduce costs and increase system efficiency and effectiveness. Through the program, the students are provided technical competencies for industrial systems analysis, design, and management.

The BSIE program meets the minimum standards and other requirements set by the Commission on Higher Education. Graduates of the program are expected to apply their knowledge and skills for the industrial development needs of the Philippines.

The academic program is distinct from other curricula in industrial engineering in that requires the students to conduct and document a thesis research of practicum study before they graduate.

The UPLB BSIE program is highly recommended for high school graduates who are good in mathematics, physics and chemistry and have been keen interests in industrial systems processes, organization and management.

### CHANGES MADE BY THE COLLEGE

BSIE CURRICULUM COMPONENTS	FROM	TO
GE Courses and Legislated Course	39 units SSP(15 – includes PI10), AH (15), MST (9)	27 units ARTS 1 (3), COMM 10 (3), ETH- ICS 1 (3), KAST 1/ HIST 1 (3), STS 1 (3), PI 10 (3), Elective GE (9)
Foundation Courses	84 units	59 units
Core Courses	55 units	58 units
Technical Cognate	6 units	6 units
Undergraduate Seminar	1 unit	1 unit
Internship	-	3 units
Thesis/ Innovationeering/ Engineering Industry Research	6 units	6 units
<b>Total</b>	<b>190 units</b>	<b>159 units</b>

## **MASTER OF SCIENCE (MS) AND DOCTOR OF PHILOSOPHY (PhD) IN AGRICULTURAL ENGINEERING**

### **FARM POWER AND MACHINERY**

The field of Farm Power and Machinery involves the application of mechanical, physical, biological and electronic principles to the solution of real-life problems or issues in crop production and processing. Among others, the coursework includes the study of theories of soil failure, traction, compaction and floatation on agricultural soils; dynamics of seeding and transplanting, soil-seed and seedling machine interactions; principles of digital and analogue measurements and control of temperature, humidity, strain, moisture content, pressure and fluid flow in engineering process; methods of testing and inspection of engineering materials, strain measurement, brittle-coating, and related instrumentation; and design of energy systems using conventional, non-conventional, renewable and other alternative power sources.

### **AGRICULTURAL AND BIO-PROCESSING**

The field of Agricultural and Bio-Processing (ABPRO) covers the gamut of handling and storage of crops in fresh form from farm to market, to processing of agricultural materials into food, feed product and industrial products. Loss reduction, quality retention, improved efficiency and cost-effectiveness of the various postharvest and processing operations are prime considerations in development of technologies for ABPRO. Coursework covers heat, mass and momentum transfer, crop processing operations, physical properties of agricultural materials and refrigeration systems. Students are also encourage to enroll in elective courses in other colleges of UPLB to broaden their perspective and increase their understanding of biosystems. These electives generally include courses in animal science, postharvest horticulture, agricultural economics and food science.

### **LAND AND WATER RESOURCES**

This graduate program focuses on land and water resources engineering designed to provide graduates with the ability to impart knowledge in land and water resources development, management, and conservation, and to conduct a sharply focused and detailed academic research. Graduates of the MS program are expected to have acquired expertise in irrigation and drainage, irrigation agronomy, hydrology, hydrologic modeling, soil and water conservation, land use planning, and water resources utilization and management. Graduates of the PhD program are expected to have a broad and in-depth view of land and water resources as they relate to agricultural production, the conservation and protection of these resources, and the maintenance of the integrity and stability of the environment.

### **MASTER OF SCIENCE (MS) IN AGROMETEOROLOGY**

The MS in Agrometeorology is an interdisciplinary field which relates the elements of atmospheric environment with agribusiness operations. It is designed to prepare students to deal with the weather-related problems affecting agricultural activity from the long-range planning to the daily operations.

### **MASTER OF SCIENCE (MS) IN CHEMICAL ENGINEERING**

This MS program provides chemical engineers a greater opportunity for improving or developing further their capabilities in providing quality instruction and in undertaking research and development projects. Those pursuing the MS in Chemical Engineering with specialization in Pollution Engineering will have the opportunity to help solve some pollution problems through chemical engineering solutions.

## **DOCTOR OF PHILOSOPHY BY RESEARCH IN AGRICULTURAL ENGINEERING**

At the end of the program, graduates are expected to demonstrate each of the following: (1) the creation and interpretation of new knowledge, through original research or other advanced scholarship, of a quality to satisfy peer review, to extend the forefront of the discipline, and to merit publication in an appropriate form; (b) a systematic acquisition and understanding of a substantial body of knowledge which is at the forefront of an academic discipline or area of professional practice; (c) the general ability to conceptualize, design, and implement a project for the generation of new knowledge, applications, or understanding at the forefront of the discipline and the ability to adjust the project design in light of unforeseen problems; and, (d) a comprehensive understanding of techniques applicable to their own research or advanced scholarship. Graduates will thus have advanced systematic knowledge and skills applied in a highly specialized or complex multidisciplinary field of professional work, research, and/or further study that require management expertise, innovation, and leadership.

### **INSTITUTION OF BS MECHANICAL ENGINEERING**

With the aim to increase the contribution of CEAT to the development of highly trained engineers in the global academics and research setting, the college developed the BS Mechanical Engineering curriculum which is an addition to its current five undergraduate degree programs.

Going back, the Mechanical Engineering program has been a long-term plan of the college since the creation and approval of the Proposed Reorganization of CEAT, UP Los Baños during the 1107<sup>th</sup> meeting of the Board of Regents on 17 April 1997. Aside from the plans for the Department of Industrial Engineering at that time, the establishment of the Department of Mechanical Engineering is one of the moves for CEAT to become a comprehensive college of engineering.

Therefore, in 2019, the college, with the approval from the UPLB administration, hired two faculty with Mechanical Engineering backgrounds to head start the development of the BSME curriculum.

During the 1355<sup>th</sup> UP Board of Regents meeting on 29 October 2020, the proposal for the institution of BSME has been approved and will now be under the offered undergraduate programs of UPLB-CEAT in the conduct of UPCAT 2021. The BS Mechanical Engineering Curriculum committee was headed by Dr. Jovita L. Movillon as Chair and Engr. Marita Natividad T. De Lumen as Co-Chair and include other faculty members from each CEAT Department.

## ASCENT OF IAE TO IABE

During the 1355th UP Board of Regents meeting on 29 October 2020, the proposal for the ascent of the Institute of Agricultural Engineering to the Institute of Agricultural and Biosystems Engineering has been approved as well as the renaming of the departments under the institute: Agricultural, Food and Bioprocess Engineering Division (formerly ABPROD); Agribiosystems Machinery and Power Engineering Division (formerly AMD); Agrometeorology, Bio-Structures and Environment Engineering Division (formerly AFSD); and Land and Water Resources Engineering Division (formerly LWRD).

The Institute of Agricultural and Biosystems Engineering is known to be one of the leading Agricultural and Biosystems Engineering academic institutions in the country; moreover, BSABE program was awarded by the Commission on Higher Education as a Center of Excellence (COE) on its field. For years, it has been training and shaping the minds of its undergraduate and graduate students and has been contributing to the university's output in research and extension, as well as in international and local publications.

The ascent of IAE to IABE aims to better reflect the changes in the current 4-year BSABE curriculum, broaden the interdisciplinary nature of its RD&E activities, and embody its role as a leading academic and research institution in advancing the fields of ABE.

## UPDATES ON THE DEPARTMENT OF CHEMICAL ENGINEERING NEW BUILDING

by the Department of Chemical Engineering

Through the years, the Chemical Engineering Department is continuously striving to develop its facilities even with limited fund support. It is envisioned that by the year 2023-2029 the department has been elevated into an institute thereby increasing the number of faculty, staff and students (BS, MS, and PhD). Thus, a new green building with better facilities for both classrooms and laboratories should be in place around this period. The green building and facilities will be used by students, faculty, REPS, and administrative staff in support to the UPLB's pursuit to become a globally competitive graduate and research university contributing to national development.

The construction of the new ChE building together with the rehabilitation and improvement of existing ChE buildings aims to provide a conducive learning environment to its constituents for better instruction, research and extension; improve student performance, increase the number of graduate student involvement; and encourage faculty retention for the advancement of chemical engineering education; and to provide national leadership on the promotion of low-carbon practices and energy efficiency as well as to empower its science and technology capacity. It is also envisioned that the proposed new building will cater to the needs of other CEAT units (i.e. additional classrooms) and intensify research collaboration with other UPLB units through resource sharing.

The 6-storey new ChE building, which will be constructed beside the Biofuels building, is envisioned to establish a complete learning environment with formal and non-formal learning spaces such as research and service laboratories, Unit Operations laboratory, Simulation and Process Control laboratory, waste storage room, 160-seater lecture room, 40-seater classrooms, student lounge, reading room, offices for the Chairman and admin staff, faculty, researchers, graduate students, and additional parking space at the basement. The UP System recently released funds for the hiring of professional services for the preparation of the Detailed Architectural and Engineering and Design of the proposed construction of the new ChE building.

# APPLICATION OF BS CHEMICAL ENGINEERING FOR AUN-QA ASSESSMENT

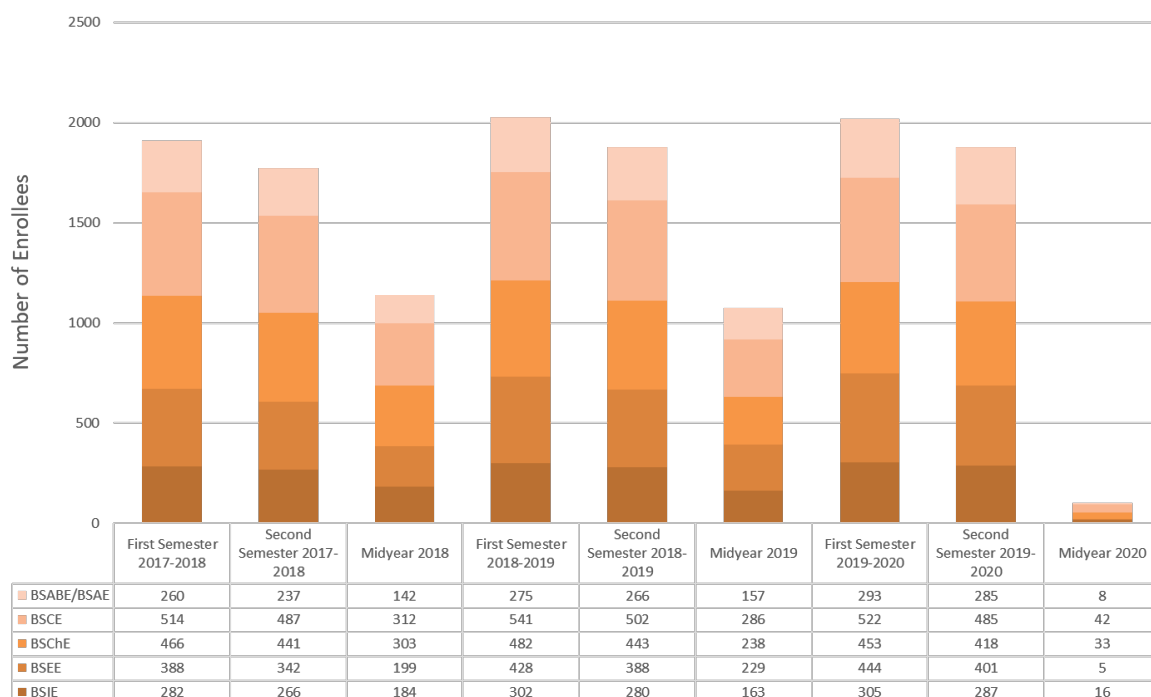
by the Department of Chemical Engineering

The UPLB BS Chemical Engineering program has undergone the ASEAN University Network – Quality Assurance (AUN-QA) online assessment on October 26-30, 2020. This assessment is important for the continuous improvement of the program in line with the Department’s vision to become a leading regional and global institution in engineering education, research, and extension. This also ensures that the quality of the program being offered to our students is at par and calibrated with the standards, practices, and guidelines of international universities specifically in the ASEAN region.

The AUN-QA assessment entailed the submission of the self-assessment report (SAR) covering five years of implementation of the BS ChE program (2<sup>nd</sup> Semester AY 2014-2015 to 1<sup>st</sup> Semester 2019-2020). Specifically, the evaluation period included the last three years of the implementation of the old five-year curriculum and the two years implementation of the new four-year curriculum. The programme assessment was based on the 11-point criteria of AUN-QA, which basically evaluates the program, resources, and results. The SAR preparation involved identification, collection, and analyses of evidence for each criterion. The self-assessment report of the BS ChE program took eight (8) months from January 10, 2020 to September 8, 2020 to accomplish.

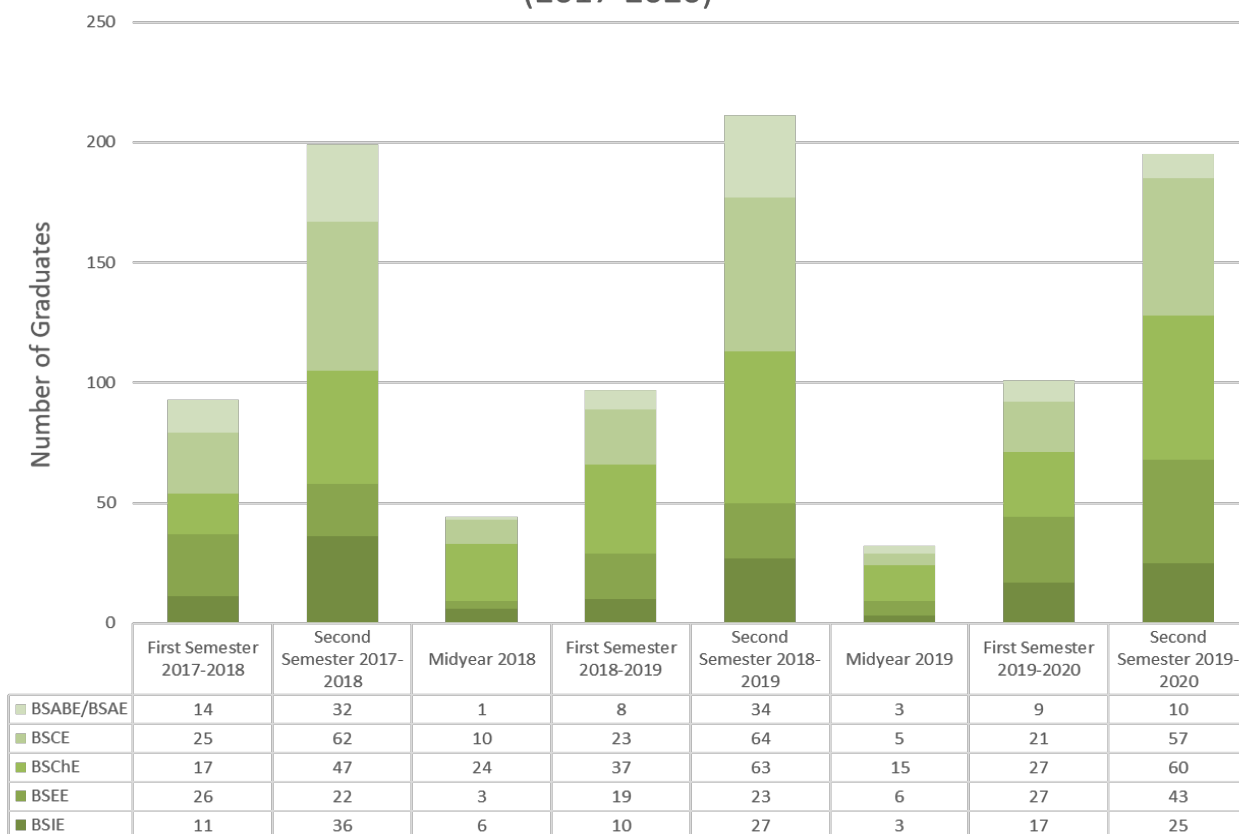
The contents of the SAR were verified and evaluated during the AUN-QA online assessment through a series of interviews with the dean, associate dean, program chair, SAR team, academic staff, University and Department level support staff, students, alumni and employers. Virtual facility visits showcased the facilities and services available to students at the university and program levels. Preliminary results of the evaluation were presented during the last day of the 5-day assessment, while the final result is expected to be released after two (2) months.

CEAT Enrollment Trend (2017-2020)



Due to the effect of COVID-19 [which discourages large group face-to-face meet-up and encourages social distancing], the college faces the challenge on how it can effectively and efficiently reach out students through online classes. Moreover, some students, and faculty are affected by poor internet connection and lack of technical equipment that can be used at home for this kind of set-up.

## CEAT Graduation Trend (2017-2020)



The college has been consistently recording high number of enrollees from Year 2017 to Year 2020 which maintains its rank as the second biggest college in the university. BS in Civil Engineering is still the program with most number of student enrollees followed by the BS in Chemical Engineering.

Due to the possible risks of the coronavirus disease (COVID-19) to the health of students, faculty members and university staff, classes were suspended in the university effective 30 April 2020 for the Second Semester 2019-2020 in pursuant to UPLB Memorandum No. 063 Series of 2020. As a result, the UP System extended the duration of completion of requirements for the said semester until 31 May 2021.

In addition, effective on Midyear 2020, classes will be delivered remotely as stated in the UP OVPA Memo No. 2020-68. in compliance with the guidelines set by the COVID-19 Inter-Agency Task Force for Emerging Infectious Diseases.

<b>CEAT SCHOLASTIC STANDING (2017- 2020)</b>					
Status	First Semester 2017-2018	Second Semester 2017-2018	First Semester 2018-2019	Second Semester 2018-2019	First Semester 2019-2020
US, CS, HR	294	258	453	441	456
Good with GWA > 2	977	1027	1039	975	1043
Warning	332	258	263	258	288
Probation	155	113	114	95	106
PD/Dismissed	122	95	124	88	97
No Basis	33	37	42	47	40



2019 Licensure Exam Performances	
Agricultural and Biosystems Engineering (Nov 2019)	100%
Chemical Engineering (Nov 2019)	86.67%
Civil Engineering (Nov 2019)	96.92%
Civil Engineering (May 2019)	100%
Electrical Engineering (Sept 2019)	100%
Electrical Engineering (Apr 2019)	100%

2018 Licensure Exam Performances	
Chemical Engineering (Nov 2018)	92.06%
Civil Engineering (Nov 2018)	98.63%
Electrical Engineering (Sept 2018)	100%
Agricultural and Biosystems Engineering (Aug 2018)	97.87%
Civil Engineering (May 2018)	96.30%
Electrical Engineering (Apr 2018)	100%

2017 Licensure Exam Performances	
Civil Engineering (Nov 2017)	96.55%
Chemical Engineering (Nov 2017)	86.89%
Electrical Engineering (Sept 2017)	100%
Agricultural and Biosystems Engineering (Aug 2017)	98.33%
Civil Engineering (May 2017)	96.15%
Chemical Engineering (May 2017)	88.89%
Electrical Engineering (Apr 2017)	100%

2019 BOARD EXAM TOPNOTCHERS		
ChE (Nov 2019)	CHESTER JULES TANTOCO	TOP 3
ABE (Nov 2019)	ALEX FOLLOSCO, JR.	TOP 5
ChE (May 2019)	KEM M. TAGHAP	TOP 2
	MANUEL CHRISTIAN CAPARAS	TOP 10
EE (Apr 2019)	CLARK SIGMUND DE CASTRO	TOP 1
	ALJON GABLAN	TOP 3
	JAMES CHRISTIAN DIAZ	TOP 4
	MA. DANICA CASTILLO	TOP 5
	CARL PETER CHRISTIAN C. PUED	TOP 6
	JENIFER RICALDE	TOP 9

2018 BOARD EXAM TOPNOTCHERS		
ChE (Nov 2018)	ARIES FERNAN M. GARCIA	TOP 4
CE (Nov 2018)	CHURCHELLE M. BALLON	TOP 4
ABE (Aug 2018)	JOHN CARLO L. NAVASERO	TOP 1
	GINALYN ROBEL M. BRAZIL	TOP 2
	JAY ANN Q. LOMOD	TOP 8
ChE (May 2018)	JOSE RAFAEL B. QUIDILIG	TOP 4
	NEIL ALDRIN PAUL R. CARAOS	TOP 9
EE (Apr 2018)	KEVIN R. RELLEVE	TOP 1
	JAMILA ARIA G. MACAGBA	TOP 2
	JOSHUA RAY DG. ABUYUAN	TOP 3
	ARMIE ELOISA V. EXPORNA	TOP 3
	CHRIS DAENIEL R. CALANOG	TOP 5
	MARK JOSEPH S. PAPA	TOP 6
	RENZ FERRARY A. MACASPAC	TOP 8
	ELSBETH CHARLENE T. HERNANDO	

2017 BOARD EXAM TOPNOTCHERS		
EE (Sept 2017)	JAN ROBERT M. INOCENCIO	TOP 7
ABE (Aug 2017)	CAMILLE G. MARTINEZ	TOP 4
CE (May 2017)	JAN CARLO M. CASTRO	TOP 3
EE (April 2017)	JENNY ROSE V. REPOLLO	TOP 2
	BRIAN B. BALMORES	TOP 3
	JOHN RAYMOND B. LUMAWAG	TOP 5
	KYLE U. VOSOTROS	TOP 7
	RAMON E. EDNALAGA	TOP 8
	FRANCIS GEORGE T. LOMAAD	TOP 9



## 2018 STUDENT AWARDEES

### Duty Award

Daryll Kenth S. Montoya, BSEE  
 Laydee Cel L. Espinosa, BSCE  
 Maureen Nice D. Climaco, BSABE  
 Patricia Mae H. Calderon, BSCE  
 Kent Edrian J. Lozada, BSEE  
 Cedric C. Velandres, BSEE  
 Ryan D. Napili, BSIE  
 Samuel A. Teodoro, BSEE

### Recipients, Ugnayan ng Pahinungod UPLB Service Pin

Mel Kenneth A. Mabute, BSCE  
 Lady Lizzette C. Malabanan, BSChE  
 Samara Casey DM. Magsanoc, BSChE  
 Eddie Aldrin R. Lumangaya, BSChE  
 Laydee Cel L. Espinosa, BSCE  
 Jokervin A. Herrera, BSChE  
 Wendy M. Arceo, BSABE

### Recipient, UPLB Alumni Association Leadership Award

Peter Je C. Dilao, BSEE

### Recipient, 2018 CEAT Best Thesis Award

Kristine Iannah A. Lawas, BSChE

### Recipient, Red Cross Youth Humanitarian Award

Jesus Anthony S. Molina, BSIE

### Recipient, 2018 Dean's Medal for Academic Excellence

Joshua T. Dimasaka, BSCE

### Recipients of CEAT Alumni Association Medal for Academic Excellence

Joshua T. Dimasaka, BSCE  
 Princess Jenine A. Nido, BSChE  
 Rock Christian V. Tomas, BSEE  
 Ellaine B. Poja, BSChE  
 Samuel A. Teodoro, BSEE  
 Hazel Joy C. Barrameda, BSChE  
 Ma. Danica G. Castillo, BSEE  
 Roxane Jane S. Reyes, BSChE  
 Jose Rafael B. Quidilig, BSChE  
 Kem M. Taghap, BSChE  
 Gedeon A. Gonzal, BSChE

Clark Sigmund R. De Castro, BSEE  
 John Christopher A. Dañez, BSChE  
 Neil Aldrin Paul R. Caraos, BSChE  
 Aries Fernan M. Garcia, BSChE  
 Maricar P. Mingoy, BSABE  
 Gabriel Niccolo DC. Matibag, BSChE  
 JC Faith Mae A. Caguisa, BSChE  
 Leiuq B. Lapastora, BSCE  
 Joshua L. Panganiban, BSCE  
 Rania Marie E. Buenavista, BSABE  
 Eddie Aldrin R. Lumangaya, BSChE

Peter Je C. Dilao, BSEE  
 Aljon S. Gablan, BSEE  
 Leuwell S. Avena, BSChE  
 Patrick Ron B. Ong, BSCE  
 Roselle P. Barretto, BSABE  
 Oliver Jerome M. Bondoc, BSChE  
 Ginalyn Robel M. Brazil, BSABE  
 Rei-Ann M. Dayapera, BSEE  
 Sheila S. Mendoza, BSCE  
 Churchelle M. Ballon, BSCE  
 John Paul F. Obias, BSIE

### Recipients, DOST Award for Academic Excellence in Science

Joshua T. Dimasaka, BSCE  
 Clark Sigmund R. De Castro, BSEE  
 Princess Jenine A. Nido, BSChE  
 Rock Christian V. Tomas, BSEE  
 Aries Fernan M. Garcia, BSChE

Aljon S. Gablan, BSEE  
 Maricar P. Mingoy, BSABE  
 Jose Rafael B. Quidilig, BSChE  
 JC Faith Mae A. Caguisa, BSChE  
 Hazel Joy C. Barrameda, BSChE

Roselle P. Barretto, BSABE  
 Churchelle M. Ballon, BSCE  
 Ginalyn Robel M. Brazil, BSABE  
 Rania Marie E. Buenavista, BSABE

## 2019 STUDENT AWARDEES

### Duty Award

Adrian Gabriel M. Ambagan, BS ABE  
 Mary Angelene C. Escobar, BS ChE  
 Leanne Anissa M. Lim, BS ChE  
 Kathleen Kate U. Magtagtib, BS IE  
 Joshua H. Pasaba, BS ABE  
 Shiela Joy DC. Samalbuero, BS ABE  
 Lorenzo Victor L. Totañas, BS ChE

Mark Kevin L. Andal, BS ChE  
 Glenn Joshua F. Furigay, BS ABE  
 Kennedy P. Limbo, BS ChE  
 Alejandro J. Mamino, BS ChE  
 Harvey Elson C. Pilongo, BS CE  
 Aaron M. Sarmiento, BS EE

Bryan Joshua V. Bacani, BS ChE  
 Jerico V. Gallano, BS ChE  
 Ian Christopher S. Lucas, BS ChE  
 Kylyn A. Morales, BS CE  
 Ivan Anthony P. Pinzon, BS ChE  
 Uriel Joshua M. Suzara, BS EE

**Recipient, Red Cross Youth Humanitarian Award**

Joanne Stephan-ie Joven, BS ChE

**Recipient, 2018 Dean's Medal for Academic Excellence**

Chester Jules A. Tantoco, BS ChE

**Recipient, UPLB Alumni Association Leadership Award**

Kylyn A. Morales, BSCE

**Recipient of CEAT Alumni Association Medal for Academic Excellence**

Chester Jules A. Tantoco, BS ChE

Ruen Rey R. Sazon, BS ChE

Resborne P. Lomboy, BS EE

Byron A. Belvis, BS CE

Ryan Christian R. Suplito, BS ChE

Carla Mae S. Macario, BS CE

Mariel G. Ronquillo, BS ChE

Dianne Pearl DL. Opeña, BS CE

Adriane Joshua J. Miras, BS EE

Jenifer G. Ricalde, BS EE

Amielle R. Fajardo, BS ChE

Kylyn A. Morales, BS CE

Ivan Anthony P. Pinzon, BS ChE

John Rommel B. de Robles, BS EE

Manuel Christian S. Caparas, BS ChE

Eliandre Russel P. Vistal, BS CE

Jan Kathleen M. Punzalan, BS ABE

Dalisa Mars L. Revilleza, BS CE

Robin B. Abinoja, BS ChE

Leonardo T. Granada, BS EE

Louis John C. Malabanan, BS ChE

Bryan Giuseppe C. Arnisto, BS EE

Franz Christian S. Velasco, BS IE

**Recipients, DOST Award for Academic Excellence in Science**

Byron A. Belvis, BS CE

Carla Mae S. Macario, BS CE

Kylyn A. Morales, BS CE

Dalisa Mars L. Revilleza, BS CE

Amielle R. Fajardo, BSChE

Louis John C. Malabanan, BS ChE

Dianne Pearl DL. Opeña, BS CE

Jenifer G. Ricalde, BS EE

Resborne P. Lomboy, BS EE

Adriane Joshua J. Miras, BS EE

Jan Kathleen M. Punzalan, BS ABE

Franz Christian S. Velasco, BS IE

## 2020 STUDENT AWARDEES

**Duty Award**

Lian Maye C. Balagtas, BSCE

Ronald Gem A. Celestial, BSChE

Andre Yousef Z. Kasan, BSChE

Jane Kimberly M. Sales, BSIE

Kathleen Lou A. Tapang, BSChE

Patrick Trinidad C. Trinidad, BSCE

Mariah Abegail P. Uno, BSCE

**Recipients, DOST Award for Academic Excellence in Science**

Richard C. Arga, Jr., BSChE

Neil John F. Catapang, BSChE

Blessie G. Cimacio, BSIE

Maricar B. Lagrada, BSChE

Jeus Kim C. Mendoza, BSChE

Bien Dave B. Papasin, BSCE

Theo Dominic M. Ramos, BSABE

**Recipients, Ugnayan ng Pahinungod UPLB Service Pin**

Romeo P. Lacro, III, BSChE

Carl Jervin R. Magtira, BSCE

Jeric A. Quirona, BSChE

John Joemmel R. Rodelas, BSChE

Neil Garret O. Sumagang, BSChE

**Recipient, Red Cross Youth Humanitarian Award**

Prince Emmanuel C. Gauna, BSCE

**Recipient, 2018 CEAT Best Thesis Award**

Adrian Vincent T. Tayag

**Recipient, 2018 Dean's Medal for Academic Excellence**

Marlo Angelo M. Tito, BSChE

**Recipients of CEAT Alumni Association Medal for Academic Excellence**

Marlo Angelo M. Tito, BSChE

Neil John F. Catapang, BSChE

Rome Krystel B. Hernandez, BSChE

Bien Dave B. Papasin, BSCE

Angelo George T. Laguna, BSChE,

Adrian Daniel L. Pantano, BSABE,

Lois Katrina F. Lar, BSCE

Theo Dominic M. Ramos, BSABE

Katrina Nicole M. Lumagui, BSABE

Carlo A. Basbas, BSChE

Niño Antonio T. Malaiba, BSEE,

Jean Christian M. Vilorio, BSChE

Maricar B. Lagrada, BSChE

Jeric A. Quirona, BSChE

Ariel Angello A. Carlos, BSIE

Richard C. Arga, BSChE

Marielle Q. Aringo, BSABE

John Paul Dominic P. Ferrer, BSChE

Mariecor Elsie B. Robles, BSCE,

Jeus Kim C. Mendoza, BSChE,

Blessie G. Cimacio, BSIE

Frances Elaisah C. De Salit, BSChE

The College of Engineering and Agro-industrial Technology houses diverse group of students from different regions in the Philippines and status of life. In order to know and cater the needs of our students, the college, through the CEAT Office of the College Secretary, monitors the financial capability of the enrollees to improve the assistance programs headed by the CEAT Alumni Association Inc.

In the report made by the CEAT- OCS on 24 February 2020, 88% of CEAT students are under the Free Tuition program of the government while 12% have applied for subsidized tuition programs of the university and external scholarships opportunities.

From the First Semester 2017-2018 up to the Second Semester, 2,262 students are under different scholarship programs of both government and private institutions. Although these programs are helpful for the study of the students, the college initiated additional financial assistance schemes that can help students-in-need for their daily personal and academic expenses.

To date, the CEAT Adopt-a-Student program, thru the generous donation of Tau Alpha Foundation Inc. and Turalba Foundation Inc., and Aliling Group of Companies, has 35 and 18 grantees respectively. Meanwhile, the CEAT AA Study Now, Pay Later program, in collaboration with UP Alumni, has seven (7) grantees and there are two grantees for the CEAT AA Undergraduate Thesis program.

Moreover, CEAT academic departments also have their own financial assistance programs as additional help to their students.

Scholarship Grant	1st Sem 2017-2018	2nd Sem 2017-2018	MY 18	1st Sem 2018-2019	2nd Sem 2018-2019	MY 19	1st Sem 2019-2020	2nd Sem 2019-2020	TOTAL
DOST	108	130	86	336	326	201	519	507	2213
CHED							1	1	2
OWWA		1					4	4	9
SMFI		3	2				1	1	7
SYDP	5	6					1		12
TFE				3		2		1	6
PhilDev		2	1						3
SYPD			5						5
IRRI-LBP		1	1				1	1	4
DA-ACEF		1							1
SUB-TOTAL	113	144	95	339	326	203	527	515	
<b>GRAND TOTAL</b>									<b>2262</b>

CEAT FINANCIAL ASSISTANCE PROGRAM (as of 24 February 2020)	
Program	Number of Grantees
CEAT Adopt-a-Student Program Turalba Aliling	35 18
CEAT Study Now, Pay Later Program	7
CEAT AA Undergraduate Thesis Grant	2



**FINANCIAL ASSISTANCE**

## GRADUATES

NAME	PROGRAM	SPONSORING AGENCY
Ralph Kristoffer B. Gallegos (IABE)	Pursued PhD in Mechanical Engineering at University of Auckland, New Zealand	New Zealand Government through the Ministry of Foreign Affairs and Trade
Joan Cecilia M. Catubig-Casila (IABE)	Pursued PhD in Engineering, Major in Civil and Environmental Engineering at Tokyo Metropolitan University at Tokyo Metropolitan University, Japan	DOST-ERDT
Jedidiah Joel C. Aguirre (DCE)	Pursued MS in Mathematical Modelling in Engineering <i>under the joint offering of University of L'Aquila, Italy, University of Hamburg, Germany, and Autonomous University of Barcelona, Spain</i>	Erasmus Mundus Scholarship and UP-OVPAA Fellowship Grant
Butch G. Bataller (DChE)	Pursued PhD in Biological and Agricultural Engineering at Texas A&M University at Texas A&M University	DOST-ERDT
Jerico Z. Alcantara (DChE)	Pursued PhD in Engineering and Applied Sciences at Western Michigan University at Western Michigan University, USA	DOST-ERDT
Kristel M. Gatdula (DChE)	Pursued MS in Chemical Engineering with Specialization in Pollution Engineering at University of the Philippines Los Baños	None
Lorwin Felimar B. Torrizo (DEE)	Pursuing MS in Electronics and Communication Engineering at the De La Salle University, Philippines	None
Kim Jay R. Rosano (DEE)	Pursued MS in Electrical Engineering at University of the Philippines Diliman	Reduced Tuition Fee
Melvin C. Ilang-Ilang (DEE)	Pursued MS in Electrical Engineering at University of the Philippines Diliman	Reduced Tuition Fee
Gabriela Monica M. Gonzales (DEE)	Pursued Master of Energy at the University of Auckland, New Zealand	New Zealand Government through the Ministry of Foreign Affairs and Trade
Diana Marie R. De Silva (DIE)	Pursued PhD in Management Engineering and Real State Economics at University of Padua, Italy	Borsa di Ateneo Grant- University of Padua
Josefa Angelie D. Revilla (DIE)	Pursued PhD in Human Science International Course at Kyushu University, Japan	MEXT (Japan Government)

## ONGOING

NAME	PROGRAM	SPONSORING AGENCY
Ma. Cristine Concepcion D. Ignacio (IABE)	Pursuing PhD in Agricultural and Biosystems Engineering at Iowa State University, USA	UP FRASDP
Maurice A. Duka (IABE)	Pursuing PhD in Civil and Environmental Engineering at Tokyo Metropolitan University, Japan	Tokyo Metropolitan Government Scholarship
Paolo Rommel P. Sanchez (IABE)	Pursuing PhD in Mechanical Engineering at Rowan University, USA	DOST-ERDT
Rosa B. Delos Reyes (IABE)	Pursuing PhD in Environmental Science at the University of the Philippines Los Baños, Philippines	UP FRASDP
Mark Keylord S. Onal (IABE)	Pursuing PhD in Biological and Agricultural Engineering at Texas A&M University, USA	DOST-ERDT
Timothy M. Bertiz (DCE)	Pursuing Straight PhD in Engineering at Rowan University, USA	DOST-ERDT
Ariel Miguel M. Aragoncillo (DCE)	Pursuing Straight PhD in Engineering at Rowan University, USA	DOST-ERDT

NAME	PROGRAM	SPONSORING AGENCY
Perlie P. Velasco (DCE)	Pursuing PhD in Environmental Engineering at Royal Melbourne Institute of Technology, Australia	CHED-RMIT
Denise Ester S. Sanchez (DChE)	Pursuing PhD in Chemical Engineering at the University of the Philippines Diliman, Philippines	DOST-ERDT
Marilyn C. Del Barrio (DChE)	Pursuing PhD in Chemical Engineering at the University of the Philippines Diliman, Philippines	DOST-ERDT
Michael Vincent O. Laurio (DChE)	Pursuing PhD in Chemical Engineering at Rowan University, USA	DOST-ERDT
Leandro T. De Castro (DChE)	Pursuing PhD in Chemical Engineering at University of South Carolina, USA	DOST-ERDT
Karen-Christian C. Agno (DEE)	Pursuing PhD in Electrical Engineering at Korea Advanced Institute of Science and Technology, South Korea	KAIST
Roderick L. Catriz (DEE)	Pursuing PhD in Electrical Engineering at the University of Queensland, Australia	DOST-ERDT
Raymond S. Mabilangan (DEE)	Pursuing Integrated MS and PhD in Electrical Engineering at Korea Advanced Institute of Science and Technology, South Korea	KAIST
Eunice G. Ramirez (DES)	Pursuing MS in Materials Science and Engineering at the University of the Philippines Diliman, Philippines	DOST-ERDT
Maria Morissa D. Lu (DES)	Pursuing PhD in Engineering Technology at The Catholic University of Leuven (KU Leuven), Belgium	UP FRDP
Ian Lorenzo E. Gonzaga (DES)	Pursuing Materials Science and Engineering at the University of the Philippines Diliman, Philippines	DOST-ERDT
Erwin C. Escobar (DES)	Pursuing PhD in Energy Science and Technology at Myongji University, South Korea	Myongji University in South Korea
Jasmin Z. Vasquez (DES)	Pursuing PhD in Material Science and Engineering at Rowan University, USA	DOST-ERDT
Stephanie Caridad DR. Landicho (DIE)	Pursuing MS in Industrial Engineering at the University of the Philippines Diliman, Philippines	DOST-ERDT
Maria Liezel P. Caroche (DIE)	Pursuing MS in Industrial Engineering at the University of the Philippines Diliman, Philippines	DOST-ERDT
Marc Immanuel G. Isip (DIE)	Pursuing PhD in Development Studies at the University of the Philippines Los Baños, Philippines	Reduced Tuition Fee
Haerold Dean Z. Layaoen (DIE)	Pursuing PhD in Program in Supply Chain and Logistics at Royal Melbourne Institute of Technology, Australia	CHED RMIT Scholarship Program for Faculty and Staff

# DOST-ERDT SCHOLARSHIP PROGRAM





## ABOUT THE DOST-ERDT PROGRAM

The Engineering Research and Development for Technology (ERDT) program was started way back in April 2007. Spearheaded by the University of the Philippines Diliman (UPD), the ERDT is a consortium of eight universities offering mature engineering graduate programs— University of the Philippines Los Baños (UPLB), Ateneo de Manila University (AdMU), Central Luzon State University (CLSU), University of San Carlos (USC), MSU– Iligan Institute of Technology (MSU-IIT), MAPUA University (Former MAPUA Institute of Technology) and De La Salle University (DLSU). The UPLB– CEAT started being a member of the ERDT program in 2009 in the term of Dean Arsenio Resurreccion with then, IAE Director Dr. Arnold R. Elepano as the project leader.

Funded by the Department of Science and Technology (DOST) through the Science Education Institute (SEI), it aims to address the lack of highly trained researchers, scientists and engineers (RSE's) and Research and Development (R&D) engineering activities in the country through the implementation of its program components such as the Human Resource Development (HRD), Research and Development (R&D) and Infrastructure Development.

As of October 2020, UPLB has 100 ongoing MS scholars and 20 ongoing PhD scholars. For the past 10 years, there are 69 MS scholars and seven PhD scholars who already graduated (on time and on-extension). Meanwhile, we have 10 CEAT faculty members who availed the Faculty Development Program or PhD Abroad Scholarship of DOST-ERDT. Three of them already graduated in their respective programs. ERDT-UPLB actively participates in the events organized by the program annually such as the ERDT Conference, ERDT Congress and Thesis/Dissertation Writing Seminar.

Moreover, starting Second Semester 2020-2021, PhD by Research in Agricultural Engineering will be added to the supported programs of ERDT-UPLB. This is in addition to the four graduate programs namely MS Agricultural Engineering, MS Agrometeorology, MS Chemical Engineering and PhD in Agricultural Engineering (regular). UPLB is also planning to include PhD by Research in Chemical Engineering to the supported programs of ERDT.

Year of Award	MASTERS DEGREE			DOCTORAL DEGREE		
	Qualifiers	Graduated	Ongoing	Qualifiers	Graduated	Ongoing
2009	8	8	0	4	3	0
2010	13	9	0	3	1	0
2011	4	3	0	1	0	0
2012	10	5	0	2	0	0
2013	12	9	0	4	1	0
2014	18	13	0	0	0	0
2015	16	14	0	2	1	1
2016	11	2	3	2	1	1
2017	17	5	10	3	0	3
2018	29	1	27	7	0	6
2019	30	0	28	1	0	1
2020	32	0	32	9	0	8
TOTAL	200	69	100	38	7	20



# CEAT SOCIAL EVENTS









**STUDENTS' EVENTS**



CEAT Office of the Dean



CEAT Office of the College Secretary



**CEAT Library**

**CEAT Office of the Dean**

- |   |  |
|---|--|
| Dr. Arnold R. Elepaño– Dean                                 | Dr. Myra G. Borines– Associate Dean                        |
| Marivic L. Mendoza- Administrative Office V                 | Sally P. Evangelista- Administrative Office III            |
| Mary Louise P. Pascual– University Extension Specialist II  | Rusellen E. Baraquo– Administrative Assistant II           |
| Alfredo L. Maghuyop– Administrative Aide IV                 | Rownald J. Malison– Administrative Aide III                |
| Mary Jane F. Gallardo– Science Research Specialist I (ERDT) | Mary Ann M. Porlay– Project Development Officer I (ERDT)   |
| Cherrie Anne M. Saucelo– Junior Office Assistant (ICS)      | Alethea Colleen B. Escandor– Juinor Office Assistant (ICS) |

**CEAT Office of the College Secretary**

- |   |  |
|---|--|
| Asst. Prof. Angelo C. Ani- College Secretary                  | Loyola A. Lantican– Students Record evaluator II   |
| Sheila S. Limjap– Administrative Officer I                    | Annaliza D. Manuel– Administrative Assistant V     |
| Merilyn E. Tonio- Administrative Assistant II                 | Andrew Vic S. Veldez– Administrative Aide VI       |
| Jeischelle Marie A. Dela Cueva– Junior Office Assistant (ICS) | Reydel L. De Chaves– Senior Office Assistant (ICS) |

**CEAT Library**

- |  |   |
|--|---|
| Lina C. Copioso—College Librarian III          | Estefa A. Macasojot—College Librarian I     |
| Jho-Ann F. Retamal—College Librarian I         | Connie S. Orte— Administrative Aide III     |
| Rolly L. Belda—Administrative Aide III         | Lyrish C. Gambosa— Senior Office Aide (ICS) |
| Andrew Vic S. Valdez— Senior Office Aide (ICS) |   |

# INSTITUTE OF AGRICULTURAL AND

In the three years that we have worked together, IAE has been steadfast towards the University's pursuit for honor and excellence with compassion. As such, we have consistently maintained the stature as a Center of Excellence of the Commission on Higher Education and as the Top Performing School of the Professional Regulation Commission.

Our proposal for the "Ascent of IAE to IABE" would soon be acted upon by the UP Board of Regents. With its approval, the institute will be administratively more effective and efficient with the addition of a Deputy Director as well as Coordinators for Academic Affairs and Research & Public Service. IABE has geared up and can now be likened to a finely-tuned and well-lubricated machine as we have focused on making our day-to-day operations smoother with more efficient transactions. With the conduct of regular social gatherings and sports activities, we are now more attuned with one another as we have enjoyed each other's company.

The transfer of some of our offices to the IABE complex has not been without pains. The Director's Office initiated the move to the facility despite the lack of basic utilities like water, electricity, and internet connection. This was necessary to ensure that the progress of ongoing renovations at that time will commence as scheduled. As the saying goes, "no pain, no gain." Additionally, this move is to show that we are serious in upgrading our facilities so that we could perform our instruction, research and extension work even better. In the near future, we would again level-up our facilities with the on-going construction of the ABPROD building.

We have geared up by engaging our alumni and industry partners to support our institute and CEAT as a whole. These fruitful linkages have borne us the CL Follosco Innovateering Hub sponsored by the Follosco Group of Companies and the UPLB SIBOL Fablab with the assistance of Technology Transfer and Business Development Office and the support of the Department of Trade and Industry. These facilities would be our avenue towards mutually beneficial collaborative work with our industry partners and would be contributory to the CEAT's Innovateering program.

In fulfilling our commitment of continually upgrading our BSABE curriculum, we worked hard to upgrade and at the same time compress the old 5-year program into the UP and CHED approved, 4 year-OBEdized BSABE program. Likewise, we have made headway and are now ready to transform our Agricultural Engineering graduate program to the new ABE graduate program. These improvements would ensure that our students will receive an up-to-date, excellent learning experience that would equip them to become leaders and outstanding Agricultural and Biosystems Engineers.


The UP system has been conscious about improving its international university ranking. IABE would be supporting this by pushing for the renewal of the ASEAN University Network-Quality Assurance Certification for our BSABE program and also aim for accreditation to the Washington Accord. Having these as our goals and with our current COVID-19 predicament in mind, we need to further upgrade and convert some of our facilities in addition to training our faculty and staff so that we can transform our educational delivery and RD&E system to adopt to the new normal.

To end my message, let me express my heartfelt gratitude to everyone in CEAT particularly to the IABE senior faculty for their guidance; the IABE division chairs for their support and cooperation; all the faculty and staff for a great team effort; and to all the IABE students who have worked hard to maintain the standards of the Institute and the University as a whole.

I thank all of you for your trust and confidence in my leadership and I hope that you will extend your support to all the future administrators of IABE!

Let us all move as one as IABE will continue to Gear UP for the Future!

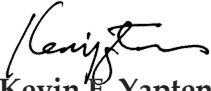


  
Dr. Fernando O. Paras, Jr.  
IABE Director (2017-2020)



# BIOSYSTEMS ENGINEERING

On behalf of all the faculty, researchers, administrative staff, alumni and students of the Agricultural, Food & Bio-Processing Division (AFBED), I would like to extend our congratulations to Dr. Arnold R. Elepaño, Dean of the College of Engineering & Agro-Industrial Technology, for the accomplishments of his three terms in office. With his support and leadership, AFBED and the Institute of Agricultural & Biosystems Engineering (IABE) are updating content of graduate and undergraduate programs (MS / PhD Agric Engineering, new course offerings for BS ABE), re-orienting all courses to an outcomes-based approach, and introducing techno-entrepreneurship into the curriculum through the Innovationeering Track. His support of faculty development in teaching technology-based entrepreneurship is helping provide teachers and students with insights into the entrepreneurial mindset. Industry linkages were also initiated under his administration, notably with the C.L. Folloso group of companies that sponsored an innovation hub in IABE. Student-based R&D activities have also expanded through his role as the DOST Engineering R&D for Technology program head for UPLB. Through these and many other initiatives, Dean Elepaño has consistently aimed to develop academic programs and R&D activities that are relevant, impactful and accessible to stakeholders in the agro-industrial sector. We are grateful for Dean Elepaño's stewardship of CEAT, and extend to him our very best wishes. I am also thankful and honored to have served as Division Chair during his period as CEAT Dean.



**Dr. Kevin F. Yaptenco**

Chair, IABE- Agricultural, Food and Bioprocess Engineering Division



## FACULTY, REPS AND STAFF

### PROFESSORS

Elauria, Jessie C.  
Elepano, Arnold R.  
Peralta, Engelbert K.  
Yaptenco, Kevin F.

### ASSISTANT PROFESSORS

Bawar, Rina A.  
Flores, Fidelina T.  
Ignacio, Ma. Cristine Concepcion D.

### INSTRUCTOR

Acabal, Ma. Camille G.

### REPS

Almeda, Ronaniel- UR II  
Manuel, Luther John R.- UR II  
Bayhon, Maris Asuncion L.- URA I

### ADMINISTRATIVE STAFF

Miranda, Marcelina T.- AO I  
Salonga, Cecilio- Admin. Assts II  
Macandili, Arturo- Lab. Tech II.  
Lacsamana, Jasmin- Lab. Tech. I

**IABE- AFBED DIVISION**

## PUBLICATIONS

	Publication Date	Specific Title	Author/s	Publication Agency
JOURNALS	2019	Development of a Fry Counter Software for Striped Catfish [ <i>Pangasianodon hypophthalmus</i> ] (Sauvage)	Luther John R. Manuel, Pepito M. Bato, Rossana Marie C. Amongo, Delfin C. Suministrado, and Kevin F. Yaptenco	PJABE
		Rapid Differentiation of Commercially-Available Soy Sauces using Near-Infrared Spectroscopy	Jeric H. Rosales, Kevin F. Yaptenco, Mae Joanne B. Aguila, and Paul R. Armstrong	PJABE
	2018	Improved quality of dried Philippine sandfish ( <i>Holothuria scabra</i> ) using a combination of hot-air drying and solar drying	MJF Trondillo, Kevin F. Yaptenco, Engelbert K. Peralta EK, EV Carpio	PJABE BIOMECH
		Passive modified atmosphere packaging for low temperature storage of white flesh variety dragon fruit ( <i>Hylocereus undatus</i> (Haw.) Britton & Rose)	Mary Louise P. Pascual, Engelbert K. Peralta, Kevin F. Yaptenco, Jessie C. Elauria, EB Esguerra	PJABE BIOMECH
PROCEEDINGS	2019	Modified Atmosphere Packaging for Low Temperature Storage of White Flesh Variety Dragon Fruit ( <i>Hylocereus undatus</i> )	Mary Louise P. Pascual, Engelbert K. Peralta, Kevin F. Yaptenco, Jessie C. Elauria	PSABE
		Drying Kinetics and Anticoagulant Activity of Microwave-vacuum, Dehumidified-air and Freeze-dried African Night Crawler ( <i>Eudrilus eugeniae</i> Kinberg)	Alfredo F. Fortu, Jr., Ernesto P. Lozada, Engelbert K. Peralta, Kevin F. Yaptenco, Delfin C. Suministrado	PSABE
		Near-infrared spectroscopy for non-destructive prediction of maturity and eating quality of 'Carabao' mango ( <i>Mangifera indica</i> L.) fruit	Yvonne Q. Polinar, Kevin F. Yaptenco, Engelbert K. Peralta, Josephine U. Agravante	Agric Eng Int: CIGR Journal Open

## ONGOING AND COMPLETED RDE PROJECTS

TITLE OF ONGOING PROJECTS	DURATION	FUNDING AGENCY
Project 5: Assessment of Sugarcane Varieties and Germplasm Collection for Drought and Water-Logging Tolerance. Implementing agency	January 2018– present	SRA
Environmental, Health and Safety Research in the Risk Assessment of Nanomaterials (Phase I)	June 2018– present	DOST-GIA
Development of Nanosilica-based Anti-Corrosion Coating Formulations for Carbon Steel Reinforcement Used in Farm Structures	May 2020– July 2022	DOST-PCIEERD
SIBOL Labs: Startup Innovation and Business Opportunity Linkage Labs. Implementing agency	January 2020– June 2020	DOST-PCIEERD

## CONFERENCES ATTENDED

	Name of Personnel and Role	Title of Activity/Program an	Venue	Date
International	Arnold R. Elepaño (Plenary Speaker)	"18th International Symposium on Advanced Technology"	Southern Taiwan University of Science and Technology, Taiwan	12-16 December 2019
	Arnold R. Elepaño (Plenary Speaker)	Precision Agricultural/Digital Agribusiness; presented through skype	Islamabad, Pakistan	02-06 December 2019
	Arnold R. Elepaño (Resource Person)	17th International Symposium on Advanced Technology Engineering Innovation for Sustainable Future	The University of Danang, University of Science and Technology, Da Nang City, Vietnam	12-16 November 2018
LOCAL	Arnold R. Elepaño, Roger A. Luyun Jr., aP Fidelina T. Flores, Engr. Luther John R. Manuel, Engr. Jerric Rosales, Fatima Rodriguez (ERDT-UPLB Project Leader and participants)	16th ERDT Conference: Engineering for One Health	Heritage Hotel, Pasay, Metro Manila	25 October 2019
	Arnold R. Elepaño (Attendee and PAES Board Member)	International Conference on Engineering Education - Philippines 2019 (ICEE-Phil 2019) organized by the PAES	Grand Xing Imperial Hotel, Iloilo City	21-22 October 2019
	Arnold R. Elepaño (ERDT-UPLB Project Leader)	8th ERDT Congress: "The Rise of Smart Cities and Communities"	PICC, Pasay City	23 August 19
	Arnold R. Elepaño (participant)	16th International Agricultural Engineering Conference and Exhibition and the 69th PSABE Annual National Convention	SMX Convention Center, Bacolod City	22-26 April 2019
	aP Fidelina T. Flores, Engr. Luther John R. Manuel, Dr. Kevin F. Yaptenco, aP Rina A. Bawar (participants)	International Conference on Nutrition-Sensitive Agriculture and Food Systems	DAP, Tagaytay	06-09 November 2018
	aP Rina A. Bawar, Engr. Luther John R. Manuel, Dr. Arnold R. Elepaño (ERDT-UPLB Project Leader and participants)	15th Engineering Research and Development for Technology (ERDT) Conference	Manila Hotel	27-28 September 2018





Indeed, time flies when you are having fun. CEAT has done leaps and bounds since the start of Dean Elepaño’s three terms. When an institution is led by a brilliant and visionary man, expect nothing but success year in and out.

CEAT has fulfilled its role in the making of UPLB to be an Engineering university. To date, CEAT remains to be the premiere institution for Agricultural Engineering in the country. Recent changes in its undergraduate programs highlighted the inclusion of an Outcomes-Based Education (OBE) approach, renaming of specializations, institution of core and specialization courses, and addition of an Innovationeering track to the existing Undergraduate Thesis and Practicum tracks. These changes entailed a reduction in the total number of units from 195 to 161, and from a 5-year to 4-year curriculum. In the pipeline are the elevation of the status of IAE to be the Institute of Agricultural and Biosystems Engineering (IABE) and ongoing revisions of the IAE graduate programs. With these, more research and public service opportunities are expected to come our way.

It is both a humbling and exciting moment to face the challenges brought about by the Covid-19 pandemic. The Institute remains hand in hand with CEAT toward the shift to remote teaching and learning. Guided by honor, excellence and compassion, this is an opportune time to be even more responsive to the needs of students, the science community and the Filipino farmers. We indeed were trained by the best and directed by a true leader. For this, I am truly grateful. All the best for CEAT in the years to come.

**Dr. Marion Lux Y. Castro**

Chair, IABE- Agrometeorology, Biostructures and Environment Engineering Division

**FACULTY AND STAFF**

**PROFESSORS**

Dorado, Moises A.  
Saludes, Ronaldo B.

**ASSOCIATE PROFESSOR**

Castro, Marion Lux Y.



**ASSISTANT PROFESSORS**

Ballaran, Vicente Jr. G.  
Magtoto, Keynty Boy V.  
Relativo, Patrick Lemuel P.

**ADMINISTRATIVE STAFF**

Aran, Myra F. – Admin Asstistant III  
Aquino, Gregorio Jr. L. – Laboratory Technician II  
Ramos, Joseph M. – Farm Worker II  
Bea, Nicholas N. – Administrative Aide III



## RESEARCH PROJECT STAFF

### Program SARAI Project 2.1: Community Level SARAI Enhanced Agricultural Monitoring System and Crop Advisories

Engr. Leo Neil T. Viado- University Researcher I  
 Engr. Kezia Shem G. Brusola - University Research Associate II  
 Mr. Raymund Eugenio V. Luna - University Research Associate II  
 Engr. Dianna Rose N. David- University Research Associate I  
 Engr. Jerome M. Suarez- University Researcher I  
 Ms. Honey Fe A. Pajarito- Project Assistant I

### Program SARAI Project 2.3: Smarter Technologies for Crop Water Management

Engr. Toni-An Mae C. Salcedo- University Researcher I  
 Engr. Bryan M. Baltazar - University Researcher I  
 Engr. Christian Martin V. Casedo - University Research Associate II  
 Engr. Jan Albert M. Atienza - University Research Associate II  
 Mr. Andraw T. Elecion- Laborer I

## PUBLICATIONS

	Publication Date	Specific Title	Author/s	Publication Agency
JOURNALS	2018	Exploring spatial patterns of trends in monthly rainfall and temperature in the Philippines based on Climate Research Unit grid	Dr. Ronaldo B. Saludes	Korean Spatial Information Society 2018
		Evaluation and Spatial Downscaling of CRU TS precipitation data in the Philippines, Modeling Earth Systems and Environment	Dr. Ronaldo B. Saludes	Springer International Publishing
PROCEEDINGS	2019	Rapid Detection of Inundated Area in Camarines Sur during Tropical Depression Usman Using SAR Data	Kezia Shem G. Brusola, Moises A. Dorado, Vicente G. Ballaran, Jr., Jerome M. Suarez, Leo Neil T. Viado, Joshua Randolph M. Germita, Honey Fe A. Pajarito	PSABE proceedings
		Automatic Detection of Spatial and Temporal Variation of Rice Planting in Laguna, Philippines	Jerome M. Suarez, Moises A. Dorado, Vicente G. Ballaran, Jr., Kezia Shem G. Brusola, Raymond Eugenio V. Luna, Diana Rose N. David, Christine Iane E. Ramacula	PSABE proceedings

## ONGOING AND COMPLETED RDE PROJECTS

TITLE OF ONGOING PROJECTS	PROJECT LEADER/S	FUNDING AGENCY
Smarter Approaches to Reinvigorate Agriculture as an Industry in the Philippines II (Proj. 2.3 Smarter technologies for Crop Water Management)	Roger A. Luyun, Jr., Ronaldo B. Saludes,	DOST-PCAARRD
Smarter Approaches to Reinvigorate Agriculture as and Industry in the Philippines II (Proj 2.1 Community Level SARAI - Enhance Agricultural Monitoring System and Crop Advisories)	Moises A. Dorado, Vicente G. Ballaran Jr.	DOST-PCAARRD
Development of Smart Environmental Control Systems for Indoor Hydroponics	Ronaldo B. Saludes, Keynty V. Magtoto, Cyra Gail D. Fernandez	BIOMECH

TITLE OF ONGOING PROJECTS	PROJECT LEADER/S	FUNDING AGENCY
Arduino-based weather monitoring in UPLB and performance evaluation of WRF in weather forecasting	Keynty V. Magtoto, Ronaldo B. Saludes	UPLB Basic Research Program
Airflow evaluation of livestock buildings in Philippine Carabao Center (PCC), UPLB using Computation Fluid Dynamics (CFD)	Patrick Lemuel P. Relativo, Marion Lux Y. Castro	UPLB Basic Research Program

TITLE OF COMPLETED PROJECTS	DATE OF COMPLETION	FUNDING AGENCY
Smart Plant Production in Controlled Environments	January 2019	DOST-PCIEERD
Monitoring and Detection of Ecosystems Changes for Enhancing Resilience and Adaptation in the Philippines	January 2018	DOST- PCAARRD
Hydroponic Green Forage Production for Crossbred Dairy Buffaloes	December 2017	BIOMECH

## CONFERENCES ATTENDED

	Name of Personnel and Role	Title of Activity/Program	Venue	Date
INTERNATIONAL	Ronaldo B. Saludes, Rizza Lorena Espenido, Bryan Baltazar, Jayson Fumera	40th Asian Conference on Remote Sensing (ACRS 2019)	Daejeon Convention Center, South Korea	14– 18 October 2019
	Vicente G. Ballaran Jr., Leo Neil T. Viado	Benchmarking and technical visit to the Mahalanobis National Crop Forecast Center	New Delhi, India	14-18 April 2019
	Ronaldo B. Saludes	Global Technology and Information Search Benchmarking Missions for Smart Soil and Water Management Technologies	Israel	16-22 December 2018
	Marion Lux Y. Castro	2 <sup>nd</sup> International Water Energy Nexus Conference	Salerno, Italy	14-17 November 2018
	Ronaldo B. Saludes	Green Tech 2018 (June 13-14, 2018); Short Course Training on Greenhouse Management of Vegetables (June 18-22, 2018)	Netherlands	12-14 June 2018
	Ronaldo B. Saludes	Regional Training on Protected Agriculture Technology in Asian Countries	Nanjing, Shanghai, China	22-29 January 2018
LOCAL	Ronaldo B. Saludes	PAA Conference (SPICE Project)	PICC, Pasay City, Metro Manila	9 July 2019
	Ronaldo B. Saludes, Patrick P. Relativo, Vicente G. Ballaran Jr.	16th International Agricultural Engineering Conference and Exhibition and 68th PSABE Annual Convention	SMX Convention Center, Bacolod City, Negros Occidental	21-27 April 2019
	Moises A. Dorado, Vicente G. Ballaran, and Ronaldo B. Saludes	National Conference on Smart Farming 4.0: Transforming Philippine Agriculture through Smart R&D Innovations	Batangas State University, Batangas	26-27 September 2018



## STUDENT EXCHANGE PROGRAMS

### *Japan Student Services Organization (JASSO) Exchange Program*

**Theo Dominic M. Ramos** – BS ABE (AFSD) student  
(5 June to 4 July 2019; Tokyo Metropolitan University)

**Monica Menas Pesebre & Sheila Joy Samalbuero** – BS ABE (AFSD) students  
(6 June to 5 July 2018; Tokyo Metropolitan University)

### *SAKURA Short Program*

**Glenn M. Oca** – MS Agromet student  
(6-11 October 2019; Kogakuin University of Technology and Engineering, Shinjuku, Tokyo, Japan)

**Adrian Daniel Pantano** – BS ABE (AFSD) student  
(6-11 October 2019; Kogakuin University of Technology and Engineering, Shinjuku, Tokyo, Japan)

## FACULTY SPECIAL AWARDS

AWARD NAME	RECIPIENTS	VENUE AND DATE OF AWARD
Invention disclosure award given to: Water Evaporation Retardants for Agricultural Applications (AquaSave)	Milagros M. Peralta, Vicente G. Ballaran, Jr. Moises A. Dorado, Maris Asuncion L. Bayhon and Ronaniel A. Almeda	Philippine Genome Center, UP Diliman / 5 February 5 2020
One UP Professorial Chair Award for Teaching and Research (January 1, 2019 to December 31, 2021)	Ronaldo B. Saludes	UP System

Not many people served for three consecutive terms as a college dean. We recognize the challenges you face, the hours you dedicate to the college, and the joy you experience whenever goals were achieved. Those years were full of hard work and have been a massive learning experience for all of us. Great changes had come to CEAT during your term as dean. All our undergraduate engineering programs are now 4-year curriculums and transformed into Outcomes-Based Education programs. After so many years, the institution of the BS Mechanical Engineering Program is practically a moment away. Also in the pipeline is the ascent of the Institute of Agricultural Engineering into the Institute of Agricultural and Biosystems Engineering and the curricular changes to its graduate programs. Under your stewardship, CEAT still remains at the forefront of engineering education and research.

You shall always be remembered. It has been a great experience working with you. Good luck with your future endeavors. All the best.

**Dr. Omar F. Zubia**

Chair, IABE- Agribiosystems, Machinery and Power Engineering Division



**FACULTY AND STAFF**

**PROFESSORS**

- Amongo, Rossana Marie C.
- Fajardo, Arthur L.
- Paras, Fernando Jr. O.
- Resurreccion, Arsenio N. (Professor Emeritus)
- Suministrado, Delfin C. (Adjunct Professor)

**ASSOCIATE PROFESSOR**

- Zubia, Omar F.

**INSTRUCTOR**

- De Lumen, Marita Natividad T.

**ASSISTANT PROFESSORS**

- Arrobang, Romel A.
- Borja, Adrian A.
- Gallegos, Ralph Kristoffer B.
- Onal, Mark Keylord S.
- Quilloy, Erwin P.
- Sanchez, Paolo Rommel P.

**ADMINISTRATIVE STAFF**

- Eugenio, Eugenio L.– Senior Administrative Assistant I
- Bautista, Anala SA.– Administrative Aide III
- Galdo, Edgardo E.– Machinist III
- Marasigan, Archimedes L.– Laboratory Technical II
- Panganiban, Larry M. – Metal Worker II

**RESEARCH PROJECT STAFF**

- Lalap, Gherlee Nelle L.- University Research Associate II
- Duminding, Ria Salutia DG- University Research Associate II
- Idian, Myla I.- Clerk III
- Valencia, Ronnie C.- University Research Associate II
- Bautista, Khendy SA. – Science Aide





## PUBLICATIONS

Publication Date	Specific Title	Author/s	Publication Agency
2020	Development of an electric tractor hand tractor (eTractor) for agricultural operations	Rossana Marie C. Amongo, Erwin P. Quilloy, Mark Angelo F. Ranches, Maria Victoria L. Larona, and Marish S. Madlangbayan	IOP Conference Series: Earth and Environmental Sciences. IOP Publishing Ltd
	Development of a Solar Heat Assisted Egg Incubation system	Fernando O. Paras Jr.	IOP Conference Series: Earth and Environmental Science. IOP Publishing Ltd
	Biorefining of Pigeon Pea: Residue Conversion by Pyrolysis	Mari Rowena C. Tanquilut, Homer C. Genuino, Erwin Wilbers, Rossana Marie C. Amongo, Delfin C. Suministrado, Kevin F. Yaptenco, Marilyn M. Elauria, Jessie C. Elauria, and Hero J. Heeres	Energies 2020 (13) 2778 MDPI, Basel, Switzerland
2019	Small Flaps in Rectangular Channels: Dynamics and Mean Wake Characteristics	Ralph Kristoffer B. Gallegos, Rajnish N. Sharma	International Journal of Mechanical Sciences Vol. 155. 518-535.
	Heat transfer performance of flag vortex generators in rectangular channels	Ralph Kristoffer B. Gallegos, Rajnish N. Sharma	International Journal of Thermal Sciences Vol. 137. 26-44.
	Performance evaluation of single-cylinder engine using different microemulsion of N-butyl alcohol, coconut oil, and diesel fuel	ARRMagmanlac, Romulo E. Eusebio, Arthur L. Fajardo, Delfin C. Suministrado, Omar F. Zubia	Philippine Agricultural Scientist Vol. 102 No. 2, 107-117
	Evaluation of National Irrigation Systems in the Philippines. PIDS Policy Notes 2019-08.	RSClemente, Arthur L. Fajardo Vicente G. Ballaran, Jr., and JCPUreta.	Philippine Institute for Development Studies
	Utilization of Established Protocol in Identifying Potential Sites for Small Farm Reservoirs in Quezon Province, Philippines Using GIS-Based Water Resources Assessment	Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr., Patrick Lemuel P. Relativo, Maria Victoria L. Larona, Ronnie C. Valencia, Michel G. Acosta, Kobe Conrad R. Abellera, John Carlo L. Navasero, Ria Salustia dG. Duminding.	Philippine Journal of Agricultural & Biosystems Engineering. Vol XV. No. 2, 39-52
	Development of Machine Vision System for Size Classification of Potatoes ( <i>Solanum tuberosum</i> L.)	Erwin P. Quilloy, Paolo Rommel P. Sanchez, Luther John R. Manuel, and Eunice M. Renovalles	Philippine Journal of Agricultural & Biosystems Engineering. Vol XV. No. 2, 23-30
	Development of a Fry Counter Software for Striped Catfish [ <i>Pangasianodon hypophthalmus</i> (Sauvage)]	Luther John R. Manuel, Pepito M. Bato, Rossana Marie C. Amongo, Delfin C. Suministrado, and Kevin F. Yaptenco.	Philippine Journal of Agricultural & Biosystems Engineering. Vol XV. No. 2, 13-22
	Biomass Characterization of Pigeon Pea ( <i>Cajanus cajanus</i> ) Wood for Thermochemical Conversion.	Mari Rowena C. Tanquilut, Jessie C. Elauria, Rossana Marie C Amongo, Delfin C. Suministrado, Kevin F. Yaptenco and Marilyn M. Elauria.	Philippine Journal of Agricultural & Biosystems Engineering. Vol XV. No.1, 39-51.
	Characterization of Coconut ( <i>Cocos nucifera</i> ) Husk and Shell for Gasification: A study on Fouling and Slagging Tendencies.	Keynty Boy V. Magtoto, Toni-Mae C. Salcedo, Rossana Marie C. Amongo and Sergio C. Capareda.	Philippine Journal of Agricultural & Biosystems Engineering. Vol XV. No.1, 27-37
	Laboratory-Scale Investigation of Recharge Wells	For Groundwater Storage Roger A. Luyun, Jr., Arthur L. Fajardo, Rosa B. de los Reyes, Christine P. Bumanglag, and Joselle R. Luna	Philippine Journal of Agricultural & Biosystems Engineering. Vol XV. No.1, 13-26

	Publication Date	Specific Title	Author/s	Publication Agency
JOURNALS	2019	Effect of Lug Angle, Forward and Shaft Speeds, and Number of Passes on Puddling Characteristics and Performance of the Tilling Wheel of Float-Assisted Tiller	Arthur L. Fajardo and Delfin C. Suministrado	Philippine Journal of Agricultural & Biosystems Engineering. Vol XV. No.1, 3-12
	2018	Weight determination of mango ( <i>Mangifera indica</i> L.) by frequency analysis	JJT Menguito, Delfin C. Suministrado, Omar F. Zubia, Mark Keylord S. Onal, Erwin P. Quillooy	Agricultural Engineering International: CIGR Journal 20(3): 186-194
		Development of hot spring fed incubator for duck eggs.	Anthony J. Taplah, Jr., Delfin C. Suministrado, Rossana Marie C. Amongo, Fernando O. Paras, Jr, Jessie C. Elauria and Marilyn Elauria.	Journal of Engineering and Technology Research. Vol.10(3), 19-25
		Economic analysis of duck eggs incubation using hot spring as heat source	Anthony J. Taplah Jr., Delfin C. Suministrado, Rossana Marie C. Amongo, Fernando O. Paras Jr., Jessie C. Elauria and David P. Tokpah	Journal of Development and Agricultural Economics Vol. 10(2), 38-44
		Single-line automated sorter using mechatronics and machine vision system for Philippine table eggs	Erwin P. Quillooy, Delfin C. Suministrado and Pepito M. Bato	African Journal of Agricultural Research 13 (17):918-926
		Evaluating the use of hot spring for agricultural process in Los Baños, Laguna, Philippines	Anthony J. Taplah Jr, Jose Mari C. Cabahug, Luther John R. Manuel, Erwin P. Quillooy and Pepito M. Bato	International Journal of Water Resources and Environmental Engineering 10(1):1-8
		Level of Agricultural Mechanization in Oriental Mindoro, Laguna and Quezon Philippines using the Modified Agricultural Mechanization Index for Lowland Rice	Rossana Marie C. Amongo, Mark Keylord S. Onal, Maria Victoria L. Larona, Arthur L. Fajardo, Clarissa Ileana L. Ilao, Gherlee Nelle L. Lalap, Adrain A. Borja, Charleen Grace V. Deniega and Johanan V. Sumague	Philippine Journal of Agricultural & Biosystems Engineering. Vol XIV. 55-70
	2017	Flags as Vortex Generators for Heat Transfer Enhancement: Gaps and Challenges	Ralph Kristoffer B. Gallegos and Rajnish N. Sharma	Renewable and Sustainable Energy Reviews 76: 950-962.
		Diffusion and Utilization of UPLB Corn Mechanization Technologies for Food Security	Rossana Marie C. Amongo Maria Victoria L. Larona, Fernando O. Paras, Jr., Ronaldo B. Saludes, Rosa B. delos Reyes, Marion Lux Y. Castro, Kevin F. Yaptenco, Jose D. De Ramos, Ronel S. Pangan, Victor A. Rodulfo, Jr., Ronnie C. Valencia and Mark Daniel G. Estrada	Philippine Journal of Agricultural & Biosystems Engineering. Vol XIII. 51-66
		Optimization of parameters in the production of turmeric powder using a hammer mill-type pulverizer	Jose D. De Ramos, Engelbert K. Peralta, Kevin F. Yaptenco, Delfin C. Suministrado, Marife R. Santiago	Philippine Journal of Agricultural & Biosystems Engineering. Vol XIII, 3-15
PROCEEDINGS	2020	Land Consolidation (Contiguous Farming) for Sustainable Crop Production for the Agro-industry	Rossana Marie C. Amongo	4 <sup>th</sup> International Conference on Green Agro-industry and Bioeconomy, Malang Indonesia (Virtual Conference)
		Pyrolysis of Seaweeds ( <i>Sargassum</i> sp.) from Roxas City, Capiz, Philippines for Bio-oil and Bio-char Production.	Romel A. Arrobang, Rossana Marie C. Amongo, Delfin C. Suministrado, Marisa J. Sobremisana	10 <sup>th</sup> International Conference on Renewable and Clean Energy, Tokyo, Japan (Virtual Conference)

Publication Date	Specific Title	Author/s	Publication Agency
2019	Evaluation of Locally Fabricated Small-scale Pyrolizer for Bio-oil and Bio-char Production of Seaweeds (Sargassum sp. From Roxas City, Capiz, Philippines.	Romel A. Arrobang, Rossana Marie C. Amongo, Delfin C. Sumintrado, Marisa J. Sobremisana	18 <sup>th</sup> International Symposium on Advanced Technology (ISAT -18) in Southern Taiwan University of Science and Technology, Tainan, Taiwan
	Evaluation of a Small-Scale Pyrolizer for Bio-oil and Bio-char Production of Seaweeds (Sargassum sp.) from Roxas City, Capiz, Philippines	Romel A. Arrobang, Rossana Marie C. Amongo, Delfin C. Sumintrado, Marisa J. Sobremisana	16 <sup>th</sup> Engineering Research and Development for Technology Conference, Pasay City, Philippines.
	Development of an Electric Hand Tractor (e-Tractor) for Agricultural Operations.	Rossana Marie C. Amongo, Erwin P. Quilloy, Maria Victoria L. Larona, Mark Angelo F. Ranchez and Marish S. Madlangbayan	3 <sup>rd</sup> International Conference on Agricultural Engineering for Sustainable Agricultural Production (AESAP 2019), IPB Bogor, Indonesia
	Effect of Rotational Speed and Length of the Hexagonal Corn Grit Sifter on the Sifting Efficiency	Omar F Zubia, Andrea Elaine A. Antenor and Victor A Rodulfo Jr.	16 <sup>th</sup> International Agricultural Engineering Conference & Exhibition 69 <sup>th</sup> PSABE Annual Convention. Bacolod City
	Some Physical and Mechanical Properties of Japanese Quail Egg (Coturnix coturnix Japonica)	Omar F Zubia, Gabriel G Escultos, Arjay O. Afan, Julis John Paul A Cunan, Paul John S. Dizon, and Paul Jeremiah S. Narvaez	16 <sup>th</sup> International Agricultural Engineering Conference & Exhibition 69 <sup>th</sup> PSABE Annual Convention. Bacolod City, Philippines.
	Thermo-physical Properties of Pellets Made from Shredded Wastepaper	Omar F. Zubia and Joram NL Combatir	16 <sup>th</sup> International Agricultural Engineering Conference & Exhibition 69 <sup>th</sup> PSABE Annual Convention. Bacolod City
	Development of an Electric Hand Tractor (e-Tractor) for Transport	Rossana Marie C. Amongo, Erwin P. Quilloy, Mark Angelo F. Ranchez, Maria Victoria L. Larona, and Marish S. Madlangbayan	16 <sup>th</sup> International Agricultural Engineering Conference & Exhibition 69 <sup>th</sup> PSABE Annual Convention. Bacolod City
	Determination of the Fisheries Mechanization Index (FishMI) in Selected ASEAN Countries	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Clarissa Ileana L. Ilao and Gherlee Nelle L. Lalap	16 <sup>th</sup> International Agricultural Engineering Conference & Exhibition 69 <sup>th</sup> PSABE Annual Convention. Bacolod City
	Protocols for the Identification of Small-Scale Irrigation Projects' (SSIPs) in Mindoro Provinces, Philippines through GIS-Based Water Resources Assessment for Food Security	Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr., Maria Victoria L. Larona, John Carlo L. Navasero and Michel G. Acosta	16 <sup>th</sup> International Agricultural Engineering Conference & Exhibition 69 <sup>th</sup> PSABE Annual Convention. Bacolod City
Approaches in Determining Suitable Sites for Small -Scale Irrigation Projects (SSIPs) in CALABARZON Region, Philippines Using GIS-Based Water Resources Assessment for Food Security.	Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr., Maria Victoria L. Larona, Patrick Lemuel P. Relativo, Ronnie C. Valencia and Kobe Conrad R. Abellera.	16 <sup>th</sup> International Agricultural Engineering Conference & Exhibition 69 <sup>th</sup> PSABE Annual Convention. Bacolod City	

Publication Date	Specific Title	Author/s	Publication Agency
2019	Boat and Engine Matching: An Evaluation of Existing Methodologies for Selecting Engine Power Rating for the Philippine Outrigger Craft	Adrian A. Borja, Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal and Gherlee Nelle L Lalap	16 <sup>th</sup> International Agricultural Engineering Conference & Exhibition 69 <sup>th</sup> PSABE Annual Convention. Bacolod City
	Development of a Standard Procedure for the Determination of Philippine Fisheries Mechanization Index (FishMI).	Mark Keylord S. Onal, Rossana Marie C. Amongo, Maria Victoria L. Larona, Gherlee Nelle L. Lalap, Adrian A. Borja and Mark Twain A. Limbo	16 <sup>th</sup> International Agricultural Engineering Conference & Exhibition 69 <sup>th</sup> PSABE Annual Convention. Bacolod City
	Development of a Wireless Monitoring System for Greenhouses	Christian Martin V. Casedo, Arthur L. Fajardo, Erwin P. Quillooy and Paolo Rommel P. Sanchez	16 <sup>th</sup> International Agricultural Engineering Conference & Exhibition 69 <sup>th</sup> PSABE Annual Convention. Bacolod City
	Use of Color Sensor for Duck Egg Candling in Balut Production	Mel Vincent A. Ampo, Arthur L. Fajardo, Erwin P. Quillooy and Paolo Rommel P. Sanchez	16 <sup>th</sup> International Agricultural Engineering Conference & Exhibition 69 <sup>th</sup> PSABE Annual Convention. Bacolod City
2018	The role of mechanization in strengthening smallholders' resilience through conservation agriculture: The Philippine Experience	Rossana Marie C. Amongo	China International Agricultural Mech. Exhibition (CIAME). Wuhan China
	Enabling Environment for the Private Sector: A case study in the Philippines.	Rossana Marie C. Amongo, Baldwin G. Jallorina, Ariodear C. Rico and Don David T. Julian	6 <sup>th</sup> Regional Forum on Sustainable Agricultural Mechanization in Asia & the Pacific, CSAM- UN-ESCAP Wuhan, China
	Data-informed Policymaking for Sustainable Development Goals (SDGs) in the Philippines	Rossana Marie C. Amongo, and Maria Victoria L. Larona	CSAM-UNESCAP. Penang Malaysia
	A Machine Vision Assisted Mechatronic Seed Meter for Precision Planting of Corn	Adrian A. Borja, Rossana Marie C. Amongo, Delfin C. Suministrado, Jaderick P. Pabico	3 <sup>rd</sup> International Conference on Control and Robotics Engineering (ICCRE), Nagoya, Japan
	An Electronic Method of Measuring Seed Drop Distances produced in Precision Corn Planters	Adrian A. Borja, Rossana Marie C. Amongo, Delfin C. Suministrado, Jaderick P. Pabico	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City
	Calibration of an Arduino-based Rotary Vane Flow Meter for Milled Rice	Alfredrick D Salandanan, Erwin P. Quillooy, Ma. Cristine Concepcion D. Ignacio and Omar F. Zubia	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City
	Design and Evaluation of a Low-head Ram Pump.	AL Perez, Omar F. Zubia, Arthur L. Fajardo, Delfin C. Suministrado and Romulo E. Eusebio.	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City
	Design, Fabrication and Evaluation of a Smallscale Solar Adsorption Refrigeration System	Kirstine A. Aguirre, Fernando O. Paras Jr., Omar F. Zubia, Kevin F. Yaptenco and Erwin P. Quillooy	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City
	Development of a Mechanical Coconut Climbing Aid	JMJ Lopez, Omar F. Zubia, Fernando O. Paras Jr. and Delfin C. Suministrado	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City
	Development of a Solar-powered Thermoelectric Cooler	Ria Salustia DG. Duminding, Fernando O. Paras Jr., Omar F. Zubia, Kevin F. Yaptenco and Erwin P. Quillooy	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City

	Publication Date	Specific Title	Author/s	Publication Agency
PROCEEDINGS	2018	Development of an Arduino-based Firmness Testing Instrument for Biological Materials.	EM Renovalles, Erwin P. Quilloy, Delfin C. Suministrado, Omar F. Zubia and Kevin F. Yaptenco	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City
		Formulation of Standardized Methodology for Determining the Level of Fishery Mechanization Index	Rossana Marie C. Amongo, Mark Keylord S. Onal, Maria Victoria L. Larona, Arthur L. Fajardo, Clarissa Ileana L. Ilao, Gherlee Nelle.L. Lalap, and Adrian A. Borja	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City
		Impact Assessment of the Agricultural Mechanization Interventions of BIOMECH-CEAT-UPLB in Siquijor Province	Maria Victoria L. Larona, Jose D. De Ramos, Alexis C. Del Rosario, Marife R. Santiago, and Rossana Marie C. Amongo	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City
		Improvement and Optimization of a Corn Mill Grit Sifter	Nelwin G. Piza, Omar F. Zubia, Fernando O. Paras, Jr., Victor A. Rodulfo and Arthur L. Fajardo	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City
		Level of Mechanization in Oriental Mindoro and Laguna, Philippines Using the Modified Agricultural Mechanization Index for Lowland Rice Ecosystem (MAMRice)	Rossana Marie C. Amongo, Mark Keylord S. Onal, Maria Victoria L. Larona, Arthur L. Fajardo, Clarissa Ileana L. Ilao, Gherlee Nelle.L. Lalap, Charleen Grace V. Deniega, Lyn E. Oguis and Peachie B. Melendez	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City
		Local Production of Single Cylinder Engine for the Agri-fishery Sector: An Imperative Policy Recommendations	Victor A. Rodulfo Jr., Marife R. Santiago and Arthur L. Fajardo	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City
		Optimization of Financial Resources Allocation for Irrigation Development in the Philippines: Mathematical Model Development and Simulation	C.L.R. Wu, Victor B. Ella, Arthur L. Fajardo and Jeric A. Gonzales	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City
		The role of mechanization in strengthening smallholders' resilience through conservation agriculture in the Philippines	Rossana Marie C. Amongo, Maria Victoria L. Larona, Jose D. de Ramos, Marck Ferdie V. Eusebion & Ronnie C. Valencia	Regional Workshop on the Role of Mechanization in Strengthening Small-holders' Resilience through Conservation Agriculture in Asia and the Pacific. CSAM-UN-ESCAP Phnom Penh, Cambodia.
	2017	Flow Characteristics of a Narrow Rectangular Channel Equipped with a Flapping Flag	Ralph Kristoffer B. Gallegos, Rajnish N. Sharma	ASME 2017 International Mechanical Engineering Congress and Exposition
		Promoting Sustainable Agricultural Mechanization Strategies in the Philippines	Rossana Marie C. Amongo, Maria Victoria L. Larona & Ariodear C. Rico	5 <sup>th</sup> Regional Forum on Sustainable Agricultural Mechanization in Asia and the Pacific. CSAM-UN-ESCAP, Khatmandu Nepal
		AFMTs as propellers in Strengthening Food Security, Feed and Energy Sustainably to Enhance Competitiveness: The Philippine Experience	Rossana Marie C. Amongo	International Seminar on Strengthening Food Security, Feed and Energy Sustainably to Enhance Competitiveness. Bandar, Lampung Indonesia
		Installation and Testing of 500W Microhydro System in Piit River, Pangil, Laguna, Philippines	Kevin Ardie S. Valin, Arthur L. Fajardo, Rossana Marie C. Amongo, Fernando O. Paras, Jr. and Delfin C. Suministrado	14 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 67 <sup>th</sup> PSABE Annual Convention. Legaspi City
		Design and Development of Basic Mechanization for Motorized Dehusker Machine	Michael M. Duldulao, Victor A. Rodulfo, Jr., Delfin C. Suministrado, Rossana Marie C. Amongo and Ernesto P. Lozada	14 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 67 <sup>th</sup> PSABE Annual Convention. Legaspi City

	Publication Date	Specific Title	Author/s	Publication Agency
PROCEEDINGS	2017	Development and Utilization of Suitable Agricultural Mechanization Technologies (AMTs) for Bio-Organic Fertilizer Production at the Pilipinas Shell Foundation, Inc. (PSFI)	Ronel S. Pangan, Balbino C. Geronimo, Rossana Marie C. Amongo, Mark Keylord S. Onal, Arthur L. Fajardo and Maria Pamela S. Castro	14 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 67 <sup>th</sup> PSABE Annual Convention. Legaspi City
		Comparative Analysis of a Small-scale Horizontal Axis Wind Turbine (HAWT).	Mark Keylord S. Onal, King Roy DR. Bondad, Ninoy Mandela Kalima P. Serrano, Rossana Marie C. Amongo and Fernando O. Paras Jr.	14 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 67 <sup>th</sup> PSABE Annual Convention. Legaspi City
		Enhancing Farmers Productivity through the Introduction of Appropriate Agricultural Mechanization Technology in Siquijor Province.	Marife R. Santiago, Jose D. de Ramos, Alexander C del Rosario, Rossana Marie C. Amongo, Maria Victoria L. Laron, Arnold R. Elepano	14 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 67 <sup>th</sup> PSABE Annual Convention. Legaspi City
		Determination of Mechanization Index in Selected ASEAN Countries.	Rossana Marie C. Amongo, Mark Keylord S. Onal, Maria Victoria L. Laron, Clarissa Ileana L. Ila, Gherlee Nelle.L. Lalap, Lyn E. Oguis and Peachie B. Melendez	14 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 67 <sup>th</sup> PSABE Annual Convention. Legaspi City
		Perception on the Introduction and Utilization of Agricultural Mechanization Technologies in Corn-Based Cropping System in Masbate, Philippines	Maria Victoria L. Laron, Rossana Marie C. Amongo, Ronnie C. Valencia, Mark Daniel G. Estrada	14 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 67 <sup>th</sup> PSABE Annual Convention. Legaspi City
		Diffusion and Utilization of UPLB Corn Mechanization Technologies for Food Security	Rossana Marie C. Amongo, Kevin F. Yaptenco, Ronaldo B. Saludes, Maria Victoria L. Laron, Fernando O. Paras, Jr., Rosa B. delos Reyes, Marion Lux Y. Castro, Jose D. De Ramos, Ronel S. Pangan, Victor A. Rodulfo, Jr, Mark Daniel G. Estrada, and Ronnie C. Valencia	14 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 67 <sup>th</sup> PSABE Annual Convention. Legaspi City
		Development Efforts on Appropriate and Climate Resilient AFMTs for Philippine Agriculture to attain Food Security	Rossana Marie C. Amongo	14 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 67 <sup>th</sup> PSABE Annual Convention. Legaspi City
		Establishing a Cooperation Mechanism for Human Resource Development on Sustainable Agricultural Mechanization: The Philippine Experience.	Rossana Marie C. Amongo and Aridear C. Rico	CSAM-UNESCAP. Nanjing, China
POLICY PAPER	2019	Policy on the Implementability of Contiguous Farming in Rice and Corn Areas in the Philippines.	Rossana Marie C. Amongo Maria Victoria L. Laron, Mark Keylord S. Onal, Arsenio N. Resurreccion, Gherlee Nelle L. Lalap, Mark Twain Limbo	Department of Agriculture
	2018	Policy on the Standard Procedure for Fishery Mechanization Index Integrating the Best Practices on the Utilization of Fisheries Mechanization Technologies (FMTs)	Rossana Marie C. Amongo Maria Victoria L. Laron, Mark Keylord S. Onal, Clarissa Ileana L. Ila, Gherlee Nelle L. Lalap, Adrian A. Borja	Department of Agriculture
	2017	Operational Procedure and Policy for the Standardized Agricultural Mechanization Index in the Philippines	Rossana Marie C. Amongo, Maria Victoria L. Laron, Mark Keylord S. Onal, Clarissa Ileana L. Ila, Gherlee Nelle L. Lalap, L.E. Oguis, and P.B. Melendez	Department of Agriculture

BOOKS	Publication Date	Specific Title	Author/s	Publication Agency
	2020	Flexible Learning Course Guides for the Bachelor of Science in Agricultural and Biosystems Engineering (eBook)	Roberto C. Guarte, Romeo B. Gavino, Rossana Marie C. Amongo, Caesar Joventino M. Tado, Juana T. Tapel	Commission on Higher Education
The UPLB Un-Energized Community-Based Sustainable Energy Research Program (Coffee Table Book)		Marish S. Madlangbayan, Rossana Marie C. Amongo, Fernando O. Paras, Jr., Marloe B. Sundo, Arthur L. Fajardo, Mark Keylord S. Onal, Maria Victoria L. Larona, Erwin P. Quillooy, RDF Morales, CDQ Alfonso, GP Bautista, HV Canonio, MAF Ranches	National Grid Corporation of the Philippines	

## ONGOING AND COMPLETED RDE PROJECTS

TITLE OF ONGOING PROJECTS	PROJECT LEADER/S	FUNDING AGENCY
Smarter Approaches to Reinvigorate Agriculture as an Industry in the Philippines II .Proj. 2.3 Smarter technologies for Crop Water Management	Erwin P. Quillooy, Paolo Rommel P. Sanchez	DOST-PCAARRD
Assessment of Sugarcane Varieties and Germplasm Collection for Drought and Waterlogging Tolerance Component 1: Screening of Sugarcane for Drought Tolerance	Erwin P. Quillooy,	DA-SRA
Assessment of the Level of Mechanization of the Rice and Corn Production Systems in Region IV	Rossana Marie C. Amongo, Mark Keylord S. Onal, Maria Victoria L. Larona, Ralph Kristoffer B. Gallegos, Arsenio N. Resurreccion	DA-BAR
Appropriate Instrumentation and Data Acquisition System for Performance Testing of Agricultural Machinery	John Paul A. Ramoso, Erwin P. Quillooy, Romulo Eusebio, Jerson Jose T. Menguito	DOST-PCAARRD
Nationwide Agri-Fisheries Investment Audit	Arsenio N. Resurreccion, Rossana Marie C. Amongo, Arthur L. Fajardo, Romulo E. Eusebio, Fernando O. Paras, Jr.	DA-Osec

TITLE OF COMPLETED PROJECTS	DATE OF COMPLETION	FUNDING AGENCY
Identifying Suitable Sites for Small Scale Irrigation Projects (SSIPs) in Region IV- A (CALABARZON) Through GIS-Based Water Resources Assessment (Rossana Marie C. Amongo)	March 2020	DA-BAR
Identifying Suitable Sites for Small Scale Irrigation Projects (SSIPs) in Mindoro Provinces Through GIS-Based Water Resources Assessment (Rossana Marie C. Amongo)	March 2020	DA-BAR
Policy Study on the Implementability of Contiguous Farming in Rice and Corn Areas in the Philippines (Rossana Marie C. Amongo, Mark Keylord S. Onal)	May 2019	DA-PCAF
Assessing the efficiency and prospects of the tunnel vent technology for the swine and poultry industries in the Philippines During Dry Season (Omar F. Zubia)	March 2019	DOST-PCAARRD
The UPLB Unenergized Community Based Sustainable Energy Research (Rossana Marie C. Amongo, Fernando O. Paras Jr., Arthur L. Fajardo Jr., Mark Keylord S. Onal, Erwin P. Quillooy)	March 2019	NGCP
Intensive Use of Mechanized Technology in the Agriculture Sector: An Evaluation of the effects and implications in Selected Commodity Value Chains (Rossana Marie C. Amongo)	January 2019	DA-PCAF

TITLE OF COMPLETED PROJECTS	DATE OF COMPLETION	FUNDING AGENCY
Design and Installation of WECS in PSFI Training Center at Pililla, Rizal (Rossana Marie C. Amongo, Mark Keylord S. Onal)	December 2018	BIOMECH
Design, Testing & Installation of a Micro-Hydro System (Rossana Marie C. Amongo, Arthur L. Fajardo)	December 2018	BIOMECH
Policy Formulation of the Standard Procedure for Fishery Mechanization Index Integrating the Best Practices on the Utilization of Fisheries Mechanization Technologies (FMTs) (Rossana Marie C. Amongo, Mark Keylord S. Onal, AA. Borja)	August 2018	DA-PCAF
Assessing the efficiency and prospects of the tunnel vent technology for the swine and poultry industries in the Philippines (Omar F. Zubia)	December 2017	DOST-PCAARRD

## TECHNICAL ASSISTANCE DELIVERED

PERSONNEL	ACTIVITY	DATE	PLACE
Rossana Marie C. Amongo	Philippine Journal for Agricultural and Biosystems Engineering (PJABE) and Philippine Agricultural Mechanization Journal (Formerly PAMB)	Editor (2017-2020)	BIOMECH, CEAT, UPLB
Rossana Marie C. Amongo	The 6 <sup>th</sup> Southeast Asia Agricultural Engineering Student Annual Regional Convention 2020	Judge (23 July-25 August 2020)	Universitas Brawijaya, Malang, Indonesia
Rossana Marie C. Amongo	Virtual Evaluation Visit on the Compliance of the Graduate programs in MSA-BE and MPS RE -MMSU	TCABE member/evaluator (13 August 2020)	Batac, Ilocos Norte
Rossana Marie C. Amongo	Virtual Evaluation Visit on the Compliance of the Graduate programs in MSCE and MSABE-ASSCAT	TCABE member/evaluator (28 July 2020)	Bunauan, Agusan del Sur
Rossana Marie C. Amongo, Fernando O. Paras Jr., Omar F. Zubia, Mark Keylord S. Onal	ABE Board Exam Review	Resource Persons (10 June-17 August 2019)	BPSU Abucay, Bataan
Rossana Marie C. Amongo, Omar F. Zubia, Mark Keylord S. Onal	ABE Board Exam Review	Resource Persons (1-4 August 2019)	LSPU, Siniloan Laguna
Rossana Marie C. Amongo, Omar F. Zubia, Fernando O. Paras, Jr.	ABE Board Exam Review	Review Coordinator/Resource Persons/ (24 June-31 August 2019)	UPLB
Mark Keylord S. Onal, Rossana Marie C. Amongo	5 <sup>th</sup> Research and Development Orientation -Seminar	Resource Person (11 June 2019)	DA, Quezon City
Rossana Marie C. Amongo, Mark Keylord S. Onal, Arsenio N. Resurreccion	Sectoral Consultation on the Policy formulated Fisheries Mechanization Index (FISHMI)	Resource Person (1 January 2019)	DA, Quezon City
Rossana Marie C. Amongo	Technical Committee for Agricultural and Biosystems Engineering, Commission on Higher Education	Member (January 2016- December 2020)	CP Garcia, Diliman, Quezon City
Arthur L. Fajardo, Fernando O. Paras Jr.	TWG for four-wheel tractors specifications and methods of tests	Resource Persons (27 September 2019)	BAFS Bldg. Quezon City
Rossana Marie C. Amongo, Mark Keylord S. Onal, Arsenio N. Resurreccion	Focus Group Discussion and Site Visit in MTG-PLIVIRISCAF Irrigators Association	Resource Persons (27-28 November 2018)	Nueva Ecija
Mark Keylord S. Onal	Bohol Agro Fisheries Congress 2018	Resource Speaker (27 October 2018)	Bohol Island State University Main Campus Activity Center, C.P.G. Avenue, Tagbilaran City, Bohol



PERSONNEL	ACTIVITY	DATE	PLACE
Rossana Marie C. Amongo	Focus group discussion/key informant interview of implementers and training of enumerators for the DA-PCAF evaluation study on agricultural mechanization program	Facilitator (14-16 October 2018)	Ilocos Province
Mark Keylord S. Onal	National Capability Training on Agricultural Machinery Operation NC2	Trainer (4-7 September 2018)	PHilMech Muñoz, N. Ecija
Rossana Marie C. Amongo, Omar F. Zubia Mark Keylord S. Onal	ABE Board Exam Review	Resource Persons (5-6 July 2018)	LSPU, Siniloan Laguna
Rossana Marie C. Amongo Mark Keylord S. Onal Fernando O. Paras Jr., Omar F. Zubia	ABE Board Exam Review	Review Coordinator/ Resource Persons/ (20 June-10 August 2018)	UPLB
Mark Keylord S. Onal	ABE Board Exam Review	Resource Person (7-8 June 2018)	Guinobatan, Albay

## TRAININGS/ SEMINARS CONDUCTED

PERSONNEL AND ROLE/S	ACTIVITY	PLACE
Rossana Marie C. Amongo, Ralph Kristoffer B. Gallegos, Arsenio n. Resurreccion, Maria Victoria L. Larona, Ronnie C. Valencia, Gherlee Nelle L. Lalap, Romel A. Arrobang, Ria Salustia dG Dumingding (Organizer/Coordinator/Resource Persons/Facilitators)	Virtual Training of Enumerators for the survey on the Assessment of the Level of Mechanization of the Rice and Corn Production Systems in Region IV	Virtual Training AMD, IAE 9 October 2020
Omar F. Zubia (Organizer) IAE Faculty and Staff Participants	Virtual Basic Audiovisual Production for IAE Faculty and Staff	Virtual Training 28-31 July 2020
Rossana Marie C. Amongo Ronaldo B. Saludes, Roger A. Luyun, Jr. Michel G. Acosta, Kobe Conrad R. Abellera, Ronnie C. Valencia, Romel A. Arrobang, Ria Salustia dG Dumingding (Organizer/Coordinator/Resource Persons/Facilitators)	Training on the Finalization of the Small-Scale Irrigation Projects (SSIPs) Suitability Maps through GIS-Based Water Resources Assessment for MIMAROPA Region	IAE, CEAT 6 March 2020
Rossana Marie C. Amongo, Omar F. Zubia, Erwin P. Quilloy, Paolo Rommel P. Sanchez, Adrian A. Borja (Facilitator/Resource Persons)	Training Course on Electrical Systems Design for Agricultural & Biosystems Structures	Naic, Cavite 18-22 November 2019
Rossana Marie C. Amongo Ronaldo B. Saludes, Roger A. Luyun, Jr. Michel G. Acosta, Kobe Conrad R. Abellera, Ronnie C. Valencia, Romel A. Arrobang, Ria Salustia dG Dumingding (Organizer/Coordinator/Resource Persons/Facilitators)	Training on the Development of Small-Scale Irrigation Project (SSIP) Suitability Maps for CALABARZON and MIMAROPA Regions	CEC, UPLB 13-15 November 2019
Erwin Quilloy and Eunice Renovalles	Aerial Mapping Training: A Short Course on Aerial Imaging and Processing	Institute of Plant Breeding, UP Los Baños 20 August 2019
Rossana Marie C. Amongo, Fernando O. Paras Jr., Arthur L. Fajardo Jr. (Organizers/Facilitators/Resource Persons)	Training on the Strategies for the NGCP-UPLB-FI RE Technologies' Sustainability	Macabud, Rodriguez, Rizal 13 July 2019
Rossana Marie C. Amongo, Erwin P. Quilloy, Omar F. Zubia (Resource Persons)	Training of Trainers on Rice Machinery Operation (RMO) in Region IV-A	CEAT UPLB 20-24 May 2019

PERSONNEL AND ROLE/S	ACTIVITY	PLACE
Rossana Marie C. Amongo Erwin P. Quillooy, Omar F. Zubia (Resource Persons)	Training of Trainers on Agricultural Machinery Operation (AMTs for Corn) in Region IV-A	CEAT UPLB 7-10 May 2019
Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr. Michel G. Acosta, Kobe Conrad R. Abellera, Ronnie C. Valencia, Ria Salustia dG Dumingding, John Carlo Navasero (Organizer/Coordinator/Resource Persons)	Training of enumerators on geo-tagging ang parameter measurement of Small-Scale Irrigation Projects (SSIPs)-Oriental Mindoro	Mindoro Oriental 19-20 March, 20 January 20 and 2 February 2019
Rossana Marie C. Amongo, Fernando O. Paras Jr., Erwin P. Quillooy, Arthur L. Fajardo, Mark Keylord S. Onal, Mark Angelo F. Ranchez, Hakeem Canonio, Gil Bustillas, Geanina Marie Kimberly Ocampo (Organizers/Facilitators/Resource Persons)	Training on the operation, repair and maintenance of the UPLB-FI-CEAT-NGCP- RE Technologies (e-Tractor and e-Charging Station) for the UPLB Un-Energized Community-Based Sustainable Energy Research Program	Macabud, Rodriguez, Rizal 16 & 23 March 2019
Rossana Marie C. Amongo Ronaldo B. Saludes, Roger A. Luyun, Jr. Michel G. Acosta, Kobe Conrad R. Abellera, Ronnie C. Valencia, Romel A. Arrobang, Ria Salustia dG Dumingding (Organizer/Coordinator/Resource Persons/Facilitators)	Consolidation Workshop cum Training on the Generation of SSIP Potential Maps in MIMAROPA Region	IAE, CEAT 14-15 March 2019
Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr. Michel G. Acosta, Kobe Conrad R. Abellera, Ronnie C. Valencia, Ria Salustia dG Dumingding, John Carlo Navasero (Organizer/Coordinator/Resource Persons/Facilitators)	Training on Geo-tagging and Parameter Measurements of Small-Scale Irrigation Projects (SSIPs) and Survey of Farmers utilizing SSIPs for Occidental Mindoro Province	Mindoro Occidental 6-7 December 2018
Rossana Marie C. Amongo Mark Keylord S. Onal (Resource Persons)	Training Course on Farm Electrification for Agricultural and Biosystems Engineering Projects (RS)	CLSU, Munoz N.Ecija 26-29 November 2018
Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr. Michel G. Acosta, Kobe Conrad R. Abellera, Ronnie C. Valencia (Organizer/Coordinator/Resource Persons/Facilitators)	Training on Geo-tagging and Parameter Measurements of Small-Scale Irrigation Projects (SSIPs) and Survey of Farmers utilizing SSIPs for Cavite, Batangas and Rizal provinces	AMTEC Conference Room, CEAT, UPLB; 9 & 23 November 2018
Rossana Marie C. Amongo (Organizer/Resource Person)	Training Workshop for the Development of OBE- and K-12 Compliant BSABE CURRICULUM by CHED (Visayas Cluster) (Mindanao Cluster) (South Luzon Cluster) (North Luzon Cluster)	CLSU, Munoz, Nueva Ecija 17-21 September 2018 10-14 September 2018 3-7 September 2018 13-17 August 2018
Rossana Marie C. Amongo (Resource Person)	Training Writeshop on the Development of Integrated OBE and K-12 Compliant Curriculum for HEIs	CED, CEAT UPLB 26 July 2018
Rossana Marie C. Amongo (Resource Person)	2018 CEAT Techno-Entrepreneurship Teaching Bootcamp	Trees, CFNR, UPLB 24-25 July 2018
Rossana Marie C. Amongo (Organizer/Resource Person)	Hands-on Training on the Operation and Maintenance of the AFMechRDE Database and Information System South Luzon Cluster North Luzon Cluster	AMTEC Conference Room, CEAT, UPLB; 28-29 May 2018 PHilMech, Munoz, N. Ecija 20 March 2018
Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr. Michel G. Acosta, Kobe Conrad R. Abellera, Ronnie C. Valencia (Organizer/Coordinator/Resource Persons/Facilitators)	Training of enumerators on geo-tagging ang parameter measurement of Small-Scale Irrigation Projects (SSIPs)-Quezon Province	AMTEC Conference Room, CEAT, UPLB; 30 April 2018

PERSONNEL AND ROLE/S	ACTIVITY	PLACE
Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr. Michel G. Acosta, Kobe Conrad R. Abellera, Ronnie C. Valencia (Organizer/ Coordinator/ Resource Persons/Facilitators)	Training of enumerators on geo-tagging and parameter measurement of small-scale irrigation projects (SSIPs)-Laguna	AMTEC Conference Room, CEAT, UPLB; 26 February 2018
Rossana Marie C. Amongo (Resource Person)	OBE Training for the College of Engineering, Laguna State Polytechnic University, Laguna	Laresio Hotel, LB, Laguna 21 February 2018

## CONFERENCES ATTENDED

	NAME OF PERSONNEL AND ROLE/S	TITLE OF CONFERENCE	VENUE	DATE
INTERNATIONAL	Rossana Marie C. Amongo (Keynote Speaker)	4th International Conference on Green Agro-industry and Bioeconomy	Universitas Brawijaya Malang, Indonesia (Virtual Conference)	25 August 2020
	Rossana Marie C. Amongo (Presenter/Judge/Moderator)	The 3rd International Conference on Agricultural Engineering for Sustainable Agriculture Production (Presenter/ Judge/Moderator)	IPB University, IPB Bogor, Indonesia	15 October 2019
	Rossana Marie C. Amongo (Secretary General)	7th AUCFA General Assembly Presiding Officer-Secretary General	IPB University, IPB Bogor, Indonesia	14 October 2019
	Fernando O. Paras Jr. (Participant)	International Conference on Green Agro-industrial and Bioeconomy	Universitas Brawijaya, Malang, Indonesia	23-28 August 2019
	AMD Faculty and Research Staff (Paper and Poster Presenters and participants)	16th International Conference and 69th PSAE National Annual Convention	SMX, Bacolod City	22-26 April 2019
	Fernando O. Paras Jr. (Participant)	Inter-regional Workshop on "Sensor Technology and Agricultural Robots for Food Security in Changing Climates: Opportunity for Developing Countries"	Bangkok, Thailand	22 November 2018
	Rossana Marie C. Amongo (Organizer/Moderator/ Master of Ceremonies) Fernando O. Paras, Jr. (Participant)	Joint ASEAN Cooperation on Agricultural and Biosystems Engineering (ACABE) and ASEAN Universities Consortium on Food and Agro-Based Engineering and Technology Education (AUCFA) Conference	Royce Hotel and Casino, Manuel A. Roxas Avenue, Ninoy Aquino Avenue corner Clark Freeport, Pampanga, Philippines	6-8 November 2018
	Rossana Marie C. Amongo (Participant/Plenary Speaker)	International Workshop on Development of Conservation Agriculture in Asia and the Pacific	Wuhan, China	26 October 2018
	Rossana Marie C. Amongo (Participant/presenter/moderator)	6th Regional Forum on Sustainable Agricultural Mechanization in Asia and the Pacific	Hubei, China	25-28 October 2018
	Rossana Marie C. Amongo Arthur L. Fajardo (Participant/ Poster paper) Presenter)	21 <sup>st</sup> International Soil Tillage Research Organization International Conference	Cité Internationale Universitaire de Paris, Paris, France	24-27 September 2018
	Rossana Marie C. Amongo (Participant/ Poster paper)	Data-informed Policymaking for Sustainable Development Goals (SDGs) (Participant/Paper presenter)	Bayview Hotel Georgetown, Penang Malaysia	27-30 June 2018
	Rossana Marie C. Amongo (Participant)	UN-ESCAP Senior Experts Meeting	Bangkok, Thailand	10-13 May 2018
	Rossana Marie C. Amongo (Plenary Speaker) AMD Faculty and Research Staff (Presenters and participants)	15th International Conference and 68th PSAE National Annual Convention	USEP, Davao City	23-27 April 2018

	NAME OF PERSONNEL AND ROLE/S	TITLE OF CONFERENCE	VENUE	DATE
INTERNATIONAL	Rossana Marie C. Amongo (Paper presenter and Participant)	Regional Workshop on the Role of Mechanization in Strengthening Smallholders' Resilience through Conservation Agriculture in Asia and the Pacific	Phnom Penh, Cambodia	17-20 April 2018
	Rossana Marie C. Amongo (Presenter and Participant)	5th Regional Forum on Sustainable Agricultural Mechanization in Asia and the Pacific and Regional Workshop on Integrated Straw Management in Asia and the Pacific	Kathmandu, Nepal	11-16 December 2017
LOCAL	Arsenio N. Resurreccion Rossana Marie C. Amongo Arthur L. Fajardo (Participants)	Consultative Meeting on the Conduct of Audit and Investigation on Distributed Production and Postharvest Machineries and Constructed Solar-powered irrigation System	BSWM, DA	29-30 January 2020
	Rossana Marie C. Amongo Mark Keylord S. Onal	National Conference on Accelerating Skills Development and Certification of Agricultural and Fishery Machinery Operators and Technicians	Apacible Hall PCAF-DA	16 December 2019
	Rossana Marie C. Amongo, Arthur L. Fajardo Jr., Ralph Kristoffer B. Gallegos (Participants/Presenters)	AFMECH SUMMIT	San Fernando Pampanga	20-21 November 2019
	Rossana Marie C. Amongo, Arthur L. Fajardo Jr., Ralph Kristoffer B. Gallegos, Paolo Rommel P. Sanchez (Participants)	Training on Procurement 202: Doing Right Procurement Doing Procurement Right	Trees, CFNR UPLB	7-8 November 2019
	Rossana Marie C. Amongo (presenter)	DA BAR Workshop on Rice Mechanization R&D Agenda and Program Setting	Quezon City	27 July 2019
	Rossana Marie C. Amongo (presenter)	DA BAR Workshop	Balibago, Angeles, Pampanga	17-19 July 2019
	Arthur L. Fajardo Jr., Rossana Marie C. Amongo (participants)	Rice R&D Program Setting (DA-BAR)	DA-BAR, Quezon City	16-18 July 2019
	Omar F. Zubia (participant)	Technical Conference on Agricultural Mechanization and Post-harvest Technology	Quezon City, Metro Manila	16-18 July 2019
Fernando O. Paras Jr. (Participant)	2nd Higher Education Administrators' Dev't Seminar (HEADS2)	Philippine Judicial Academy (PHILJA) Training Center, Tagaytay City	2-4 July 2019	



	NAME OF PERSONNEL AND ROLE/S	TITLE OF CONFERENCE	VENUE	DATE
LOCAL	Arthur L. Fajardo Rossana Marie C. Amongo (Resource Persons)	BAC Unification Forum	TREES CFNR UPLB	4 January 2019
	Rossana Marie C. Amongo Erwin P. Quillooy (Plenary Speakers) AMD Faculty (participants)	17th Annual PSABE Regional Convention 2018	Lucena City, Quezon	22 November 2018
	Omar F. Zubia (participant)	2nd HITSS	DAP, Tagaytay City	5-7 Novem- ber 2018
	Mark Keylord S. Onal (participant)	Bohol Agro-Fisheries Congress 2018	Bohol Gym, Tagbilaran City, Bohol	26-28 Octo- ber 2018
	Fernando O. Paras Jr. (Participant)	International Conference on Engineering Education (ICEE - Phil 2018)	Holy Angel University, Angeles City	25-26 Octo- ber 2018
	Delfin C. Sumintrado (participant)	Professional Accreditation Activities	Bulacan State University	18 October 2018
	AMD Faculty (participants)	Honing Innovative-Teaching Leasrning Skills Seminar	UPLB	October 2018
	Rossana Marie C. Amongo (Presenter/participant)	4th AFMECH RDEN Organizational Meeting (Participant/Resource Speaker)	PHilMech, Munoz, Nue- va Ecija Septem- ber 12, 2018	12 September 2018
	Rossana Marie C. Amongo (Presenter/participant)	Zonal Public Consultation, TPET CHED (CMO 94 Presenter)	Manila Grand Opera Hotel Sta Cruz Manila	15 August 2018
	Rossana Marie C. Amongo (Participant)	National Workshop on the Formulation of National ABE Career Progression and Specialization Program (NABECPSF) and Career Guidance and Advocacy Program on ABE (Participant)	PRC, Manila	31 July 2018
	AMD Faculty (participants)	Workshop on Graduate Program Revi- sions: •Proposals for institutions of Graduate Courses revision of existing graduate courses	TREES, CFNR, UPLB	16-17 July 2018
	AMD Faculty (participants)	DOST-UP Science Technology & Innova- tions Festival "Agham Bayan"	PICC, Pasay City MM	20 June 2018
	Rossana Marie C. Amongo Mark Keylord S. Onal (Participants/Resource Speakers)	Luzon Wide Consultation: National Guidelines on the Classification and Ac- creditation on AFM Supplies and Briefing on the Modified Agricultural Mechanization Index and Guidelines on the procurement of DA-Agri-Machinery and Equipment	Lohas Hotel, Clark Free- port, Pampanga	19 June 2018
	Rossana Marie C. Amongo Mark Keylord S. Onal (Participants/Resource Speakers)	Mindanao Wide Consultation for the National Guidelines on the Classifica- tion and Accreditation on Agri-Fisheries Machinery Supplies and Briefing on the Modified Agricultural Mechanization Index (MAMI) and Guidelines on the procurement of DA-Agri-Machinery	Pinnacle Hotel and Suites, Davao City	30 May 2018
	Rossana Marie C. Amongo Arthur L. Fajardo (Resource Persons)	UPLB BAC Supplier's Forum (Participant/ Resource Speaker)	TREES, CFNR, UPLB	24 May 2018
	Rossana Marie C. Amongo (Participant/ Resource person)	Review and Planning Workshop for the SSIP R&D Projects and Training Work- shop for the SSIP Suitability Protocols / Criteria and Outputs	BSP, Maquilang Los Banos Laguna	10-13 April 2018
Rossana Marie C. Amongo (Resource person)	Technical Workshop on Curriculum De- velopment (Resource Speaker/Lecturer)	Laresio Lakeside Resort and Spa Tadalac, Los Banos Laguna	21 February 2018	

## FACULTY SPECIAL AWARDS

AWARD NAME	RECIPIENTS	AWARD GIVING BODY
One UP Professorial Chair Award in Agribiosystems Engineering (2019-2021)	Omar F. Zubia	UP System
One UP Professorial Chair Award in Agribiosystems Engineering (2019-2021)	Mark Keylord S. Onal	UP System
One UP Professorial Chair Award in Agribiosystems Engineering (2019-2021)	Arthur L. Fajardo	UP System
One UP Professorial Chair Award in Agribiosystems Engineering (2016-2021)	Fernando O. Paras, Jr.	UP System
One UP Professorial Chair Award in Agribiosystems Engineering (2016-2021)	Rossana Marie C. Amongo	UP System
One UP Professorial Chair Award in Agribiosystems Engineering (2016-2021)	Delfin C. Suministrado	UP System
Service Award	Rossana Marie C. Amongo	Philippine Society of Agricultural and Biosystems Engineers Region IV, 22 November 2018
Excellent Oral Presentation Award Energy Category- Evaluation of Locally Fabricated Small-scale Pyrolizer for Bio-oil and Bio-char Production of Seaweeds ( <i>Sargassum</i> sp. From Roxas City, Capiz, Philippines.	Romel A. Arrobang, Rossana Marie C. Amongo, Delfin C. Suministrado, Mari-sa J. Sobremisana	18th International Symposium on Advanced Technology (ISAT -18) in Southern Taiwan University of Science and Technology, Tainan, Taiwan
Best Paper Presenter -Category A- Energy & Agricultural Machinery and Structures: Development of an Electric Hand Tractor (e-Tractor) for Agricultural Operations.	Rossana Marie C. Amongo, Erwin P. Quillooy, Mark Angelo F. Ranchez, Maria Victoria L. Larona, and Marish S. Madlangbayan.	3rd International Conference on Agricultural Engineering for Sustainable Agricultural Production (AESAP 2019); IPB Bogor, Indonesia, 14 - 15 October 2019
Best Oral Paper: Development of a Solar Heat Assisted Egg Incubation System	Fernando O. Paras, Jr.	3rd International Conference on Green Agro- industry and Eio-economy Universitas Brawijaya, Malang, Indonesia 23-28 August 2019
2nd Best Technical Paper Presentation (Agricultural Mechanization, Power, Machinery and Equipment): Development of an Electric Hand Tractor (e-Tractor) for Transport	Rossana Marie C. Amongo, Erwin P. Quillooy, Maria Victoria L. Larona, Mark Angelo F. Ranchez and Marish S. Madlangbayan	16 <sup>th</sup> International Agricultural Engineering Conference & Exhibition 69 <sup>th</sup> PSABE Annual Convention. Bacolod City. April 2019
3rd Best Poster Paper: Presentation- Approaches in Determining Suitable Sites for Small Scale Irrigation Projects (SSIPs) in CALABARZON Region, Philippines using GIS-Based Water Resources Assessment for Food Security	Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun Jr., Maria Victoria L. Larona, Patrick Lemuel P. Relativo, Ronnie C. Valencia and Kobe Conrad R. Abellera.	16 <sup>th</sup> International Agricultural Engineering Conference & Exhibition 69 <sup>th</sup> PSABE Annual Convention. Bacolod City. April 2019
FINALISTS- Design and Fabrication of an Ergonomic Handlebar Structure of a Hand Tractor for Vibration Suppression.	Mojica, Jessa Marie M., Mikel Angelo B. Yap, Haerold Dean Z. Layoen, Rossana Marie C. Amongo, Angelo C. Ani and Josefa Angelie D. Revilla.	Los Baños Science Community Foundation Inc. (LBSCFI) PARRFI Research and Development Awards: Research Category, 30 May 2018
FINALISTS - Diffusion and Utilization of UPLB Corn Mechanization Technologies for Food Security.2018	Rossana Marie C. Amongo, Maria Victoria L. Larona, Fernando O. Paras, Jr., Ronaldo B. Saludes, Rosa B. delos Reyes, Marion Lux Y. Castro, Kevin F. Yaptenco, Jose D. De Ramos, Ronnel S. Pangan, Victor A. Rodulfo, Jr., Ronnie C. Valencia and Mark Daniel G. Estrada	Los Baños Science Community Foundation Inc. (LBSCFI) PARRFI Research and Development Awards: Development Category; May 30, 2018

AWARD NAME	RECIPIENTS	AWARD GIVING BODY
Best Technical Paper (Development Category): Level of Mechanization in Oriental Mindoro and Laguna, Philippines Using the Modified Agricultural Mechanization Index for Lowland Rice Ecosystem (MAMIrice)	Rossana Marie C. Amongo, Mark Key-lord S. Onal, Maria Victoria L. Larona, Arthur L. Fajardo, Clarissa Ileana L. Ilaio, Gherlee Nhelle L. Lalap, Charleen Grace V. Deniega, Lyn E. Oguis and Peachie B. Melendez	15 <sup>th</sup> International Agricultural Engineering Conference & Exhibition, 68 <sup>th</sup> PSABE Annual Convention. Davao City; April 2018



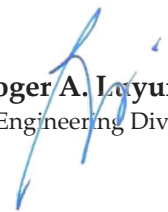


On behalf of the faculty and staff of the Land and Water Resources Division, I wish to congratulate Dr. Arnold R. Elepaño for his exemplary leadership as Dean of the College of Engineering and Agro-industrial Technology (CEAT) for an unprecedented three terms. This could not be possible without the full support of the CEAT community and the UPLB administration.

The success of the LWRD has paralleled the success of CEAT because of the unwavering support of Dean Elepaño on our instruction, research, and extension endeavors. In the 9 years, the LWRD has graduated 88 BS, 18 MS, and 10 Ph.D. students. We had more than 20 Research Projects and Programs with funding from different government and international agencies that were able to infuse resources to the University, give jobs to our graduates, increase our scientific productivity, and largely contribute to the rational utilization, management, and conservation of land and water resources in the country. In support of government policies, the Division was instrumental to the development of the Philippine National Standards/ Bureau of Agriculture and Fisheries Standards/ Philippine Agricultural Engineering Standards (PNS/BAFS/ PAES) for Irrigation and the 2020-2030 National Irrigation Master Plan, as well as, the improvement of the national water resources database, among others.

We have also enhanced our international linkages through cooperative researches and partnerships with universities abroad.

Inspired by these achievements, we hope to work more for the betterment of all, guided by the maxim of Honor and Excellence. In these trying times of pandemic and remote learning, we are called to become more sensitive to the needs of the students and greater service for our fellow Filipinos. As we wish Dean Elepaño’s continued success in his future pursuits, we advance confident that we have been guided in the right direction.



**Dr. Roger A. Luyun Jr.**  
Chair, IABE– Land and Water Resources Engineering Division

**FACULTY, REPS AND STAFF**

**PROFESSORS**

- Ella, Victor B.
- Lampayan, Rubenito M.
- Luyun, Roger Jr. A.

**ASSOCIATE PROFESSOR**

- Delos Reyes, Dr. Aurelio Jr. A.

**ASSISTANT PROFESSORS**

- Casila, Dr. Joan Cecilia C.
- Delos Reyes, Rosa B.
- Duka, Maurice A.
- Gonzales, Jeffrey A.
- Sobremisana, Antonio Gabino P.

**INSTRUCTORS**

- Dela Cruz, Kristelle Marie S.
- Sadsad, Jeric S.

**REPS**

- Delos Reyes, Dr. Mona Liza F.- University Researcher

**ADMINISTRATIVE STAFF**

- Labrador, Mary Ann T.- Admin Asst.
- Calibo, Bernardo T.- Laboratory Technician II





## RESEARCH PROJECT STAFF

Project Title: Study 4: “ Development of Water and Nutrient Management System for Drip-Irrigated Aerobic Rice Culture”

Project Title: “Development of Wireless Sensor Network-based Water Information System for Efficient Irrigation Water Management in the Philippines”

Program SARAI Project 2.3: Smarter Technologies for Crop Water Management

Zeta Derikka C. Sanchez- University research Associate II  
Jason O. Fumera -University Research Associate II

Nikki Alaine P. Panaligan – Project Development Officer III  
Camille G.Martinez – University Research Associate II

Engr. Toni-An Mae C. Salcedo- University Researcher I  
Engr. Bryan M. Baltazar - University Researcher I  
Engr. Christian Martin V. Casedo - University Research Associate II  
Engr. Ginalyn Robel M. Brazil- University Research Associate II  
Engr. Jan Albert M. Atienza - University Research Associate II  
Engr. Jay Ann Q. Lomod- University Research Associate II  
Mr. Andrew T. Elecion- Laborer I

## FACULTY SPECIAL AWARDS

AWARD NAME	RECIPIENTS	AWARD GIVING BODY
One UP Professional Chair Award in Agribiosystems Engineering (2019-2021)	Victor B. Ella	UP System
One UP Professional Chair Award in Agribiosystems Engineering (2019-2021)	Aurelio A. Delos Reyes Jr.	UP System
One UP Professional Chair Award in Agribiosystems Engineering (2019-2021)	Roger A. Luyun Jr.	UP System
International Publication Award (2020)	Victor B. Ella	UP System
International Publication Award (2020)	Joan Cecilia C. Casila	UP System
International Publication Award (2020)	Maurice A. Duka	UP System
International Publication Award (2020)	Rosa B. Delos Reyes	UP System
International Publication Award (2019)	Mona Lisa F. Delos Reyes	UP System
International Publication Award (2019)	Rubenito M. Lampayan	UP System

## PUBLICATIONS

	Publication Date	Specific Title	Author/s	Publication Agency
JOURNALS	2020	Assessing the Resurgent Irrigation Development Program of the Philippines – Communal Irrigation Systems Component. Philippine Institute of Development Studies	Roger A. Luyun Jr., DD Elazegui	Philippine Institute of Development Studies. Discussion Paper Series
		Direct measurement of secondary circulation in a meandering macrotidal estuary	Kirana Somsook, Maurice A. Duka, Neriezza A. Olap, Joan Cecilia C. Casila, Katsuhide Yokoyama	Elsevier - Science of the Total Environment
	2019	Assessment of the Free Irrigation Service Act	Roehlano M. Briones, Agnes Rola, Roger A. Luyun Jr., Roberto Clemente, Arlene Inocencio	Research Paper Series, Philippine Institute for Development Studies
		Assessing the impacts of climate change on dependable flow and potential irrigable area using the SWAT model: The case of Maasin River watershed in Laguna, Philippines	Lanie A. Alejo, Victor B. Ella	The Journal of Agricultural Engineering-Italian Society of Agricultural Engineering

	Publication Date	Specific Title	Author/s	Publication Agency
JOURNALS	2019	Issues on communal irrigation systems in the Philippines. Philippine Institute of Development Studies	Roger A. Luyun Jr., DD Elazegui	Philippine Institute of Development Studies. Policy Notes.
		Determination of Site-Specific Crop Coefficients of Corn ( <i>Zea mays</i> )	Jeffrey A. Gonzales, Roger A. Luyun, Jr., Rosa B. De Los Reyes, Ruzzel M. Galoso	PJABE
		Effect of neap- spring hydrodynamics on salt and suspended transport in multi-branched urban estuaries	Joan Cecilia C. Casila, Victor B. Ella, Katsuhide Yokoyama	Elsevier - Science of the Total Environment
		Potential of the Molawin Creek for Micro Hydro Power Generation: An Assessment, Basic Research OVCRE-UPLB Project	Joan Cecilia C. Casila, Maurcie A. Duka, Rosa B. De Los Reyes, Carl Ureta	Elsevier- Sustainable Energy Technologies and Assessments
		Quantification of an overlooked water resource in the tropical rainfed lowlands using Rapideye satellite data: A case of farm ponds and the potential gross value for smallholder production in southern Laos	Camila Vote, Philip Eberbach, Thavone Inthavong, Rubenito M. Lampayan, Somsamay Vongthilard, Len J. Wade	Elsevier - Agricultural Water Management
		Laboratory-Scale Investigation of Recharge Wells for Groundwater Storage	Roger A. Luyun, Jr., Arthur L. Fajardo, Rosa B. de los Reyes, CP Bumanglag, JR Luna	PJABE
		Crop Performance and Water Productivity of Transplanted Rice as Affected by Seedling Age and Seedling Density under Alternate Wetting and Drying Conditions in Lao PDR	Rubenito Lampayan, Phetmanyseng Xangsayasane, Crisanta Bueno	Water Journal
		The Application of Best Management Practices Increases the Profitability and Sustainability of Rice Farming in the Central Plains of Thailand	Stuart Alexander, Pame Anny Ruth, Vithoonjit Duangporn, Virriyangkura Ladda, Pithuncharnlajulmanee, Meesang Nisa, Suksiri Prarthana, Singleton Grant, Lampayan Rubenito	Elsevier - Field Crops Research
Accelerating the Dissemination of Alternate Wetting and Drying and Associated Rice Production technologies that are Resource Use Efficient	Manuel Jose Regalado, Evangelina B. Sibayan, Kristine S. Pasucal, Rubenito M. Lampayan	The Philippine Agricultural & Biosystems Engineering Journal Vol.2 Issue No. 1 (ISSN:2619-6913)		
PROCEEDINGS	2019	AQWISE: an Android-Based Soil Moisture Measurement Tool for Smarter Irrigation	Roger A. Luyun, Jr., Ronaldo B. Saludes, Erwin P. Quilloy, Paolo Rommel P. Sanchez, Toni-An Mae C. Salcedo, Yaminah Mochica M. Pinca, Christian Martin V. Casedo, Jan Albert M. Atienza	PSABE
		Modernization of National Irrigation Systems in the Philippines: Linking Design, Operation and Water Supply	Mona Liza F. Delos Reyes	Wiley-Blackwell Ltd., United Kingdom
	2018	Laboratory Scale Investigation of Dispersion Effects on Saltwater Movement due to Cutoff Wall Installation	M. Takahashi, K. Momii, K. and Roger A. Luyun Jr.	25 <sup>th</sup> Salt Water Intrusion Meeting, Gdansk, Poland, June 17-22, 2018.

	Publication Date	Specific Title	Author/s	Publication Agency
BOOK CHAPTER	2018	Agricultural Water Management Issues in the Philippines. <i>In: Rola A., Pulhin J., Arcala Hall R. (eds) Water Policy in the Philippines. Global Issues in Water Policy</i>	Inocencio, A.B., Elazegui, D.D., Luyun, R.A.Jr., and Rola, A.C.	Springer, Cham.

## ONGOING AND COMPLETED RDE PROJECTS

TITLE OF ONGOING PROJECTS	PROJECT LEADER	FUNDING AGENCY
Smarter Approaches to Reinvigorate Agriculture as an Industry in the Philipines (SARAI) Phase 2,Project 2.3: Smarter technologies fro Crop Water Management	Roger A. Luyun,Jr	DOST-PCAARRD
Study 4: Development of Water and Nutrient Mangement System fro Drip-Irrigated Aerobic Rice Culture	Rubenito M. Lampayan	DA-BAR-PHILRICE
Development of Wireless Sensor Netowr-based Water Information System for Efficient -Irrigation Water Management in the Philippines	Victor B. Ella	CHED-PCARI

TITLE OF COMPLETED PROJECTS	DATE OF COMPLETION	FUNDING AGENCY
National Irrigation Master Plan	May 2019	NEDA-UPLBFI
Assessment of the Impacts of the National Research and Development Program on Organic Vegetables	February 2019	UPLB
Assessing the Resurgent Irrigation Development Program of the Philippines-Communal Irrigation Systems Component	December 2018	PIDS
Analysis of Irrigation Structures Sensitivity and Perturbations in Support for the Development of Improved Operation and Management (O & M) of UPRIS	November 2018	OVPAA-ECWRG

## CONFERENCES ATTENDED

	NAME OF PERSONNEL AND ROLE	TITLE OF ACTIVITY/PROGRAM	VENUE	DATE
International	Joan Cecilia C. Casila (presenter)	38th IAHR World Congress 2019	Panama City, Panama	1-6 September 2019
	Mona Liza F. Delos Reyes (presenter)	3rd World Irrigation Forum adn 70th International Executive Council Meeting of the International Commission on Irrigation and Drainage (ICID)	Bali,Indonesia	1 August-10 September 2019
	Roger A. Luyun, Jr. Parallel Session Chair and Resource Person	Program Development Workshop on Sustainable Water Resources manage-ment for Food Security in Southeast Asia; Paper presented:	SEARCA, Los Banos, Laguna	26-28 June 2019
	Victor B. Ella (Philippine representative/ participant)	3rd Agricultural and Climate Change	Budapest,Hungary	24-26 March 2019
	Victor B. Ella (presenter)	3rd International Conference on Agricultural Engi-neering and food security	Berlin,Germany	12-13 November 2018
	Joan Cecilia C. Casila (presenter)	6th International Conference on Estuaries and Coasts	Caen, France,	20-23 August 2018
	Mona Liza F. Delos Reyes (presenter)	International Conference and 69th International Executive Council Meeting of the International Commission on Irrigation and Drainage	Saskatchewan, Canada	9-22 August 2018

	NAME OF PERSONNEL AND ROLE	TITLE OF ACTIVITY/PROGRAM	VENUE	DATE
International	Roger A. Luyun Jr. (Philippine representative/participant)	Multicountry Observational Study Mission on Smart Rice Farming	Asian Productivity Organization (APO), Tokyo, Japan	4-9 June 2018
	Joan Cecilia C. Casila (presenter)	The Vietnam International Water Week	Hanoi, Vietnam	4-8 March 2018
LOCAL	Roger A. Luyun Jr. (presenter)	SARAI ESKWELA: Smarter Technologies for Crop Water Management	Webinar	2 September 2020
	Roger A. Luyun Jr. (Chair: Scientific Committee; Resource Person)	1st National Scientific Conference on Water Parallel Session: Water in Agriculture Interdisciplinary Studies Center for Water, UPLB	SEARCA, Los Banos, Laguna	7-9 November 2019
	Roger A. Luyun Jr. (TED Talk Speaker)	4th National Research and Development Conference; Department of Science and Technology TED-Talk: Water Advisory for Irrigation Scheduling System (WAISS)	Philippine International Convention Center (PICC)	3 April 2019
	Roger A. Luyun Jr (Resource Person; presenter)	13th Global Technology and Information (GTIS) Seminar Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD)	PCAARRD, Los Banos, Laguna	13 December 2018
	Roger A. Luyun Jr (Resource Person; presenter)	Water Forum Series 4: Securing Water for Agriculture: Technology, Valuation and Governance Interdisciplinary Studies Center for Water, UPLB	ASI Lecture Hall, CAFS, UPLB	25 June 2018

## STUDENT EXCHANGE PROGRAMS

### Japan Student Services Organization (JASSO) Exchange Program

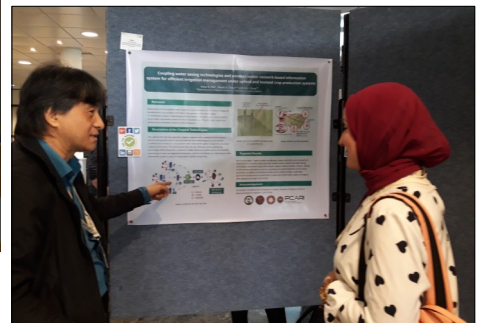
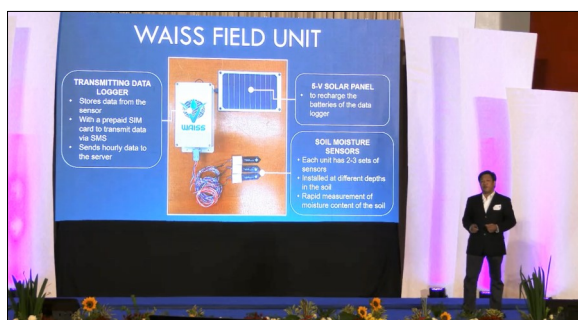
Lady Carmela Sacueza (; Tokyo Metropolitan University)

Alfred Aquino (10 June to 26 July 2019; Tokyo Metropolitan University)

Samantha Duremdes (5 June to 20 July 2018; Tokyo Metropolitan University)

Maverick De Guzman (5 June to 20 July 2018; Tokyo Metropolitan University)

Stephen Claude Repomanta (5 June to 20 July 2018; Tokyo Metropolitan University)



# DEPARTMENT OF CHEMICAL ENGINEERING



The Department of Chemical Engineering has been productive in the past three years. The 5-year to 4-year revision of BS ChE curricular programs (General, Sugar Technology, and Pulp and Paper Technology) was approved and implemented in 2018. The institution of ChE 399 (Graduate Seminar) and ChE 400 (Dissertation) courses were approved by the University Council for the PhD by Research in Chemical Engineering program. We have completed the ASEAN University Network – Quality Assurance (AUN-QA) online assessment of the BS ChE program just recently. The UP President approved the location and funding for the Detailed Architectural and Engineering Design (DAED) for the construction of the 6-storey Chemical Engineering building. Along with these major accomplishments, our faculty and staff have published numerous journal articles, completed internally- and externally-funded research projects, and attended various training, workshops, and conferences. Four faculty got tenured, and the majority (19 out of 21) were promoted during the January 2019 promotion. Local and international awards were also received by our faculty, staff, and students. The Department Committees have also been very active in accomplishing their tasks. To name a few, the DChE website was successfully transferred from Joomla to WordPress and was


made available and functional in August 2019. During our 34 th Anniversary Celebration, we were able to raise almost half a million pesos from donations of alumni groups and individuals through the “Dinner-for-a-Cause” activity. From this, we were able to support our twenty-five undergraduate thesis students (23 of them completed the degree) and student quiz contest group in their quest to bag the PIChE National Quiz Bowl trophy.

Now, we are in a very challenging time with the COVID-19 pandemic lead us to transition to remote learning. I understand that this is just one of the difficulties we are facing at the moment. Hence, we should all the more be appreciative of our achievements in the last few months. Sixty-one of our BS ChE students graduated during the 2 nd Semester 2019-2020, most of them benefitted from our initiative for them to work on case studies as an alternative for thesis due to restrictions on working in the campus. During the quarantine period, we were still able to publish numerous journal articles and conference proceedings. We were able to migrate most of our paper-trailed forms to online processing. Lastly, we were able to respond to the needs of our community at this time quickly. We have shared our expertise in developing devices (i.e., mechanical ventilators, PPE disinfection chambers) to address problems brought about by the COVID-19 pandemic. Some of our faculty also tapped industry partners to provide disinfectants for UPLB and nearby communities. This proves the strong-will and unwavering determination of our faculty and staff in delivering useful outputs, no matter the circumstance. Most importantly, our support and care for one another and our eagerness to help our students and the community are what inspired us to do these things.

We cannot possibly accomplish all of these without the support of the UP administration. We are deeply grateful for the unwavering support to the Department of UP President Danilo L. Concepcion, UPLB Chancellor Fernando C. Sanchez Jr, and Dean Arnold R. Elepaño.

Lastly and most importantly, I would like to extend my sincere gratitude to the faculty and staff of the department for the opportunity and honor to serve you as the Department Chair. I am sure that even with the regular transition in leadership, we will remain steadfast, united, and inspired in accomplishing the set vision, mission, and plans for the Department. I am also deeply grateful to our former Department Chairs. They have laid down the foundations for our continued advancement and have been generous in sharing their wisdom that enabled us to follow through with their work.

Above all, we give thanks to Our Lord God Almighty, who constantly provides us with wisdom and guidance.

  
**Dr. Monet Concepcion M. Detras**  
Chair, Department of Chemical Engineering

## FACULTY, REPS AND STAFF

### PROFESSORS

Alfara, Catalino G. Borines, Myra G.  
Demafelis, Rex B. Migo, Veronica P.  
Movillon, Jovita L. Professor Emeritus

### ASSISTANT PROFESSORS

Alcantara, Jerico Z. Arocena, Rhebner E.  
Carpio, Rowena B. De Castro, Leandro T.  
Del Barrio, Marilyn C. Doliente, Stephen S.  
Guerrero, Gino Apollo M. Laurio, Michael Vincent O.  
Migo-Sumagang, Maria Victoria P. Sanchez, Denise Ester S.

### REPS

Dizon, Lisa Stephanie H.- University Researcher I  
Magadia, Bernadette T.- University Researcher I  
Matanguihan, Anna Elaine D.- University Researcher I  
Obligado, Filipina B.- University Research Associate II

### ADMINISTRATIVE STAFF

Calibo, Rodora S.- Administrative Assistant VI  
Oro, Gary M.- Laboratory Technician I  
Millar, Ronnel- Utility Worker

### ASSOCIATE PROFESSORS

Bambase, Manolito Jr E. Bataller, Butch G.  
Bautista, Ramer P. Capunitan, Jewel A.  
Detras, Monet Concepcion M. Eusebio, Ramon Christian P.

### INSTRUCTORS

Gatdula, Kristel M.  
Sazon, Ruen Rey R.

### PROJECT STAFF/ ICS

Acaso, Glenn. Arizala, Carl Vincent  
Barron, Jessa Mae Cablayan, Mell Jhazmin V.  
Calibo, Jezreel An Castillo, Aaron T  
Catli, Nicole Bianca Cortado, Kristiana Allia Mariz U.  
Demafelis, Froilyn Ann N. Enriquez, Joshua C.  
Estante, Eros Paul V. Florece, Allona Eunice  
Herrera, Zander Karl N. Ignacio, Rhesa Miren A.  
Landoy, Rona Joyce B. Ledesma, Carlene Rome M.  
Mawili, Angelica Ariel U. Millares, Hannah Agatha D.  
Nunez, Christian Jay E. Onate, Suzette Karen M.  
Pagdanganan, Kenneth R. Recio, Vencio  
Revilla, Patricia Nadine D. Rivera, Haya Faye  
Rodriguez, Raymund C. Sierra, Bea Denise S.  
Solon, Eugene R. Soriano, Vernadette  
Sumague, Johanan V. Tavita, Rica Allana G.



## FACULTY/STAFF AWARDS

AWARD NAME	RECIPIENTS	AWARD GIVING BODY
UPLB GS Academic Achievement Award	Maria Victoria P. Migo- Sumagang	UPLB
UPLB GS Academic Achievement Award	Glenn Christian P. Acaso	UPLB
SESAM Academic Excellence Award	Bernadette T. Magadia	UPLB
UP International Publication Award for the paper entitled "Parametric Analysis of Pyrolysis Conditions for Yield and Physico-Chemical Characteristics of Biochar from Waste Cacao Pod Husk" by OVPAA last February 2020.	Monet Concepcion M. Detras Jewel A. Capunitan Catalino G. Alfafara	UP System
UP International Publication Award for the paper entitled "Process Optimization of Potassium Nanofertilizer Production via Iontropic Pre-Gelation using Alginate-Chitosan Carrier" by OVPAA last February 2020.	Monet Concepcion M. Detras Veronica P. Migo Catalino G. Alfafara	UP System
UP International Publication Award for the paper entitled "Parametric and Optimization Studies on the Entrapment of Potassium Fertilizer into Chitosan-Poly (methacrylic acid) carrier via Ionic Gelation" by OVPAA last February 2020.	Monet Concepcion M. Detras Veronica P. Migo Catalino G. Alfafara	UP System
UP International Publication Award for the paper entitled "Process Optimization for the Production of Potassium-Carageenan Nanofertilizer by Ionic Crosslinking" by OVPAA last February 2020	Monet Concepcion M. Detras Veronica P. Migo Catalino G. Alfafara	UP System
UP International Publication Award for the paper entitled "Parametric and Optimization Studies on the Solvent Extraction of Petroleum Nuts (Pittosporum resiniferum) Oil" by OVPAA last February 2020.	Myra G. Borines, Maria Victoria P. Migo-Sumagang, Jovita L. Movillon, Monet Concepcion M. Detras, Manolito E. Bambase, Jr., Gino Apollo M. Guerrero	UP System
One UP Professorial Chair for Teaching and Research (Jan 2019– Dec 2021)	Catalino G. Alfafara, Manolito E. Bambase Jr., Myra G. Borines, Rex B. Demafelis, Monet Concepcion M. Detras, Veronica P. Migo	UP System
International Publication Award	Butch G. Bataller	UP System
2019 UPLB Outstanding Teacher in Physical Sciences Teacher (Senior Faculty Category)	Catalino G. Alfafara	UPLB
UPLB Centennial Professorial Chair Award 2018-2019	Myra G. Borines Jewel Capunitan	UPLB
2017-2018 UPLB Centennial Professorial Chair Award	Monet Concepcion M. Detras	UPLB
International Publication Award	Kristel Gatdula	UP System
International Publication Award	Rex B. Demafelis	UP System
International Publication Award	Rowena B. Carpio	UP System
Sustainable Energy Forum, 1st Place Graduated Poster Competition	Stephen Doliente	International
One UP Professorial for Instruction and Research/ Research and Public Service	Rex B. Demafelis Jovita L. Movillon	UP System
Best in oral presentation	Rowena B. Carpio	International

## PUBLICATIONS

JOURNALS	Publication Date	Specific Title	Author/s	Publication Agency
2020		Agronomic and Yield Performance of Sweet Sorghum under Different Fertilizer Schemes.	AKM Beltran, EG Samson, DE Angeles, Rex B. Demafelis, RAM Cabahug, HF Rivera	Philippine Journal of Crop Science
		Biodiesel production from refined coconut oil using hydroxide-impregnated calcium oxide by cosolvent method	Manolito E. Bambase, RAR Almazan, Rex B. Demafelis, MJ Sobremisana, Liza Stephanie H. Dizon	Elsevier Renewable Energy
		Perception-based Social Acceptability of Sub-surface Flow Constructed Wetland Treated Dairy Farm Wastewater Reuse for Irrigation	DRC Camus, PAJ Sanchez, DF Eslava, D.F. and Rex B. Demafelis	Internet Journal of Society for Social Management Systems Volume 12
		Integrated Production of Fuels, Energy and Chemicals from <i>Jatropha Curcas</i> : Multi-Objective Optimisation of Sustainable Value Chains	Stephen S. Doliente, Sheila Samsatli	Chemical Engineering Transactions al
		Bio-aviation Fuel: A Comprehensive Review and Analysis of the Supply Chain Components	Stephen S. Doliente, Aravind Narayan, John Frederick D. Tapia, Nouri J. Samsatli, Yingru Zhao, Sheila Samsatli	Frontiers in Energy Research
		Coconut shell derived activated biochar-manganese dioxide nanocomposites for high performance capacitive deionization	Joemer A. Adorna, Myra G. Borines, Van Dien Dang, Ruey-An Dong	Desalination
		Socio-economic and Environmental Impacts of Bioethanol Production from Sugarcane ( <i>Saccharum officinarum</i> ) and Molasses in the Philippines	Rex B. Demafelis, Jovita L. Movillon, Canesio D. Predo, Dalisay S. Maligalig, Pamela Joyce M. Eleazar, Bernadette T. Magadia	Journal of Environmental Science and Management
		Effects of Dehydration on the Bioactive Compounds of Waste Onion Leaves	Myra G. Borines, Rex B. Demafelis, Jewel A. Capunitan, Lisa Stephanie H. Dizon, Rona Joyce B. Landoy, Raymond C. Rodriguez	Philippine Journal of Crop Science
		Characteristics and Kinetics of Phosphorus Release from Formulated Fertilizer in Clay Loam Soil	Vernadette J. Soriano, Veronica P. Migo, Monet Concepcion M. Detras, Catalino G. Alfafara	Kimika
		Effect of Acetic Acid on Succinic Acid Production of Fungal Co-Culture in Slurry Fermentation	Jericho Z. Alcantara, Andro H. Mondala	Chemical Engineering Transactions Vol 80
		Use of FTIR Spectroscopy and PLS-Regression in Monitoring Biomolecules in <i>Spirulina platensis</i> during its Growth in an Internally-Illuminated Photobioreactor	Butch G. Bataller, Sergio C. Capareda	Chemical Engineering Transactions Vol 80
		Potentiostatic Electrodeposition as an Option to the Traditional Recovery of Silver in Artisanal Gold Smelting Wastewater in Bulacan, Philippines	Michael Vincent O. Laurio, Jomuel A Velandres, Catalino G. Alfafara, Veronica P. Migo, Monet Concepcion M. Detras, Jeniffer Marie S. Amparo, Marlo D. Mendoza	Philippine Engineering Journal
		Rice-Straw-Based Heat Generation System Compared to Open-Field Burning and Soil Incorporation of Rice Straw: An Assessment of Energy, GHG Emissions, and Economic Impacts	Maria Victoria P. Migo-Sumagang, Monet Concepcion M. Detras, Martin Gummert, Catalino G. Alfafara, Myra G. Borines, Jewel A. Capunitan, V Hung Nguyen	Sustainability, MDPI
		Design, Fabrication, and Performance Evaluation of Open Raceway Ponds for the Cultivation of <i>Chlorella vulgaris</i> Beijerinck in the Philippines	Anna Elaine D. Matanguihan, Rex B. Demafelis, Milagrosa Martinez-Goss, June Owen O. Nacorda, Nerissa K. Torreta, Denise Ester S. Sanchez, Lester F. Cuneta, Elton Mark P. Eleazar and Lisa Stephanie H. Dizon	Philippine Journal of Science
		Environmental and Economic Viability of Biodiesel Production from Palm Oil in the Philippines	Lisa Stephanie H. Dizon, Amabelle A. Pector, Rex B. Demafelis, Butch G. Bataller, RBBadayos, Arnold R. Elepaño, Moises A. Dorado, EJNBaticados, Filipina B. Oblgado, Kristel M. Gatdula	PICHe Journal Volume 19 Issue 1
		Parametric Study on Simultaneous Acetone-Butanol-Ethanol Production from Saccharine Feedstocks	Ricardo V. Asuncion Jr., Rex B. Demafelis, Kristel M. Gatdula, Lisa Stephanie H. Dizon, Amabelle A. Pector, Jovita L. Movillon, Manolito E. Bambase Jr., Czaneil C. Gomez, Rober Angelo R. Almazan	PICHe Journal Volume 19 Issue 1
	Optimizing Clarification of Sweet Sorghum Substrate for Production of Bioethanol	Kristel M. Gatdula, Rex B. Demafelis, NRJudda, Lisa Stephanie H. Dizon, Jovita L. Movillon, Manolito E. Bambase Jr., Gino Apollo M. Guerrero	PICHe Journal Volume 19 Issue 1	



Publication Date	Specific Title	Author/s	Publication Agency
2020	Impact of Abandoned Mining Facility Wastes on the Aquatic Ecosystem of the Mogpog River, Marinduque, Philippines	Catherine B. Gigantone, Marisa J. Sobremisana, Lorele C. Trinidad and Veronica P. Migo	Journal of Health & Pollution Vol. 10, No. 26 – June 2020
	Preliminary Water and Sediment Quality Assessment of the Meycauayan River Segment of the Marilao-Meycauayan-Obando River System in Bulacan, the Philippines	John Vincent R. Pleto, Veronica P. Migo and Mark Dondi M. Arboleda	Journal of Health & Pollution Vol. 10, No. 26 – June 2020
	Multi-objective spatio-temporal optimisation for simultaneous planning, design and operation of sustainable and efficient value chains for rice crop	Stephen S. Doliente and Sheila Samsatli	Elsevier
	Sustainable Desalination by 3:1 Reduced Graphene Oxide/Titanium Dioxide Nanotubes (rGO/TiONTs) Composite via Capacitive Deionization at Different Sodium Chloride Concentrations	John Paolo L. Lazarte, Liza Bautista-Patacsil, Ramon Christian P. Eusebio, Aileen H. Orbecido and Ruey-an Doong	Nanomaterials
2019	Design of biomass value chains that are synergistic with the food–energy–water nexus: Strategies and opportunities	John Frederick D. Tapia, Sheila Samsatlia, Stephen S. Doliente, Elias Martinez-Hernandez, Wan Azlina Binti Wan Ab Karim Ghani, Kean Long Lime Helmi Zulhaidi Mohd Shafri, Nur Shafira Nisa Binti Shaharum	Food and Bioprocesses Processing, 116, 170-185
	Determination of the Carbon Dioxide Sequestration Potential of a Nickel Mine Mixed Dump through Leaching Tests	Bernard Jomari B. Razote, Mark Kenneth M. Maranan, Ramon Christian P. Eusebio, Richard D. Alorro, Arnel B. Beltran and Aileen H. Orbecido	Energies
	Comparative Evaluation of Alkali Precipitation and Electrodeposition for Copper Removal in Artisanal Gold Smelting Wastewater in the Philippines	Eleazar Vivas, Catalino G. Alfafara, Veronica P. Migo, Monet Concepcion M. Detras, Lorele C. Trinidad, Marlo D. Mendoza Sumin Lee	Desalination and Water Treatment 150, 396-405
	Deionization utilizing reduced graphene oxide-titanium dioxide nanotubes composite for the removal of Pb <sup>2+</sup> and Cu <sup>2+</sup>	Liza Bautista-Patacsil, John Paolo L. Lazarte, R.C. Dipasupil, G.Y. Pasco, Ramon Christian P. Eusebio, A. Orbecido, Ruey-an Doong	Journal of Environmental Chemical Engineering
	DNA-based electrochemical nanobiosensor for the detection of Phytophthora palmivora (Butler) Butler, causing black pod rot in cacao (Theobroma cacao L.) pods	Anthony James DM. Franco, Florinia E. Merca, Myrna S. Rodriguez, Johnny F. Balidion, Veronica P. Migo, Divina M. Amalin, Evangelyn C. Alocilja, Lilia M. Fernando	Physiological and Molecular Plant Pathology, 107, 2019, Pages 14-20
	Pushing the limits of electrostatic adsorption: charge enhanced dry impregnation of SBA-15	Sonia Eskandari, Anhua Dong, Leadro T. De Castro, Fahim Bin AB Rahman, Jeremiah Lipp, Douglas A. Blom, John R. Regalbuta	Catalyst Today Volume 338, Elsevier
	Industrial Water Use and the Associated Pollution and Disposal Problems in the Philippines	Veronica P. Migo, Marlo D. Mendoza, Catalino G. Alfafara, Juan M. Pulhin	Global Issues in Water Policy, vol 8. Springer, Cham
	Assessment of the effect of remediation strategies of environmental quality of aquaculture ponds in Marilao and Meycauayan, Bulacan, Philippines	John Vincent R Pleto, Mark Dondi M. Arboleda, Jessica F Simbahan, Veronica P Migo	J Health Pollut. 2018 Dec 3;8 (20):181205.
2018	Chemical composition of Bambusa vulgaris shoots as influenced by harvesting time and height	Aileen A. Jara, Veronica P. Migo, Menandro N. Acda, Margaret M. Caldron, Leonardo M. Florece, Ramon Razal	Philippine Journal of Crop Science 2018 Vol.43 No.3 pp.1-9
	Enhanced Colloidal Stability of Al <sub>2</sub> O <sub>3</sub> -Water Nanofluids Using a Lauryl Sulfate-Based Surface Active Ionic Liquid as Dispersant	Stephen S. Doliente, Glaiza T. Postrado, Susan D. Arco, Rizalinda L. de Leon	Philippine Engineering Journal 2018; Vol. 39, No. 2: 1-16
	Synthesis of Reduced Graphene Oxide/Titanium Dioxide Nanotubes (rGO/TiNT) Composites as an Electrical Double Layer Capacitor	John Paolo L. Lazarte, R.C. Dipasupil, G.Y. Pasco, Ramon Christian P. Eusebio, A.H. Orbecido, A.H., Ruey-an Doong, Liza Bautista-Patacsil	Nanomaterials (Basel). 2018 Nov; 8(11): 934.
	Synthesis and Characterization of Transparent Conducting Film from Abaca Hybrid 7 Cellulose Acetate Blend and Polyani-line	Lara Mae R. Lumbres, Monet Concepcion M. Detras, Maria Victoria P. Migo, Marvin U. Herrera, Ronniel D. Manalo	Key Engineering Materials, 775, 50–56
	Microwave-Assisted Synthesis of Zinc Oxide Nanoparticles on Paper	Saberina I. Saberona, Monet Concepcion Maguyon-Detras, Maria Victoria P. Migo, Marvin U. Herrera, Ronniel D. Manalo	Key Engineering Materials, 775, 163–168.

	Publication Date	Specific Title	Author/s	Publication Agency
JOURNALS	2018	A rapid and non-destructive method for quantifying biomolecules in <i>Spirulina platensis</i> via Fourier transform infrared – Attenuated total reflectance spectroscopy	Butch G. Bataller, Sergio C. Capareda	Algal Research Volume 32, June 2018, Pages 341-352
		Optimization of Thermoelectric Cooler (TEC)-Cooled Closed-End Oscillating Heat Pipe Charged with Degassed, Deionized Water	Leandro T. De Castro, Rizalinda L. De Leon	Philippine Journal of Agricultural and Biosystems Engineering, Vol. X1V, Issue 2018
		Effects of Temperature and Reaction Time on Yield and Properties of Biocrude Oil Produced by Hydrothermal Liquefaction of <i>Spirulina platensis</i>	Weene S. Villaver, Rowena B. Carpio, Kristian July Yap, Rizalinda L. De Leon	Int. J. Smart Grid Clean Energy 7 (2018) 32-41
		Agricultural Residue Feedstock Selection for Polyhydroxyalkanoates Production using AHP-GRA	Princess J. Requiso, Fidel Rey P. Nayve Jr., Catalino G. Alfafara, Ruby Lynn G. Ventura, Erwin C. Escobar, and Jey-R S. Ventura	Philippines Journal of Science 147 (4): 693-704
		Hydrothermal Liquefaction of Demineralized Wastewater Algal Biomass	B. Carpio, Chih.-Ting Kuo, Rizalinda L. De Leon, Lance Charles Schideman, Yuanhui Zhang	Int. J. Smart Grid Clean Energy. 7 (2018) 13–23
		Influence of Potassium Carbonate (K <sub>2</sub> CO <sub>3</sub> ) as Catalyst on Biocrude Oil Yield and Properties via Hydrothermal Liquefaction of <i>Spirulina</i>	Cherry Lyn V. Chao, Rowena B. Carpio, Kristian July Yap, Rizalinda L. De Leon	Int. J. Smart Grid Clean Energy. 7 (2018) 42–47
		2018 Philippine Climate Change Assessment: Mitigation of Climate Change	LVBuendia, RDLasco, JBBBiona, RBadrina, MSBaviera, AC De Jesus, DMGDela Torre, Rex B. Demafelis, FBPulhin, SGRRecabar, CDRuzol, EGTTamayo, MATapia, Bernadette T. Magadia, LLSabino, NGSabino	The Oscar M. Lopez Center for Climate Change Adaptation and Disaster Risk Management Foundation, Inc. and Climate Change Commission
BOOK ANDBOOK CHAPTERS	2020	Rice Straw Overview: Availability, Properties, and Management Practices. In Gummert, M., N.V. Hung, P. Chivenge & B. Douthwaite, <i>Sustainable Rice Straw Management</i> (pp. 1-13)	NV Hung, Monet Concepcion M. Detras, Maria Veronica P. Migo, R. Quilloy, C. Balingbing, P. Chivenge, et al.	SpringerOpen
		Thermochemical Conversion of Rice Straw. In Gummert, M., N.V. Hung, P. Chivenge & B. Douthwaite, <i>Sustainable Rice Straw Management</i> (pp. 43-64)	Monet Concepcion M. Detras, Maria Veronica P. Migo, N.V. Hung, M. Gummert	SpringerOpen
		Anaerobic Digestion of Rice Straw for Biogas Production. In Gummert, M., N.V. Hung, P. Chivenge & B. Douthwaite, <i>Sustainable Rice Straw Management</i> (pp. 65-92)	Ngan, NVC, FMS Chan, TS Nam, HV Thao, Monet Concepcion M. Detras, DV Hung, et. al.	SpringerOpen
		Life Cycle Assessment Applied in Rice Production and Residue Management. In Sustainable Rice Straw Management (pp. 161-174)	Nguyen Van Hung, Maria Victoria Migo, Reianne Quilloy, Pauline Chivenge, Martin Gummert	SpringerOpen
	2019	Sweet Sorghum as Feedstock: A Milestone for Bioethanol Fuel	Rex B Demafelis, Domingo E Angeles, Lisa Stephanie H. Dizon, Kristel M. Gatdula	DA-BAR
PROCEEDINGS	2020	Parametric and Optimization Studies for Biochar Production from Municipal Solid Wastes (MSW) via Pyrolysis	Katrina T. Castillo, Monet Concepcion M. Detras, Veronica P. Migo, Catalino G Alfafara	IOP Conference Series: Materials Science and Engineering, IOP Publishing
		Chromium Removal from Chrome-Tannery Effluent After Alkaline Precipitation by Adsorption Using Municipal Solid Waste-Derived Activated Biochar	JEL Paranaque, Monet Concepcion M. Detras, Veronica P. Migo, Catalino G Alfafara	IOP Conference Series: Materials Science and Engineering, IOP Publishing
		Parametric and Optimization Studies on the Production of Nanoscale Biochar-NPK fertilizer using Sugarcane Bagasse-Derived Biochar as Carrier	Paulo C. Chiam, Monet Concepcion M. Detras, Veronica P. Migo, Catalino G. Alfafara	IOP Conference Series: Materials Science and Engineering, IOP Publishing
		Nitrate Removal from Aqueous Solution by Adsorption Using Municipal Solid Waste-Derived Activated Biochar	Patricia Nadine D. Revilla, Monet Concepcion M. Detras, Veronica P. Migo, Catalino G Alfafara	IOP Conference Series: Materials Science and Engineering, IOP Publishing
		Optimization of the Production of a Complete Fertilizer Formulation by Batch Impregnation Using Clinoptilolite Zeolite as Carrier	Nicole Bianca J. Catli, Monet Concepcion M. Detras, Veronica P. Migo, Catalino G Alfafara, Clint Brutus	IOP Conference Series: Materials Science and Engineering, IOP Publishing
		Capacitive deionization utilizing Activated Biochar – Manganese Dioxide (AB - MD) nanocomposites for desalination applications	Joemer A. Adorna Jr, Myra G. Borines and R-A Doong	IOP Conference Series: Materials Science and Engineering, IOP Publishing

PROCEEDINGS	Publication Date	Specific Title	Author/s	Publication Agency
	2019	Desalination performance of a forward osmosis membrane from acetylated nata de coco (bacterial cellulose)	Erika Louise A. Alberto, Ailey Nicole V. de Ocampo, Christophe Ghil E. Depasupil, Mayzonee Ligaray, Ramon Christian P. Eusebio, Aileen H. Orbecido, Arnel B. Beltran and Liza Bautista-Patacsil	AIP Conference Proceedings 2124, 020025 (2019)
		Acetylation of Nata de coco (bacterial cellulose) and membrane formation	Erika Louise Alberto, Ailey Nicole de Ocampo, Christophe Ghil Depasupil, Mayzonee Ligaray, Ramon Christian Eusebio, Aileen Orbecido, Arnel Beltran and Liza Patacsil	MATEC Web Conf., 268 (2019) 04003
		Phosphorus recovery from wastewater and sludge	Regina G. Damalerio, Lawrence P. Belo, Aileen H. Orbecido, Carla Mae J. Pausta, Michael Angelo B. Promentilla, Luis F. Razon, Ramon Christian P. Eusebio, Devendra Saroj and Arnel B. Beltran	MATEC Web Conf., 268 (2019) 06016
		Parametric study of corn cob biochar (CCBc) yield via microwave pyrolysis,	Kristine Iannah Lawas, Stephen Doliente, Rowena Carpio, Veronica Migo, Catalino Alfafara	MATEC Web Conf. 268 (2019) 04005.
		Parametric and Optimization Studies on the entrapment of Potassium Fertilizer into Chitosan-Poly(methacrylic acid) Carrier via Ionic Gelation	Diana Jane M. Plofino, Clint Charles P. Brutas, Catalino G. Alfafara, Monet Concepcion Maguyon-Detras and Veronica P. Migo	MATEC Web Conf., 268 (2019) 06009
		Process Optimization for the Production of Potassium-Carrageenan Nanofertilizer by Ionic Crosslinking	Marivic Toledo, Veronica Migo, Catalino Alfafara, Monet Concepcion Maguyon-Detras and Clint Charles Brutas	MATEC Web Conf., 268 (2019) 05002
		Process Optimization Potassium Nanofertilizer Production via Ionotropic Pre-gelation using Alginate-Chitosan Carrier	Princess Jenine Nido, Veronica Migo, Monet Concepcion Maguyon-Detras and Catalino Alfafara	MATEC Web Conf., 268 (2019) 05001

## ONGOING AND COMPLETED RDE PROJECTS

TITLE OF ONGOING PROJECTS	PROJECT LEADER	FUNDING AGENCY
Development of Prototypes and Protocols for Personal Protective Equipment (PPE) Disinfection for Reuse and Disposal"	Monet Concepcion M. Detras, Ramon Christian P. Eusebio, Rowena B. Carpio, Omar F. Zubia, Marian P. de leon	UPLB
Extraction of Phytohormones from Waste Coconut Water Using Biochar Derived from Agricultural Residues	Veronica P. Migo, Monet Concepcion M. Detras and Catalino G. Alfafara	DOST-PCAARRD
Development of Oil-Based Thermal Disinfection Technology to Treat Infectious Waste from Healthcare Facilities	Ramer P. Bautista	DOST-PCIEERD
Establishing a 25-kW Waste-to-Energy Facility Using a Direct Combustion Process for Municipal Solid Waste: Technical, Economic and Environmental Studies	Manolito E. Bambase Jr.	DOST-PCIEERD
Feasibility Study on the Nationwide Deployment of Modularized Village Scale Ethanol Biorefineries using Nipa Sap	Rex B. Demafelis	NEDA
Socio-economic Assessment of Implementing a Competitive Copra Pricing Mechanism for a Sustainable Philippine Biodiesel Industry	Rex B. Demafelis	UP Energy Research Fund
Socio-economic Impact of Swine Production in the Philippines through Social Life Cycle Assessment	Rex B. Demafelis	DA-BAR
Cost-effective spirulina platensis biomass production in twin-layer photobioreactor (tl-pbr) using woven abaca fiber as the source layer and plain printing paper as the substrate layer	Butch G. Bataller	UPLB Basic Research
Commercialization of Innovative Onion Leaves Powder as Seasoning/ Flavoring in Various Food Products	Myra G. Borines	DA-ACEF

TITLE OF COMPLETED PROJECTS	PROJECT LEADER	FUNDING AGENCY
Adaptability Trial of Super Sweet Sorghum	Rex B. Demafelis and Domingo E. Angeles	DA-BAR
Boosting Farmer's Income through an Integrated Soybean Production for Food and Fuel: An Environmental Assessment, Technical and Economic Studies	Rex B. Demafelis	DA-BAR

TITLE OF COMPLETED PROJECTS	PROJECT LEADER	FUNDING AGENCY
Life Cycle Assessment in terms of Carbon Debt and Payback Analyses, Carbon Savings and Energetics Studies of Biodiesel Production from Coconut Oil in the Philippines	Rex B. Demafelis	Department of Energy
Ethanol in the Philippines: Injecting Octane in the Bioeconomy	Rex B. Demafelis	US Grains Council
Hydrothermal liquefaction of corn stover: Effects of K <sub>2</sub> CO <sub>3</sub> and Aqueous Phase Recycling	Rowena B. Carpio and Gino Apollo M. Guerrero	UPLB Basic Research
Increasing Farmers' Income through the Utilization of Waste Onion Leaves for Various Applications	Myra G. Borines, Rex B. Demafelis, Jewel A. Capunitan	DA-BAR
Production of Quality Grade Ethanol from Sweet Sorghum	Rex B. Demafelis	DA-BAR
Saccharine Feedstocks for the Production of High Value Products	Rex B. Demafelis, Jovita L. Movillon, and Francisco B. Elegado	DA-BAR
Bio-oil Production from Agricultural Waste (formerly Biojet Production from Coconut Oil)	Rex B. Demafelis	DOST-PCIEERD
Biodiesel Production in a Packed Column Using OH-Impregnated Calcium Oxide as Heterogeneous Catalyst by a Co-Solvent Method	Manolito E. Bambase Jr.	UP ECWRG
Development of a Cost-effective and Sustainable Abaca Production in the Philippines	Rex B. Demafelis	DA-BAR
Life Cycle Assessment of Swine Production Towards a Sustainable Swine Industry in the Philippines	Rex B. Demafelis	DA-BAR
Parametric and Optimization Studies on the Solvent Extraction of Petroleum Nuts ( <i>Pittosporum resiniferum</i> ) Oil	Maria Victoria M. Sumagang, Myra G. Borines	UPLB Basic Research
Sustainable Water Allocations and Management of Selected Agriculture Sector's Priority Crops through Water Footprint Assessment	Rex B. Demafelis	DA-BAR
Validation and Verification of Methods for Mineral Constituents and Heavy Metal Contamination in Organic Fertilizer	Veronica P. Migo	DA-BAR
Socio-Economic and Environmental Impacts of Bioethanol Production	Rex B. Demafelis, Jovita L. Movillon, et al.	Sugar Regulatory Administration

## CONFERENCES ATTENDED

	Name of Personnel and Role	Title of Activity/Program	Venue	Date
International	Myra G. Borines (presenter)	18th International Symposium on Advanced Technology	Southern Taiwan University of Science and Technology, Taiwan	12-14 December 2019
	Michael Vincent O. Laurio, Leandro T. de Castro (presenter)	2019 American Institute of Chemical Engineers Annual Meeting	Hyatt Regency Orlando, Florida	11-15 November 2019
	Monet Concepcion M. Detras, Veronica P. Migo (presenters)	26th Regional Symposium on Chemical Engineering	Armada Hotel Petaling Jaya, Kuala Lumpur, Malaysia	30-31 October 2019
	Leandro T. de Castro	Southern Catalyst Society, 18th Annual Fall Symposium	Crown Plaza, Knoxville TN	22-23 September 2019
	Leandro T. de Castro	26th North American Catalysis Society Meeting	Hyatt Regency Chicago, Illinois	June 23-28, 2019
	Michael Vincent O. Laurio (presenter)	23rd Annual Green Chemistry & Engineering Conference and 9th International Conference on Green and Sustainable Chemistry	Hyatt Regency Reston, Virginia	11-13 June 2019
	Ramon Christian P. Eusebio (presenter and session chair)	2019 International Conference on Environmental Quality Concern, Control and Conservation	National Kaohsiung University of Science and Technology and Chia Nan University of Pharmacy and Science, Taiwan	23-25 May 2019
	Veronica P. Migo (presenter)	Poster presentation during the ACS National Meeting & Expo with the theme "Chemistry for New Frontiers"	Orlando, Florida, USA	31 March- 4 April 2019

	Name of Personnel and Role	Title of Activity/Program	Venue	Date
INTERNATIONAL	Rowena B. Carpio	2019 5th International Conference on Biotechnology and Agricultural Engineering	Tokyo, Japan	26-29 March 2019
	KI Lawas, Stephen S. Doliente, Veronica P. Migo, Catalino G. Alfafara	2018 International Conference on the Biomass-Environment-Food-Energy-Water (BEFEW) Nexus	Bangi-Putrajaya Hotel, Selangor, Malaysia	12-13 December 2018
	Rowena B. Carpio	Workshop on Waste to Energy: Applicability in the Philippines	Huntington Beach and Bakersfield, California, U.S.A	11-14 December 2018
	Myra G. Borines (Keynote Speaker)	17th International Symposium on Advanced Technology Engineering Innovation for Sustainable Future	The University of Danang, University of Science and Technology, Da Nang City, Vietnam	12-16 November 2018
	Bernadette T. Magadia	SETAC-Asia Pacific 2018	South Korea	14-20 September 2018
	Monet Concepcion M. Detras	Writeshop on Outlining the Book: Sustainable Rice Straw Management	University of Bath, England	19-21 September 2018
	Stephen S. Doliente	Introduction to EndNote X7	University of Bath, England	19 September 2018
	Stephen S. Doliente	ArcGIS 2 – Essentials of ArcGIS 10.x for Desktop	esri UK. London, United Kingdom.	27-28 June 2018
	Stephen S. Doliente	ArcGIS 1 – Fundamentals of ArcGIS 10.x for Desktop	esri UK. London, United Kingdom.	25-26 June 2018
LOCAL	Myra G. Borines	2020 NRCP Annual Scientific Conference and 87th General Assembly	Zoom	30 June 2020
	Kristel M. Gatdula	A Paradigm Shift to Circular Economy: Foresights for PostCovid World	Zoom	13 June 2020
	Kristel M. Gatdula	Clean Energy Technology Series: Biogas (Waste to Energy)	New Energy Nexus Philippines	27 May 2020
	Veronica P. Migo	Science Policy Forum on Microbial Omics for Environmental Protection and Sustainable Development	NAST-DOST	26 February 2020
	Monet Concepcion M. Detras	UPLB Chemical Waste Management Program	UPLB	11 February 2020
	Kristel M. Gatdula, Vic Jayson Nisola	FGD on science and technology program development for downstream cacao industry in Region 4a	DOST Region 4A	31 January 2020
	Myra G. Borines (participant)	2020 NRCP Annual Scientific Conference and 87th General Assembly	Zoom	30 June 2019
	Veronica P. Migo (moderator)	12th National Shrimp Congress	SMX Convention Center, Bacolod City	20-22 November 2019
	Veronica P. Migo (presenter)	1st National Scientific Conference on Water	SEARCA, UPLB	7 November 2019
	Myra G. Borines and Ramon Christian P. Eusebio (participants)	16th ERDT Conference Engineering for One Health	Heritage Hotel, Pasay, Metro Manila	25 October 2019
	Myra G. Borines	Scientific and Business Meeting NRCP Division of Engineering and Industrial Research	NRCP	24 October 2019
	Veronica P. Migo	Seminar on Organic Agriculture,	SEARCA, UPLB	14 October 2019
	Veronica P. Migo (participant)	Symposium & Workshop on Risk Assessment and Regulation of Genome Edited Plants	Acacia Hotel, Alabang	8-9 October 2019
Monet Concepcion M. Detras, Catalino G. Alfafara, Veronica P. Migo, Jewel A. Capunitan, Maria Victoria M. Sumagang, and DChE Students (presenters)	48th Annual Convention of the Kapisanang Kimika ng Pilipinas- Southern Tagalog, Inc	Palaisdaan Resto Hotel, Bay, Laguna	05-06 September 2019	

	Name of Personnel and Role	Title of Activity/Program	Venue	Date
LOCAL	Myra G. Borines, Joemer Adorna (participant and presenter)	8th ERDT Congress "The Rise of Smart Cities and Communities"	PICC, Pasay City	23 August 2019
	Rex B. Demafelis and Kristel M. Gatdula	7th Bioenergy Week and Study Tour for Capacity Building	PICC, Pasay City	24-27 June 2019
	Kristel M. Gatdula	Flue Gas Analyzer Training	Elasco International Corporation, Makati City, Philippines	14 June 2019
	Myra G. Borines (participant)	Green ICT Forum	SMX Convention Center, SM Mall of Asia, Pasay	June 2019
	Veronica P. Migo, Monet Concepcion M. Detras, Catalino G. Alfafara	34th Philippine Chemistry Congress	Waterfront Hotel & Convention Center, Lahug, Cebu City	28-30 May 2019
	Veronica P. Migo, Catalino G. Alfafara, Jewel A. Capunitan, Filipina B. Elegado	2019 NRCP Annual Scientific Conference and 86th General Membership Assembly	Philippine International Convention Center, Roxas Boulevard, Pasay City	11 March 2019
	Ramon Christian P. Eusebio, Myra G. Borines, Kristel M. Gatdula, Monet Concepcion M. Detras, Denise Esther S. Sanchez, Catalino G. Alfafara, Manolito E. Bambase Jr., and Rex B. Demafelis	80th PIChE National Convention	Crowne Plaza Manila Galleria, Ortigas Center, Quezon City	27 February- 1 March 2019
	Monet Concepcion M. Detras and Veronica P. Migo	Training Workshop on Life Cycle Assessment in Agriculture	IRRI	13-15 December 2018
	Jovita L. Movillon, Myra G. Borines, and Ramon Christian P. Eusebio	Symposium on Sustainable Materials for Greener Future	De la Salle University, Manila	10 December 2018
	Veronica P. Migo (resource speaker)	Second National Conference on Chemical Laboratories	Century Park Sheraton Hotel	28-29 November 2018
	Monet Concepcion M. Detras (participant)	2018 NAST Future Science Leaders' Forum	Hotel Jen, Pasay City, Manila	22-23 November 2018
	Rowena B. Carpio (participant)	2nd Honing Innovative Teaching-Learning Skills Seminar	DAP, Tagaytay	05-07 November 2018
	Myra G. Borines (participant)	15th Engineering Research and Development for Technology Conference	Manila Hotel	27-28 September 2018
	Veronica P. Migo (participant)	3rd Organic Asia Congress of the International Federation of Organic Agriculture Movement	Bislig City, Surigao del Sur	17-21 September 2018
	Veronica P. Migo, Maria Victoria M. Sumagang, Catalino G. Alfafara, Stephen S. Doliente, Kristel M. Gatdula, and Ramer P. Bautista	47th KKP-ST Annual Convention (Gearing Up Towards Global Standards and Certification)	Batangas State University Rizal Avenue Extension, Batangas City	6-7 September 2018
	Ramon Christian P. Eusebio	Workshop on Resource Recovery from Wastewater	De la Salle University, Manila	20 August 2018
	Veronica P. Migo	Seminar-Workshop on the Transition to ISO/IEC 17025:2017. General Requirements for Laboratory Competence	DOST CALABARZON	13-16 August 2018
	Myra G. Borines, Ramer P. Bautista, Rowena B. Carpio, Monet Concepcion M. Detras	2018 CEAT Technology Entrepreneurship Teaching Bootcamp	CEAT, UPLB	24-25 July 2018

LOCAL	Name of Personnel and Role	Title of Activity/Program	Venue	Date
	Veronica P. Migo	47th Annual Convention and Scientific Meeting of the Philippine Society of Microbiology	SEARCA, UPLB	19-20 July 2018
	Veronica P. Migo	33rd Philippine Chemistry Congress	Philippine International Convention Center, Roxas Boulevard, Pasay City	30 May - 1 June 2018
	Denise Esther S. Sanchez	Training Workshop on Mathematical Modeling and Simulation for Engineerin Education	CEAT, UPLB	26-Mar-18
	Veronica P. Migo	18th PSM-NL Regional Convention and Scientific Meeting	SEARCA, UPLB	7-8 March 2018
	Catalino G. Alfafara, Ramer P. Bautista, Manolito E. Bambase Jr., Myra G. Borines, Jewel A. Capunitan, Rex B. Demafelis, Ramon Christian P. Eusebio, Michael Vincent O. Laurio, Veronica P. Migo, Denise Esther S. Sanchez	79th National Convention of the Philippine Institute of Chemical Engineers (PICHE)	PICHe, Muntinlupa City, Philippines	21-23 February 2018





## STUDENT AWARDS

Recipient	Award Name
Marjorie Ocampo, Lemuel Samson, Neil Catapang, Carlo Basbas	3rd Place, 2019 PIChE National Quiz Bowl
Carlo Basbas, Seamus Alaric Mascareñas, Angelo, Laguna, Romeo Lacro	2nd Runner Up, 2019 Inter-University Chemical Engineering Competition, UP Diliman
Lorenzo Victor L. Totañes	2019 Special Citation Magsaysay Future Engineer and Technologist Award; 2019 CEAT Best Thesis Award
Ryan Christian R. Suplito	2019 BPI-DOST Science Award (Top 5) and Top 10 Best Project of the Year 2019 Special Citation Magsaysay Future Engineer and Technologist Award
Chester Jules A. Tantoco	2019 BPI-DOST Science Award (Top 2) and Top 10 Best Project of the Year
Marjorie Ocampo, Lemuel Samson, Neil Catapang, Carlo Basbas, Gab Narce, Angelo Laguna, Ryan Suplito, Romeo Lacro	1st and 2nd runner up, 2018 SNCEC Inter-University Quiz Bowl
John Christopher A. Dañez	2018 BPI-DOST Science Award (Top 12) and Top 10 Best Project of the Year; 2nd place, 2018 Magsaysay Future Engineer and Technologist Award
Neil Karol Z. Olegario	BPI-DOST Science Award
John Nikko V. Salvilla	BPI-DOST Science Award
Donn Paul P. Armijo	BPI-DOST Science Award



# DEPARTMENT OF CIVIL ENGINEERING



For the Department of Civil Engineering, the year 2017-2020 is marked by several notable accomplishments: the BSCE curriculum revision from a five-year to a four-year curriculum and its implementation in 2018; the recruitment of two additional CE professionals with graduate degrees to join its 13 faculty members; the acquisition of vibration testing equipment, the expansion of the Innovative Engineering Materials Laboratory, and the renewal of Bentley software subscription; the faculty and student exchange with Tokyo Metropolitan University; and the academe-industry linkage with industry partners.

I am very thankful to UPLB Chancellor Fernando C. Sanchez, Jr. and CEAT Dean Arnold R. Elepaño for their full support. With my colleagues from the department, we will continue to provide excellent education, quality research, and extension services to our university and the country.

  
Dr. Richelle G. Zafrá  
Chair, Department of Civil Engineering

## FACULTY AND STAFF

### PROFESSORS

Madlangbayan, Marish S.  
Sundo, Marloe B.

### ASSISTANT PROFESSORS

Aguirre, Jedidiah Joel C.  
Cruz, Andre C.  
Lim, Ma. Bernadeth B.  
Velasco, Perlíe P.

### ADMINISTRATIVE STAFF

Merin, Sofia L.- Admin Asst. II  
Deriquito, Rodel A.- Lab. Tech. I

### ASSOCIATE PROFESSOR

Zafrá, Richelle G.

### INSTRUCTORS

Aquino, Maricel Dc.  
Bertiz, Timothy M.  
Dolores, Alvin Joseph S.  
Morales, Richard Dean F.  
Ramos, Judie Ann A.

Aragoncillo, Ariel Miguel M.  
Castillo, Ma. Hazel T.  
Maunahan, Harvey S.  
Navarro, Ron Gabriel O.  
Uaje, Mark Joel B.

Aguilar, Niña Gracia V. - Junior Office Aide (ICS)  
Mariñas, Alexander M. - Assistant Utility Worker (ICS)



## PUBLICATIONS

JOURNAL	Publication Date	Specific Title	Author/s	Publication Agency
	2020	Effect of Nanosilica on the strength of concrete with volcanic pumice as coarse aggregates	Marish S. Madlangbayan, JMM Avendaño, KF Prodigalidad, Milagros M Peralta, RA Almeda, Engelbert K. Peralta, Marloe B. Sundo, MA Eneria	International Journal of GEOMATE 19 (75), 50-57,
		Pedestrian Simulation of Metro Rail Trasnit (MRT) Line 7 Station 1– North Avenue Station, Quezon City, Philippines	Romnick P De Los Reyes, Marloe B Sundo, Marish S. Madlangbayan	International Journal of GEOMATE 18 (66), 156-162
	2019	Investigation on performance of epoxy coated steels with Nano-SiO <sub>2</sub> and Poly-aniline composite using complex impedance spectroscopy	Velle G. Dela Cruz, Alvin Karlo G Tapia, Milagros M Peralta, Ronnie A Almeda, Engelbert K. Peralta, Marloe B. Sundo, Richelle G. Zafra, and Marish S. Madlangbayan	International Journal of GEOMATE 17 (64), 49-54
		Flood risk assessment of major rives basins in the Philippines	Chrstian Dominick Q Alfonso, Marloe B. Sundo, Richelle G. Zafra, Perlie P. Velasco, Jedidiah Joel C Aguirre, Marish S. Madlangbayan	International Journal of GEOMATE 17 (64), 201 – 208
		End-of-pipe waste analysis and integrated solid waste management plan	Adriel Alfred U Palomar, Marloe B Sundo, Perlie P Velasco, Donny Rey D Camus	Civil Engineering Journal 5 (9), 1970-1982
	2018	Electrical Resistivity of Concrete Containing Crystalline Rice Husk Ash as Supplementary Cementing Material	James P. Lacia, Marish S. Madlangbayan, Marloe B. Sundo, and Richelle G. Zafra	Philippine e-Journal for Applied Research and Development
		Effect of Nano-SiO <sub>2</sub> from Rice Hull Ash on the Conductivity of Cement Paste	Joshua T. Dimasaka, Engelbert K. Peralta, Milagros M. Peralta, Alvin Karlo G. Tapia, Marish S. Madlangbayan	Emerging Materials Research 7 (3), 164-168
		Investigation on the Corrosion of Coated Steel Plates with Impact Defect using Divided Steel Plates	Marish S Madlangbayan, Nobuaki Otsuki, Takahiro Nishida, Tsuyoshi Saito	Civil Engineering Journal 4 (1), 58-66

## ONGOING AND COMPLETED RDE PROJECTS

TITLE OF ONGOING PROJECT	DURATION	FUNDING AGENCY
Development of Nanosilica-based Anti-Corrosion Coating Formulations for Carbon Steel Reinforcement Used in Farm Structures (Dr. Marish S. Madlangbayan)	2020-2022	PCIEERD-GIA

TITLE OF COMPLETED PROJECT	PROJECT LEADER	FUNDING AGENCY
UPLB Un-Energized Community-Based Sustainable Energy Research Program	Dr. Marish S. Madlangbayan and Dr. Marloe B. Sundo	NGCP

## CONFERENCES ATTENDED

INTERNATIONAL	NAME OF PERSONNEL	TITLE OF CONFERENCE	VENUE	DATE
	Marloe B. Sundo	International Symposium on Transportation in Emerging Countries	Hasselt University, Belgium	5-6 November 2019

	NAME OF PERSONNEL	TITLE OF CONFERENCE	VENUE	DATE
LOCAL	Jedidiah Joel C. Aguirre	7th UPRI-NOAH Symposium on the Role of Arts in Disaster Resiliency	UP-NIGS, UP Diliman, Quezon City	10 February 2020
	Marloe B. Sundo, Marish S. Madlangbayan, Richelle G. Zafra and Jedidiah Aguirre	MSCE Curriculum Workshop	DCE, CEAT	10 January 2020
	Ron Gabriel O. Navarro and 9 BSCE graduating students	2019 MDC Young Construction Professionals Leadership Summit	MDC, Taguig City	18 December 2019
	Maricel B. Lim	Seminar on College Teaching	Animal Science LH 2, CAFS	06-11 January 2020
	Sophia L. Merin	Procurement Officers Training	ICOPED Auditorium, CEM, UPLB	25 November and 2 & 9 December 2019
	Maria Bernadette B. Lim and Marloe B. Sundo	Philippine Institute of Civil Engineers 45th National Convention and Technical Conference	SMX Convention Center, Seashell Lane, Mall of Asia Complex, Pasay City	October 28-30, 2019
	Maria Bernadette B. Lim	Intelligent Transportation System Forum	Institute of Civil Engineering, UP Diliman	25 October 2019
	Alvin Joseph S. Dolores, Ron Gabriel O. Navarro	First Aid and Basic Life Support Training	CEC Conf Room, UPLB	30 September 2019
	Maria Hazel T. Castillo, Alvin Joseph S. Dolores	8th ERDT Congress "The Rise of Smart Cities and Communities"	PICC, Pasay City	23 August 2019
	Ron Gabriel O. Navarro	AIT Geotechnical Symposium	ICE, UP Diliman	12-13 August 2019
	Marloe B. Sundo	26th Annual Conference of the Transportation Science Society of the Philippines	University of San Jose-Recoletos, Cebu City	25-27 July 2019
	Ron Gabriel O. Navarro	81st SOT "Seminar on Facilitating Learning"	Institute of Animal Science, CAFS, UPLB	15-19 July 2019
	CE Faculty	<ul style="list-style-type: none"> <li>In-house Training on UTM Operation for CE Faculty</li> <li>Seminar on Increasing Research Publication for CE Faculty</li> </ul>	DCE, CEAT, UPLB	11 July 2019
	DCE Faculty & Students	Re-training on the Use of Non-Destructive Testing (NDT) Equipment for CE Faculty and Students	DCE, CEAT, UPLB	31 July to 01 August 2019
	Richelle G. Zafra	BSME Curriculum Workshop	Follosco Innovateering Laboratory, New IABE Building, CEAT, UPLB	24-25 June 2019
	Mark Joseph S. Villanueva	SAIS Training	ILC Lab 2, NCAS Bldg., UPLB	07 May 2019
	Maricel DC. Aquino	Design, Thinking, and Technopreneurship Workshop	EE Auditorium, CEAT, UPLB	29 April 2019
	Richelle G. Zafra	Building Administrator's Forum	ICOPED Auditorium, CEM, UPLB	26 April 2019
	Richelle G. Zafra	2nd Honing Innovative Teaching-Learning Skills Seminar	DAP, Tagaytay	5-7 November 2018
	Ariel Miguel M. Aragoncillo, Timothy M. Bertiz, Nimfa Maren S. Tabucal, and Richelle G. Zafra	Training-Writeshop on the Development of Integrated OBE- and K-12 Compliant Curriculum for HEIs	DCE, CEAT, UPLB	26 July 2018
Richelle G. Zafra, BJCAlfaro, Victor Mikael N. De Padua	Faculty Bootcamp on Teaching Technology Entrepreneurship	TREES Hostel Forestry, UPLB	24-25 July 2018	

## STUDENT PRACTICUM

### 2019 International Practicum for Contribution to Sustainable Development of Megacity

Ma. Angelika Alvaran, Katrina Lois Lar, and Bien Dave Papisin  
 Tokyo Metropolitan University  
 10 June- 26 July 2019

### 2018 Jasso Exchange Student Program

Byron Belvis, Kylyn Morales, Dalisa Mars Revilleza, Carla Mae Macario  
 Tokyo Metropolitan University  
 8 June- 20 July 2019

## STUDENT AWARDS

Recipient	Award Name
Bien Dave Papisin	5th place, 2020 Sy <sup>2</sup> Quiz Contest
PICE-UPLB Student Chapter	1st runner-up, 2019 PICE-Siklaban Inter-Student Sportsfest
PICE-UPLB Student Chapter	Champion, 2018 PICE Siklaban Inter-Student Sportsfest
Churchelle Ballon, Francis Kenneth Cabrera	Champion, 2018 PICE Siklaban Quizbee
Joshua Dimasaka	3 <sup>rd</sup> Place, 2017 Most Outstanding Civil Engineering Student Award, Philippine Institute of Civil Engineers (PICE)
Kenneth Fajardo	2nd place, Regional Elimination, 37 <sup>th</sup> National Civil Engineering Students' Quiz



# DEPARTMENT OF ELECTRICAL ENGINEERING



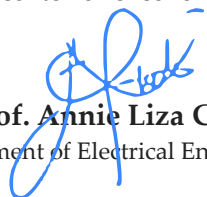
For the past three years, the Department of Electrical Engineering has continued to excel in different areas and has attained some highlights in the history of DEE. Among its achievements include keeping its record of producing the cream of the crop in terms of Registered Electrical Engineering Board Exam for ten consecutive years; maintaining a 100% passing rate up to the recent REE Board Examinations in April and September 2018 and 2019. Moreover, the department brought home the glory of being the sole top performing school in the April 2018 REE Board Exam, producing 8 topnotchers in the same board exam, including the top 1 board passer, Engr. Kevin R. Relleve. Other than this, DEE was first in the list of top performing schools in the April 2019 REE board exam, with 6 topnotchers in the list, again including the top 1 board passer, Engr. Clark Sigmund De Castro. Excellence extends to the faculty in the same manner, with awards for UPLB Outstanding Teacher Award given to Asst. Prof. Elvin D. Dulce in March 2019 and CEAT Outstanding Junior Faculty awarded to Asst. Prof. Rodolfo A. Aguirre, Jr. in February 2020.

The department was also involved in the curricular revisions in line with the K-12 program approved for implementation starting Academic Year 2018-2019, successfully reducing the five-year degree program of 190 units to a four-year degree program with 159 units remaining. New EE service courses have been created under the leadership of Asst. Prof. John Paolo A. Ramoso, for the new degree program recently approved by the BOR, BS in Mechanical Engineering.

As for industry and academe linkages, DEE was able to facilitate a memorandum of agreement signing between UPLB and Fujihaya on October 14, 2019 as well as with Philippine Manufacturing Company of Murata Inc. on October 22, 2020. The unit is also actively involved in collaboration talks with Korea Advanced Institute of Science and Technology (KAIST), one of the top schools in South Korea, and UP Diliman, where DEE is part of the PCARI-PRIME project.

In terms of faculty development, DEE has 19 faculty members, with 10 Assistant Professors and 9 Instructors, 2 of whom have recently graduated from their master's degrees and are currently processing their papers for promotion to Assistant Professor.

The unit is striving towards maintaining excellence in board exams, strengthening the research thrust and gearing towards more industry-academe linkages to aid the department towards being the center of excellence in the future.

  
**aProf. Annie Liza C. Pintor**  
Chair, Department of Electrical Engineering

## FACULTY AND STAFF

### ASSISTANT PROFESSORS

Agno, Karen-Christian C.  
Catriz, Roderick L.  
Garcia, Genev Yesiree R.  
Pintor, Annie Liza C.

Aguirre, Rodolfo Jr. A.  
Dulce, Elvin D.  
Nobleza, Bryan Joseph C.  
Ramoso, John Paolo A.

### INSTRUCTORS

Belizario, Viktor Joshua L.  
Gonzales, Gabriela Monica M.  
Mabilangan, Raymond S.  
Manzano, John Paul P.  
Rosano, Kim Jay R.  
Torriso, Lorwin Felimar B.

Esteban, Christian Paul R.  
Ilang-Ilang, Melvin C.  
Manalo, Aryan Paula A.  
Nagpala, Lucky Angelico A.  
Tomas, Rock Christian V.

### ADMINISTRATIVE STAFF

Gibas, Josielyn L. - Admin. Asst. II  
Gutierrez, Alberto R.- Lab. Tech. II  
Mendoza, Jose S.- Lab. Tech  
Ocampo, Magno M.- Admin. Aide I  
Ramos, Rodolfo A. - Admin. Aide II  
Alcantara, Joanne S.- Admin. Assistant (ICS)  
Anore, Sonny S. - Ref and Aircon Tech. (ICS)  
Buena, Amelia S. - Admin. Assistant (ICS)  
Llamera, Lemuel Jr. M.- Comp and Audio Tech (ICS)  
Urriza, Jasmin B.- Data Entry Machine Optr (ICS)

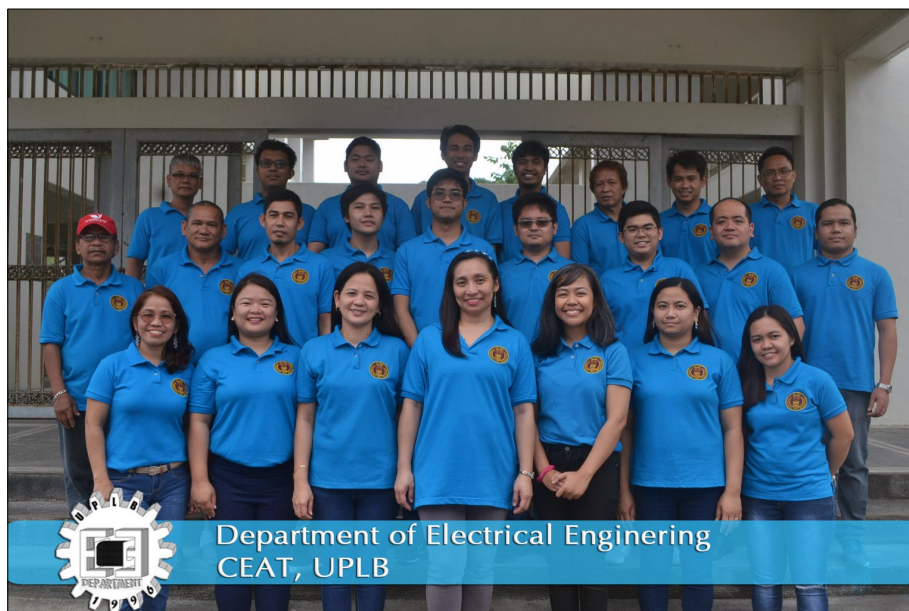
## PUBLICATIONS

	Publication Date	Specific Title	Author/s	Publication Agency
JOURNAL	2020	Sizing and Siting of a Concentrating Solar Power Plant in an Unbalanced Radial Distribution System	A.driane Joshua J. Miras, John Paul P. Manzano, R. A. Aguirre and Kristel Marie V. Aquino	IEEEExplore
		Analysis of the Optimal Allocation of Intermittent Distributed Generators in an Unbalanced Distribution Network Using Stochastic Load Flow	Rodolfo A. Aguirre, Lorence Dominic T. Narcise and Jenny Rose V. Repollo	IEEEExplore

## CONFERENCES ATTENDED

	NAME OF PERSONNEL	TITLE OF CONFERENCE	VENUE	DATE
INTERNATIONAL	Rodolfo A. Aguirre	Chaired the Distributed Generation and Grid Integration Track in the 9 <sup>th</sup> International Conference on Power and Energy Systems 2019 (ICPEs 2019)	Perth, Australia	12 December 2019
	Rodolfo A. Aguirre	Chaired the Renewable and Sustainable Energy Session in the 11 <sup>th</sup> IEEE Asia-Pacific Power and Energy Engineering Conference 2019 (APPEEC 2019)	Macau, China	3 December 2019
	Rodolfo A. Aguirre, Jr. and Karen-Christian C. Agno	IEEE-PES GTD Grand International Conference & Exposition Asia 2019 (IEEE-PES GTD Asia 2019)	Bangkok International Trade & Exhibition Centre, Bangkok, Thailand	19-23 March 2019
	Rodolfo A. Aguirre	TENCON 2018	Ramada Plaza Hotel, Jeju, South Korea	28-31 October 2018
	Rodolfo A. Aguirre	10 <sup>th</sup> IEEE PES Asia-Pacific Power and Energy Engineering Conference 2018 (APPEEC)	Hilton, Kota Kinabalu, Sabah, Malaysia	7-10 October 2018
LOCAL	Rock Christian V. Tomas	Digital Pathology Virtual Summit	Zoom	19-20 May 2020
	John Paolo A. Ramoso	Newton Prize Philippines Event	Manila Polo Club, Makati City	28 January 2020
	Rodolfo A. Aguirre	Developing the Engineer's Mindset in the Youth through Networking Pathways Towards a Better Future	EE Auditorium, CEAT, UPLB	12 October 2019
	John Paolo A. Ramoso	DOST PCIEERRD Artificial Intelligence Training and Proposal Workshop	The Bellevue Hotel, Alabang, Muntinlupa	29 Sept– 06 Oct. 2019
	John Paolo A. Ramoso Viktor Joshua Belizario	DOST-JSPS Seminar: "Development of Novel Materials as Emitters and Detectors for Sub-Tz Domain Spectroscopy Carrier Dynamics Studies"	Rm 302 EE Building, CEAT, UPLB	10-12 September 2019
	Rodolfo A. Aguirre, Rock Christian V. Tomas	8 <sup>th</sup> ERDT Congress "The Rise of Smart Cities and Communities"	PICC, Pasay City	23 August 2019
	Rodolfo A. Aguirre	Accelerating Makers (2019): Celebrating Innovations	UP College of Fine Arts, Diliman, Quezon City	22 August 2019
John Paolo A. Ramoso, Aryan Paola A. Manalo, and DEE students (Electronics major)	DOST-JSPS Workshop on Spectroscopic Techniques	DEE/Physics Department, UPLB	2-11 July 2019	

LOCAL	NAME OF PERSONNEL	TITLE OF CONFERENCE	VENUE	DATE
	DEE faculty and some support staffs, including Josielyn Gibas and Amy Buena	Seminar-Workshop on BSEE Specialization Track Options and Laboratory Components under 4-year Curriculum	DAP, Tagaytay City	13-15 June 2019
	Karen-Christian C. Agno	Green ICT Forum	SMX Convention Center, SM Mall of Asia, Pasay	1 June 2019
	Rodolfo A. Aguirre Jr. and Karen-Christian C. Agno	Future Energy Show Philippines 2019	SMX Convention Center, SM Mall of Asia, Pasay	20-21 May 2019
	Karen-Christian C. Agno, Lucky Angelo A. Nagpala	Building Administrator's Forum	ICOPEP Auditorium, CEM, UPLB	26 April 2019
	Prof. Annie Liza C. Pintor	Annual Gender and Development Audit and Planning Workshop	Hotel Kimberly, Tagaytay City	6-8 February 2019
	Genev Yesiree M. Rodriguez-Garcia, Lucky Angelico A. Nagpala, and Kent Edrian J. Lozada	8 <sup>th</sup> SOT Seminar on Facilitating Learning	UPLB	7-12 January 2019
	Rodolfo A. Aguirre	Airbus Technical Seminar	New World Hotel, Makati City	6 December 2018
	John Paolo A. Ramoso and Luky Angelico A. Nagpala	ASEAN Region Training in Advanced Digital Design	National Engineering Center, UP Diliman, Manila, Philippines	26-30 November 2018
	Raymond S. Mabilangan, Athena P. Lavega, and Annie Liza C. Pintor	First Aid Training for UPLB Faculty and REPS	CEC, UPLB	29 October 2018
	Rodolfo A. Aguirre	15th Engineering Research and Development for Technology (ERDT) Conference	Manila Hotel	27-28 September 2018
	Karen-Christian C. Agno, Melvin C. Ilang-Ilang, Aryan Paola A. Manalo, John Paolo A. Ramoso	National Conference on Smart Farming 4.0: Transforming Philippine Agriculture through Smart R&D Innovations	Batangas State University, Batangas	26-27 September 2018
Karen-Christian C. Agno	Graduate Faculty Dissemination Workshop on Program for Relevant and Responsible Postgraduate Research	Acacia Hotel Manila	2 August 2018	
John Paul P. Manzano, Athena P. Lavega, Melvin C. Ilang-Ilang, John Paolo A. Ramoso, Gabriela Monica M. Gonzales, Raymond S. Mabilangan, Karen-Christian C. Agno	Training-Writeshop on the Development of Integrated OBE- and K-12 Compliant Curriculum for HEIs	DCE, CEAT, UPLB	26 July 2018	





**Drone Starter Kit training**



**Future Energy Show Philippines 2019**



**KAIST visit to UPLB CEAT Dean**



**Radyo Henyo Interview Board  
Topnotcher and DEE Chairs**



**KAIST EE Camp 2018**



**GTD Asia 2019**



**DEE visit to KAIST 2019**



**Training and Workshop on Broadband  
Dielectric Spectroscopy and Materials Characterization**



# DEPARTMENT OF INDUSTRIAL ENGINEERING



As we approach the end of our 3-year term, I would like to take this opportunity to thank the UPLB administration led by the Chancellor Fernando Sanchez, Jr., our College dean Arnold R. Elepano and my fellow CEAT Executive committee members support and guidance given to our relatively young Department. I am delighted and honored to have given the opportunity to serve our department. It is my honor and privilege to present to you the highlights of our achievements for the past 3 years.

In terms of the academic personnel composition, we are proud to welcome our first PhD faculty graduate last 2019. This year, we have another faculty who finished her PhD in the field of human science. Moreover, 2 more are expected to graduate in the next 2 years in the area of Supply Chain Management and Development Studies. Most of our faculty are now MS graduates and are scheduled to take their PhD degree in the next 3 years. I would like to thank VC Portia Lapitan for the continued support to let our faculty participate in the faculty development programs of the university. In the 2019 Merit Promotion, most of the faculty also got promoted.

We had revised our BSIE program from 5 years to 4 years and I would like to thank all the faculty and staff for all the support they have given for this very meticulous and tedious work of curricular revision. We are hoping to have our MS graduate offering soon and our BSIE program to undergo AUN QA accreditation as we continue to strive and deliver excellent service to our students.

We would like to thank the continued support of our Chancellor and VC Marish Madlangbayan for the unwavering support to improve our facilities especially the MSEP and HSEP through the addition of new equipment and acquisition of new computers for the laboratory. We have increased the research and instruction capability of UPLB Human Systems Engineering program with the acquisition of Wireless Electromyography Data Acquisition system.

The overwhelming work for the past 3 years became bearable and enjoyable because of the unity and collective efforts of all the faculty and administrative staff who are very responsible independent and reliable. We are very willing to participate and volunteer in University and college-wide activities. Let us continue to be united and I hope that we will continue what we have started. We may have diverse character and opinion but we always value and respect one another. We do not resist change for the betterment of the department. I know that with the values and attitude we uphold we are capable of greater things as a team. Your love for the department, UP, and the country, will enable us to soar high and improve. Kai-zen!

To the only God, we thank you for the guidance and all the blessing. To him be all the glory.

  
aProf. Kathleen L. Baldoz  
Chair, Department of Industrial Engineering

## FACULTY AND STAFF

### ASSISTANT PROFESSORS

Ani, Angelo C.  
Baldoz, Mark Anthony M.  
Isip, Marc Immanuel G.  
Mariano, Lizbeth A.  
Ramirez, Micah A.

Baldoz, Kathleen L.  
De Silva, Diana Marie R.  
Layaoen, Haerold Dean Z.  
Pesigan, Clarissa M.  
Revilla, Josefa Angelie D.

### INSTRUCTORS

Caroche, Maria Liezel P.  
Landicho, Stephanie Caridad DR.  
Mercado, Alan Marco S.  
Villanueva, Marc Joseph S.

### ADMINISTRATIVE STAFF

Austria, Rainier Josef A.– Admin. Aide III (Clerk I)  
Castro, Marites M.– Science Research Assistant  
Jimenez, Aaron B.– Admin. Asst. II  
Pasuquin, Carlos S.– Lab. Technician  
Suiza, Roxanne Lalaine R.– Senior Utility Worker (ICS)  
Torillos, Romar S.– Assistant Utility Worker (ICS)

## PUBLICATIONS

	Publication Date	Specific Title	Author/s	Publication Agency
<b>JOURNALS</b>	2020	Designing a Decision-Making Framework for Facility Location of a Community Mall Using Analytic Hierarchy Process (AHP): A Case Study on Company XYZ	Maureen Cariño, Micah Ramirez, Kathleen Baldoz, Kristina Grace Castillo	Journal of Marketing Management and Consumer Behavior
	2019	Prevalence of Symptoms and Risk Factors of Health Problems Among Solid Waste Collectors in the Philippines	Lizabeth A. Mariano and Aura C. Matias	Phil. Engineering Journal, UP-NEC
		Exploratory study on the impacts of handle vibration on the hand and forearm	Josefa Angelie D. Revilla, ping Yeap Loh & Satoshi Muraki	Industrial Engineering & Management Systems
	2018	A Hierarchical Model of Service Quality in the Prepaid Mobile Telecommunications Industry	Marc Immanuel G. Isip, Riana Joyce B. Ortega	Philippine e-Journal for Applied Research and Development 8(2018), 44-57
	2017	Evaluation of Work-Rest Schedule During Operation of a Hand Tractor under Lowland Condition	Kathleen L. Baldoz, FGL Clemente, Haerold Dean Z. Layaoen, Mark Anthony M. Baldoz, & Josefa Angelie D. Revilla	JPIE
		Inventory Control Heuristic for a Perishable Item under Stochastic Demand and Restricted Batch Size	Angelo C. Ani, Iris Ann Martinez, Claro Arriola III	Philippine Engineering Journal
<b>PROCEEDINGS</b>	2018	Determination of the factors affecting the learning rate of workers in the food processing industry	LAV Matanguihan, Josefa Angelie D. Revilla, Kristina Grace Castillo, Micah A. Ramirez	AIP Publishing,
		Impact of Office Design on Satisfaction of Government Employees in Laguna Provincial Capitol, Philippines	Angelo C. Ani, Maria Liezel P. Carroche, Micah A. Ramirez, ME Villanueva	Springer International Publishing AG, part of springer Nature 2019
		Assessment and Reduction of Whole-Body Vibration Experienced by Jeepney Drivers of “Sarao” Jeepneys using Practical Vibration Dampeners	Maria Liezel P Carroche, Carlo Adug, Christian Earl J. Buna, Cyrus John Mendoza, Jericho Joseph R. Pena, Daniel J. Villamil	Springer International Publishing AG, part of springer Nature 2019
		Ergonomic Risk Assessment for the Prolonged Usage of Smartphones on Students	Jannie Lou Canaria, John Bernard Croox, Adam Hans Dayao, John Russel Macatangay, Ryan Vinluan, Lizabeth A. Mariano	Springer International Publishing AG, part of springer Nature 2019

## FACULTY AWARDS

Recipient	Award Name	Granting Organization and Date
Christian Earl J. Buna, Maria Liezel P. Carroche, Carlo T. Adug, Cyrus John P. Mendoza, Jericho Joseph R. Peña, Daniel James P. Villamil	International Publication Award “Assessment and Reduction of Whole-body Vibration Experience by Jeepney Drivers of Sarao”	UP System 4 February 2020
Luzette V. Matanguihan, Josefa Angelie D. Revilla. Micah A. Ramirez, Kristina Grace A. Castillo	International Publication Award “Determination of the factors affecting the learning rate of workers in the food processing Industry”	UP System 2 December 2019

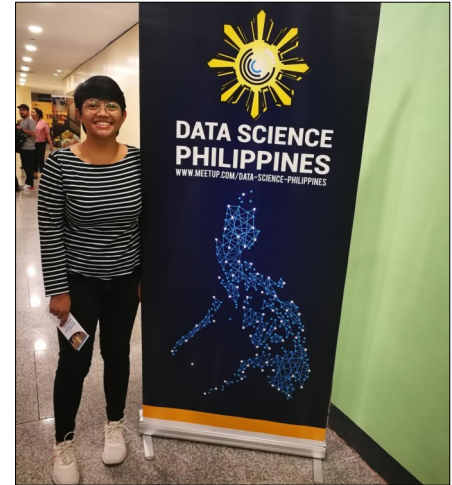
## ONGOING RDE PROJECTS

TITLE OF ONGOING PROJECT	DURATION	FUNDING AGENCY
Designing an Information Systems Framework for Collaborative Technologies for Digitized Open Innovation Network for Inclusive Growth (DOING)	Jan 2020-Dec 2020	OVCRE-UPLB

## CONFERENCES ATTENDED

	NAME OF PERSONNEL	TITLE OF CONFERENCE	VENUE	DATE
LOCAL	Mark Anthony M. Baldoz	CEAT Fab Lab Equipment Training	Follosco Fab Lab IAE Building	3 - 5 June 2020
	Jude Vincent Guliman, Jaydon Ramos, Geo Remo, Yzzan May Souribio, with Angelo C. Ani	PIIE Regional Academic Competitions	CEAT Lecture Hall, UPLB	15 February 2020
	Diane Marie R De Silva, Micah A. Ramirez	15th Orientation Seminar on UPLB Basic Research	CEC, UPLB	10 & 12 February 2020
	Micah A. Ramirez, Stephanie Caridad DR. Landicho	Analytics Methodologies	Carlos P. Romulo Auditorium, RCBC Plaza, Ayala Makati City	13 November 2019
	Clarissa M. Pesigan	Math 27 and Math 28 Stakeholders' Meeting	MB 202, CAS, UPLB	28 October 2019
	DIE	STIES XI (Cultivate: Transforming Industries Towards Sustainability & Green Engineering)	DL Umali Hall, UPLB	12 October & 21 September
	Alan Marco S. Mercado, Maria Liezel P. Caroché, Micah A. Ramirez, Marc Joseph S. Villanueva	First Aid and Basic Life Support Training	CEC Conference Room	23 & 30 September 2019
	Clarissa M. Pesigan	Ensuring Social Impact in Technopreneurship Teaching: Faculty Training	Citadines Millenium Hotel, Ortigas	16-21 September 2019
	IED Faculty and Staff	Gender Sensitivity, Gender-fair Language, & Anti-Sexual Harassment Seminar	IED Rm. 104	9 September 2019
	Micah A. Ramirez, Marc Joseph S. Villanueva, Alan Marco S. Mercado	SOADvisers Forum	CEC Conference Room	2 September 2019
	Alethea Diana Villa	Applied Human Factors and Ergonomics 2019	Washington Hillton, Washington, DC, USA	24-28 July 2019
	Marc Joseph S. Villanueva, Alan Marco S. Mercado	UPLB 81st Seminar on Teaching	Animal Science Lecture Hall 2	15-19 July 2019
	Kathleen L. Baldoz	2nd Higher Education Administrator's Development Seminar	PHILJA, Tagaytay City, Cavite	2-4 July 2019
	Kathleen L. Baldoz, Angelo C. Ani	BSME Curriculum Workshop	Follosco Innovateering Lab, IABE, UPLB, College Laguna	24-25 June 2019
	Kathleen L. Baldoz, Mark Anthony M. Baldoz	NORDE FABLAB Costing/Operations Training	Follosco Innovateering Lab, IABE, UPLB, College Laguna	11 June 2019
	Kathleen L. Baldoz	Procurement 101 for University Executives	CFNR, UPLB, College Laguna	4 June 2019
	Lizabeth A. Mariano	Managing UPLB's Chemical Wastes	CEC Conference Room	20 May 2019
	Lizabeth A. Mariano and Marc Joseph S. Villanueva	SAIS Training	ILC Lab 2, NCAS Bldg.	7 May 2019
	Lizabeth A. Mariano and Marc Joseph S. Villanueva	Building Administrator's Forum	REDREC, CEM	26 April 2019

	NAME OF PERSONNEL	TITLE OF CONFERENCE	VENUE	DATE
LOCAL	IED Faculty, UPLB IESO	QUEST Seminar (Queries Unravelled: Exploring SP and Thesis)	IE 100	13 March 2019
	Venrem Bill A. PAsion, Jason Ryan A. Ramos, Joshua Patrick O. Jamison, Angelo C. Ani	PIIE National Student Congress	Lyceum University of the Philippines - Laguna.	9 March 2019
	Mark Anthony M. Baldoz	DOST-PCIEERD Project Evaluation	UP Diliman	1 February 2019
	DIE Faculty, staff, and students	Nationwide Earthquake Shake Drill	DIE, CEAT	21 February 2019
	Aaron Jimenez	3D printer training	IAE Conference Room	3 December 2018
	Maria Liezel P. Caroché, Stephanie Caridad DR. Landicho	DLSU's CHED PHERNet Sustainability Lecture Series and Editor's Forum	KL Tower Serviced Residences, Makati City	19 November 2018
	Stephanie Caridad DR. Landicho, Clarissa M. Pesigan	First Aid Training for UPLB Faculty and REPS	CEC	29 October 2018
	JP Guliman, JO Jamison, VA Pasion, MP Doctora, BM Eroy, AP Ressurrecion, JS Rosales, Angelo C. Ani and 5 non-competing delegates	IEshikawa 13	UP Diliman	12-13 October 2018
	UPLB IESO, Clarissa M. Pesigan	10th Southern Tagalog Industrial Engineering Seminar 1.0 (STIESX)	D.L. Umali Hall, UPLB	29 September 2018
	Maria Liezel P. Caroché	15th Engineering Research and Development for Technology (DOST-ERDT) Conference and 11th AUN/SEED-Net Regional Conference on Energy Engineering	The Manila Hotel in Ermita, Manila	27-28 September 2018
	Rainier A. Austria, and Micah A. Ramirez	Wordpress Training	AMTEC Conference Room	24 September 2018
	Trixia Perez, Reina Nepales, Keizer Siguenza, Nicole Saludaes, Stephanie Caridad DR. Landicho	Legal Minds XIII	CEAT LH	24 September 2018
	Clarissa M. Pesigan	CHED Zonal Public Orientation	Manila Opera Hotel, Sta. Cruz, Manila	17 August 2018
	Clarissa M. Pesigan, Angelo C. Ani, & Micah A. Ramirez	CHED TWG Writeshop	CE 103, CEAT, UPLB	26 July 2018
	Maria Liezel P. Caroché, Stephanie Caridad DR. Landicho	NSTP Planning Workshop and Trainor's Training	Chateau Royale, Batulao, Nasugbu, Batangas	23-25 July 2018
	All active IE faculty	OBE Training Workshop	EE Audi, CEAT, UPLB	2-3 July 2018
	Lizabeth A. Mariano	Aghambayan	PICC	20 June 2018
	Clarissa M. Pesigan, Angelo C. Ani	SAIS training for updating course catalog	IILC, NCAS	28 May 2018
	Mark Anthony M. Baldoz, Angelo C. Ani	Training Workshop on Mathematical Modeling and Simulation for Engineering Education	AMTEC Conference Room, CEAT, UPLB	26 March 2018
	DIE Faculty and Staff	CEAT Lecture Series: International Lectures from Japan	CEAT Lecture Hall	23 March 2018
	Micah A. Ramirez, Maria Liezel P. Caroché	Data Engineering and Analytics International Conference 2018	Midas Hotel and Casino, Roxas Blvd. Pasay City	10 February 2018
	15 BSIE students with Stephanie Caridad DR. Landicho, Lizabeth A. Mariano	ErgoCon 2018: Redefining Design	National Institute of Physics, UP Diliman	27 January 2018
	Clarissa M. Pesigan	Case Teaching Method in Engineering	DLSU	19-20 January 2018
	Micah A. Ramirez, Mark Anthony M. Baldoz, Lizabeth A. Mariano, & Kathleen L. Baldoz	Usap Tayo: A Mental Health Awareness Seminar	EE Auditorium, CEAT, UPLB	15 January 2018



## STUDENT AWARDS

Recipient	Award Name	Granting Organization and Date
Christian Earl Buna, Maria Liezel P. Carоче, Carlo T. Adug, CJP Mendoza, JJR Peña, DJP Villamil	International Publication Award for the paper titled "Assessment and Reduction of Whole-Body Vibration Experienced by Jeepney Drivers of "Sarao" Jeepneys Using Practical Vibration Dampeners"	OVPAA 4 February 2020
Luzette Ann V. Matanguihan, Josefa Angelie D. Revilla, Micah A. Ramirez, Kristina Grace A. Castillo	International Publication Award for the paper titled "Determination of the factors affecting the learning rate of workers in the food processing industry"	OVPAA 2 December 2019
Angel Carlos, Kenneth Punongbayan, Alethea Villa, Arielle Yap	Champion - IEshikawa 14 Case Study Competition	UP Circle of Industrial Engineering Majors (UP CIEM) and LF Logistics 9 November 2019
Angelo Limbo, Trixia Mae Perez, Mikaela Sava, Yna Nepales, Derrick Villamayor, Engr. Alan Mercado (coach)	Champion - Legal Minds 14	Society of Chemical Engineering Students 23 September 2019
Angelo C. Ani; Maria Liezel P. Carоче; Micah A. Ramirez; ME Villanueva	IPA (Impact of Office Design on Satisfaction of Government Employees in Laguna Provincial Capitol, Philippines)	OVPAA April 2019
Jude Vincent Guliman, Joshua Patrick Jamison, Ven-rem Vill Pasion, Jason Ryan Ramos, Jaydon Marley Ramos, with Angelo C. Ani (coach)	Champion, 9th Student Congress Quiz Contest	PIIE-Calabarzon 27 January 2019
Yehrica R. Ponce, Alexie Ann R. Quibuyen, Kyrinne Kate M. Viaje with Clarissa M. Pesigan and Marc Isip (coaches)	Champion, 9th Student Congress Feasibility Competition	PIIE-Calabarzon 27 January 2019
Kyrinne Kate M. Viaje	Best Presenter	PIIE-Calabarzon 27 January 2019
John Paul F. Obias	Outstanding Student Leadership Award 2018	UPLB 23 June 2018
Carlo Adug, John Bernard Croox, Nigel Pantastico, Angelo Ani (Coach)	Third place, National IE Quiz Contest	PIIE 3 February 2018
John Bernard Croox, Nigel Pantastico, Joshua Patrick Jamison, Venrem Bill Pasion, Jason Ryan Ramos, Angelo Ani (Coach)	First place, IE Quiz Contest, Regional IE Congress	PIIE 3 February 2018
Christian Earl Buna, Adam Hans Dayao, Alexander Karunungan, Alyssa Mikaela Ronquillo, Kathleen Baldoz, Clarissa Pesigan (Coaches)	Winner, Feasibility Study Competition, Regional IE Congress	PIIE 3 February 2018
Adam Hans Dayao	Best Presenter, Feasibility Study Competition, Regional IE Congress	PIIE 3 February 2018

# DEPARTMENT OF ENGINEERING SCIENCE



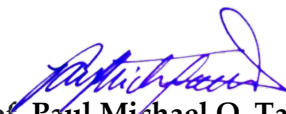
I begin this message with gratitude.

First and foremost, I extend my appreciation to the faculty and staff of the Department of Engineering Science for facing the challenges together in the past few years. *Hindi po matatawaran ang lahat ng inyong mga nagampanan upang maisakatuparan ang mga layunin ng Departamento.* I would also like to thank Dean Arnold R. Elepaño, and the CEAT and UPLB administration, for giving me this opportunity to serve.

Historically, the Department of Engineering Science was noted for having high faculty turnovers. As of this writing, I am proud that the number of tenured faculty has climbed from less than a handful to twelve. Divine providence willing, we earn even more. Thank you to the DES faculty who stayed to serve the Filipino people by continuing to educate the next generation of engineers. May we all remain steadfast and dedicated in our work. May we always be the conduits of foundational knowledge and skills. May we continually grow through our threefold duty in the University.

To the students, who likely view Engineering Science courses as being notoriously difficult, allow me to provide some advice: one of the most valuable lessons of all—should you forget all others—is that of learning. We learn by standing up after falling. We can show the world that despite past mistakes, or perhaps because of them, we can always be better versions of ourselves. The sweetest of victories lie at the end of a string of defeats. The strongest of steels is the one forged in the hottest of flames. The most beautiful of flowers is the one that blooms in the harshest conditions. Push on; seize that degree. Be the *Iskolar ng Bayan* that the country needs.

For honor. For excellence. *Maraming salamat po.*

  
**aProf. Paul Michael O. Tarnate**  
Chair, Department of Engineering Science

## FACULTY AND STAFF

### ASSOCIATE PROFESSOR

Ventura, Jey-R S.

### INSTRUCTORS

Delfin, Jerric R.  
Elec, Lady Catherine S.  
Gonzaga, Ian Lorenzo E.  
Opaco, Aidrean P.  
Ramirez, Eunice G.

### ADMINISTRATIVE STAFF

Andres, Roxano Karlo P.– Admin. Aide I  
Lebornio, Glenn E.– Admin. Aide IV  
Roxas, Rea E.– Admin. Asst. II

### ASSISTANT PROFESSORS

Alfaro, Benjamin Jose C.  
Bueta, Felix Rey C.  
Cunanan, Maricris C.  
Escobar, Erwin C.  
Glorioso, Ariel U.  
Libunao, Donna Wren B.  
Mulimbayan, Francis M.  
Reaño, Resmond L.  
Tarnate, Paul Michael O.  
Vasquez, Jasmin Z.

Ancheta, Al Kaixer G.  
Cruz, Jimyl A.  
De Padua, Victor Antonio N.  
Garing, Clare L.  
Latag, Glenn V.  
Lu, Maria Morissa DC.  
Ocreto, Melanie B.  
Tajanlangit, Gianina Martha A.  
Vaso, Christian C.

## PUBLICATIONS

JOURNALS	Publication Date	Specific Title	Author/s	Publication Agency
	2020	Effect of Lauric acid on the Thermal and Mechanical Properties of Polyhydroxybutyrate (PHB)/Starch Composite Biofilms	Joemer A. Adorna, Camelle Kaye A. Aleman, Ian Lorenzo E. Gonzaga, Jame-la N. Pangasina, Kim Marie D. Sisican, Van Dien Dang, Ruey-An Doong, Ruby Lynn G. Ventura, & Jey-R S. Ventura	Hindawi
		Steam Explosion and Sequential Steam Explosion – Dilute Acid Pretreatment Optimization of Banana Pseudostem for Polyhydroxybutyrate (PHB) Production	Kristel Anna A. Mabazza, Princess J. Requiso, Catalino G. Alfafara, Fidel Rey P. Nayve Jr., & Jey-R S. Ventura	National Institute Of Science And Technology
		Effect of Processing Parameters on the Diameter and Morphology of Electrospun Iron-Modified Montmorillonite (Fe-MMT)/Polycaprolactone Nanofibers	Gianna Martha A. Tajanlangit and Leslie Joy L. Diaz	Key Engineering Materials
		Determination of drying behaviour and ethanol production from fresh and dried sweet sorghum stalks	Melanie B. Ocreto, Arnold R. Elepaño & Kevin F. Yaptenco	International Journal of Agricultural Technology
		Optimization of Fermentation Factors for Polyhydroxybutyrate (PHB) Production Using <i>Bacillus megaterium</i> PNCM 1890 in Simulated Glucose-Xylose Hydrolysates from Agricultural Residues	John Christopher A. Danez Princess J. Requiso, Catalino G. Alfafara, Fidel Rey P. Nayve Jr. & Jey-R S. Ventura	National Institute of Science and Technology
	2019	Assessment of environmental impact and energy performance of rice husk utilization in various biohydrogen production pathways	Resmond L. Reaño	Bioresource Technology
		Effect of ingredient loading and temperature on tensile properties of surfactant-loaded natural vulcanizates	Jimyl Arabit-Cruz, and Bryan Pajarito	Key Engineering Materials 803: 356-360
	2018	Effect of sintering temperature on the structure, morphology, and conductivity of LSM/YSZ composite electrode synthesized via solid state reaction	Christian C. Vaso, Arianna Benipayo, and Rinlee Butch M. Cervera	Philippine e-Journal for Applied Research and Development

## ONGOING RDE PROJECTS

TITLE OF PROJECT	POPONENTS	FUNDING AGENCY
Polyhydroxy-alkanoate (PHA) production from agricultural residues	Jey-R S. Ventura, Catalino G. Alfafara, Jewel A. Capunitan, Fidel Rey P. Nayve Jr.	DOST-PCIEERD
Polyhydroxybutyrate (PHB) Property Improvement and Development of Filament for 3D Printing Applications	Jey-R S. Ventura, Fidel Rey P. Nayve Jr., Ruby Lynn G. Ventura	DOST-NAST
Isolation and Characterization of Photofermenting Microorganism for Biohydrogen Production	Jey-R S. Ventura, Fidel Rey P. Nayve Jr., Ruby Lynn G. Ventura, Nacita R. Biagtan-Lantican	DOST-NRCP
Development of Aptamer-based Colorimetric and Electrochemical Point-of-care type Biosensor for Diagnosis of Active and Latent Tuberculosis Infection	Resmond L. Reaño, Jeffrey P. Tamayo, Adam Leong Espiritu	DOST-PCHRD
PPE Disinfection	Monet Concepcion M. Detras, Rhebner E. Arocena, Ramon Christian P. Eusebio, Rowena B. Carpio, M de Leon, N Sabino, Lady Catherine S. Elec, Vic Jayson Nisola	UPLB





## FACULTY AWARDS

Recipient	Award Name	Granting Organization and Date
Requiso PJ, Tantoco CGA, Perez NAD, Alfafara, CG, Nayve FRP, and Ventura JS	1st Place - "Optimization of Pretreatment, Enzymatic hydrolysis, and Fermentation Conditions for Polyhydroxybutyrate (PHB) Bioplastic Production from Corn Stover "	DOST-NRCP Scientific Poster Competition 30 June 2020

## CONFERENCES ATTENDED

	NAME OF PERSONNEL	TITLE OF CONFERENCE	VENUE	DATE
INTERNATIONAL	Jasmin C. Vasquez	24th Annual Green Chemistry and Engineering Virtual Conference	Zoom	15-19 June 2020
	Jasmin C. Vasquez	ACS Spring 2020 National Meeting and Exposition	Zoom (Pennsylvania Convention Center)	22-26 March 2020
	Gianina Martha A. Tajanlangit	International Conference on Engineering and Innovative Materials -	Tokyo, Japan	6-8 September 2019
	Al Kaixer G. Ancheta	2019 International Joint Conference on JSAM, SASJ, and 13th CIGR VI Technical Symposium joining FWFNWG and FSWG Workshops	Hokkaido University, Sapporo, Japan	3-6 September 2019
	Clare L. Garing	9th International Conference on Key Engineering Materials -	Oxford, United Kingdom	29 March-1 April 2019 -
	Jimyl A. Cruz	International Conference on Advanced Materials Research	NUS, Singapore	24-27 January 2019
LOCAL	Jey-R S. Ventura	2020 NRCP Annual Scientific Conference and 87 <sup>th</sup> General Membership Assembly	Zoom	30 June 2020
	Lady Catherine Elec	3M Clean Trace Hygiene Monitoring System Training	IBS Conference Room UPLB	23 June 2020
	Resmond L. Reaño	Biosafety Education and Awareness Training against COVID-19 (NTCBB-BEAT COVID-19-501)	UPM-NIH	14 April - 14 May 2020
	Resmond L. Reaño	4th Philippine Solid & Hazardous Waste Management Conference and 1st International Conference on Circular Economy-based Waste Management -	Tarlac City	10-13 December 2019
	Sofio M. Eusebio	Procurement Officers Training	ICOPED Auditorium, CEM, UPLB	25 November- 6 December 2019



# AGRICULTURAL MACHINERY TESTING AND EVALUATION CENTER



Greetings from the premiere and reference testing center of agri-fishery machinery in the Philippines!

Since its establishment in 1977, AMTEC has always envisioned a self-reliant agricultural and fisheries industry that would safeguard and cater to the interests of our Filipino farmers and fisherfolks. That is why AMTEC strived to stay true to its mandate for the continuous advancement of Philippine agriculture throughout the years.

AMTEC would not have reached this far if it weren't for the utmost cooperation and support of the individuals and institutions who have been in every step of each of our conquests— one of which is the College of the Engineering and Agro-Industrial Technology.

We express our utmost solidarity towards the vision of the College for over a hundred and eight years for the progressive transformation and global relevance of Philippine Agriculture and Industry. Through all challenges, accomplishments, and aspirations, the College has always aided AMTEC in lobbying, linking and enhancing our services for the research and academe.

As this term ends, another door will undoubtedly open for the continuity of all values and programs that the College has imparted will all its constituents. As such, let us continue our endeavor towards the path that is honor, excellence, and innovation.

  
**Dr. Arthur L. Fajardo**

Director, Agricultural Machinery Testing and Evaluation Center (2018-2020)

## AMTEC STAFF

### ADMINISTRATIVE STAFF

Eusebio, Romulo E.- Engineer III  
Noche, Rowena A. - Admin. Officer V  
Armando B. Caracuel- Admin. Aide I  
Caroline D. Lat- Admin. Aide I  
Antonia L. Sarino– Admin. Aide III  
Domingo L. Reboltan - Admin. Aide I

### ENCODERS

Almalvez, Micah A.  
Capunpon, Ruzzel Ace C.  
Copa, Arnel C.  
San Andres, Princess V.  
Trinidad, Gerald S.

### PROJECT ASSISTANTS

Germita, Joshua Randolph M.  
Loberiza, Jerick Emmanuel A.  
Magtalas, Trixie Marie P.  
Oliver, Leslie Mae O.  
Pajaron, Franklin C.  
Turtor, Elthon I.

### TEST ENGINEERS

Agoncillo, Mary Christine M.  
Alipio, Ray D.  
Deniega, Charleen Grace V.  
Lopez, Jaime Miguel J.  
Magmanlac, Alphonse Regin R.  
Santiago, Michaela Vivienne R.

Albalos, Rhey Marc C.  
Bondoc, David L.  
Franco, Karen Cybill D.  
Menguito, Jerson Jose T.  
Raytana, Fatima Joy J.  
Reginio, Glory Yster M.

### SKILLED WORKERS

Agan, Julius Cesar C.  
Canales, Primitivo Jr. A.  
Castillo, Jerome N.  
Juarez, Antonio Padua C.  
Nalzar, Wilson A.

Beltran, Jeffrey S.  
Castillo, Jerry T.  
Copa, Manuel C.  
Imperial, Robert I.  
Soriyao, Joel R.

Pabella, Cielo Anne C. - Information Officer I  
Javier, John Bernard M. – Technician  
Rickie Bhoy M. Golveo– Laboratory Technician

## ONGOING AND COMPLETED RDE PROJECTS

TITLE OF ONGOING PROJECTS	DURATION	FUNDING AGENCY
“Strengthening of the Agricultural Machinery Testing and Evaluation Center (AMTEC) in Line with the Agricultural and Fisheries Mechanization Law of 2013”	April 2019 to April 2022	DA
“Testing and Evaluation of Machinery Generated from PCAARRD-Funded Projects Phase 2”	January 2020 to January 2022	DOST- PCAARRD
“Appropriate Instrumentation and Data Acquisition System for Performance Testing of Agricultural Machinery” spearheaded by Prof. Erwin P. Quillooy in collaboration with AMTEC	June 2020 to May 2022	DOST- PCAARRD
“Upgrading of AMTEC-UPLB Small Engine Testing Facilities”	August 2019 to present	DOST- PCAARRD

TITLE OF COMPLETED PROJECT	DURATION	FUNDING AGENCY
“Testing and Evaluation of Machinery Generated from PCAARRD-Funded Projects Phase 1”	June 2017 to May 2019	DOST- PCAARRD

## CONFERENCES ATTENDED

	NAME OF PERSONNEL	TITLE OF CONFERENCE	VENUE	DATE
INTERNATIONAL	Alphonse R. Magmanlac, Ray D. Alipio	5 <sup>th</sup> Technical Working Groups (TWGs) of ANTAM	Changsha, China	10-12 September 2019
	Alphonse R. Magmanlac, Ray D. Alipio	5 <sup>th</sup> Training of Trainers of ANTAM	Beijing & Changsha, China	4-11 September 2019
	Rhey Marc C. Albalos and Mary Christine M. Agoncillo	4 <sup>th</sup> Training of Trainers of ANTAM	Beijing and Wuhan, China	22-27 October 2018
	Arthur L. Fajardo	5 <sup>th</sup> Annual Meeting of ANTAM	Yogyakarta, Indonesia	28-30 November 2018
LOCAL	Engrs. Romulo Eusebio and Alphonse Regin Magmanlac, Mr. Primitivo Canales	Training Course on the testing of Solar-powered Irrigation System (SPIS)	Cabanatuan City , Nueva Ecija	28-31May 2019
	Romulo E. Eusebio, Darwin C. Aranguren, Fatima Joy J. Raytana, KCD Franco, MDG Estrada Conrad Ian S. Tan, Mary Christine M Agoncillo	2019 PSABE Annual National Convention	SMX Convention Center, Bacolod City	22-26 April 2019
	Romulo E. Eusebio, Fatima Joy Raytana, Conrad Ian Tan, Mary Christine Agoncillo, Rhey Marc Albalos	Training Course on the Performance Testing and Evaluation of Processing Machinery (Corn Mill, Corn Sheller, Coffee Huller)	Koronadal City, South Cotabato	12-16 November 2018
	AMTEC Engineers and Staff	ATI and AMTEC Refresher Training Course on Testing and Evaluation of Agricultural and Fisheries Machinery	Oasis Hotel, Los Baños, Laguna	04-08 December 2017



## TECHNICAL ASSISTANCE DELIVERED

Type of Technical Assistance (Member, Participant, Resource Speaker)	Duration/ Date	Personnel Involved
<b>TEACC Meetings</b>		
TEAAC Regular Meeting	20 June 2019	Arthur L. Fajardo
3 <sup>rd</sup> Meeting of the Testing and Evaluation Accreditation Advisory Committee (TEAAC)	15 October 2018	Arthur Fajardo
<b>ANTAM Trainings</b>		
5 <sup>th</sup> Technical Working Groups (TWGs) of ANTAM	10-12 September 2019	Alphonse R. Magmanlac Ray D. Alipio
5 <sup>th</sup> Training of Trainers of ANTAM	4-11 September 2019	Alphonse R. Magmanlac Ray D. Alipio
5 <sup>th</sup> Annual Meeting of ANTAM	28-30 November 2018	Arthur L. Fajardo
4 <sup>th</sup> Training of Trainers of the Asian and Pacific Network for Testing of Agricultural Machinery (ANTAM)	22-27 October 2018	Rhey Marc C. Albalos and Mary Christine M. Agoncillo

Type of Technical Assistance (Member, Participant, Resource Speaker)	Duration/ Date	Personnel Involved
<b>AFMeC Meetings</b>		
AFMeC Special Meeting	5 September 2019	Darwin C. Aranguren
AFMeC Regular Meeting	24 July 2019	Daniel Estrada
AFMeC Task Force on Registration of Ownership	16 July 2019	Trixie Marie Magtalas, Arthur Fajardo
AFMeC TWG on Manufacturing and Supply	16 July 2019	Trixie Marie Magtalas
AFMeC Special Meeting	31 May 2019	Jasper Aliangan and Ray Alipio, Ms. Cielo Pabella
AFMeC Task Force on Procurement Meeting	22 May 2019	Mary Christine Agoncillo
AFMeC Meeting	27 March 2019	Jasper C. Aliangan
Special AFMeC meeting	13 March 2019	Romulo E. Eusebio and Glory Yster M. Reginio
AFMeC Task Force on Registration	1 March 2019	Engr. Darwin C. Aranguren
AFMeC Task Force on Procurement	27 February 2019	Darwin C. Aranguren and Alphonse Regin Magmanlac
AFMeC Meeting	4 February 2019	Arthur L. Fajardo and Fatima Joy J. Raytana
AFMeC Meeting	5 December 2018	Arthur L. Fajardo
AFMeC Task Force on the Registration of Ownership of Agricultural and Fisheries Machinery and Equipment	15 November 2018	Arthur L. Fajardo
<b>Compendium Meetings</b>		
Core Group Meeting on the Compendium of Agricultural Machinery and Equipment	23 September 2019	Arthur L. Fajardo, Romulo E. Eusebio, Cielo C. Pabella, Rowena A. Noche
Workshop on the Updating of Reference Manual of Agricultural Machinery and Equipment (Compendium)	22-26 October 2018	Engr. Romulo E. Eusebio
<b>Training Courses</b>		
Training Course on the Performance Testing and Evaluation of Newly-Developed Standards for Corn and Cassava Machinery	13-16 August 2019	Darwin C. Aranguren, Jasper C. Aliangan, Jerry T. Castillo
Training Course on Machinery Specification and Standards for Manufacturers and Dealers	23-25 July 2019	Fatima Raytana
Training Course on Testing and Evaluation of SPIS	3-7 June 2019	Romulo E. Eusebio and Rhey Marc C. Albalos, Mr. Antonio Juarez
Training Course on the testing of Solar-powered Irrigation System (SPIS)	28-31 May 2019	Romulo Eusebio and Alphonse Regin Magmanlac, Primitivo Canales
Training Course on the Performance Testing and Evaluation of Processing Machinery (Corn Mill, Corn Sheller, Coffee Huller)	12-16 November 2018	Romulo E. Eusebio, Fatima Joy Raytana, Conrad Ian Tan, Mary Christine Agoncillo, Rhey Marc Albalos

Type of Technical Assistance (Member, Participant, Resource Speaker)	Duration/ Date	Personnel Involved
<b>NAMDAC Meetings and Workshops</b>		
NAMDAC workshop	11 April 2019	Darwin C. Aranguren
NAMDAC Board meeting	12 March 2019	Darwin C. Aranguren and Conrad Ian S. Tan
NAMDAC Board and Advisory Body meeting	13 February 2019	Arthur L. Fajardo and Karen Cybill Franco
NAMDAC Board and Its Advisory Body Meeting	26 November 2018	Darwin C. Aranguren
<b>PSABE Convention</b>		
PSABE Annual National Convention	22– 26 April 2019	Romulo E Eusebio, Darwin C Aranguren, Fatima Joy J Raytana, KCD Franco, MDG Estrada, Conrad Ian S Tan, Mary Christine M Agoncillo
<b>ACPC TWG Meetings</b>		
DA-ACPC TWG Meeting for the Farm/Fishery Machinery and Equipment Loan Program	25 January 2019	Arthur L. Fajardo
DA-ACPC TWG Meeting for the Farm/Fishery Machinery and Equipment Loan Program	19 November 2018	Darwin C. Aranguren
<b>PCAF Meetings</b>		
PCAF Meeting	25 September 2019	Romulo E. Eusebio
DA-PCAF National Sectoral and Strategic Concerns Committees (NSSCC) Policy Agenda Setting Workshop	27 November 2018	Romulo E. Eusebio, Engr. Ray C. Alipio
<b>PCAARRD Meetings</b>		
NUWAM Project Final Presentation	30 September 2019	Aurelio A. Delos Reyes Jr., Ray D. Alipio, Micah A. Almalvez
TWG Meeting (PCAARRD Project)	11 September 2019	Romulo E. Eusebio, Darwin C. Aranguren
<b>BAFS TWG Meetings</b>		
BAFS TWG Meeting -Tractor Standards	27 September 2019	Arthur L. Fajardo, Romulo E. Eusebio
BAFS TWG Meeting (Cattle Restrainer)	17 September 2019	Darwin Aranguren
BAFS TWG Meeting (Corn Mill)	13 September 2019	Romulo E. Eusebio
BAFS Stakeholders Consultation on PNS Multi Commodity Dryer	29 August 2019	Darwin C. Aranguren, Leslie O. Oliver
BAFS Stakeholders Consultation on PAES Development of Aerator	13 August 2019	Romulo E. Eusebio, Ellthon I. Turtor
National Consultation on the Revision of PAES for Rice Mill	18 June 2019	Darwin Aranguren
Seminar orientation for the Technical Committee and TWG Members	11 June 2019	Darwin Aranguren
TWG Meeting on the revision of PNS/PAES for Ricemill	28 May 2019	Darwin Aranguren

Type of Technical Assistance (Member, Participant, Resource Speaker)	Duration/ Date	Personnel Involved
National consultative meeting	23 May 2019	Darwin C. Aranguren
Public consultation meeting on the Revision of PAES/PNS for Coffee Pulper/Huller	21 May 2019	Darwin C. Aranguren and Fatima Joy Raytana, Cielo Anne Pabella
TWG Meeting on the revision of PNS/PAES for Ricemill	10 April 2019	Darwin C. Aranguren
National Public Consultation Meeting on PNS/PAES for Aquaculture Feeder and Brown Rice Stabilizer	21 February 2019	Darwin C. Aranguren, Romulo E. Eusebio, Ray D. Alipio, Daniel Estrada, Gerald S. Trinidad, Mykz Almalvez
TWG Meeting for the Development of Philippine Agricultural Engineering Standards (PAES) for Various Agricultural Machinery from PCAARRD-funded Projects (Aquaculture Feeder, Brown Rice Satbilizer, and Peanut Thresher)	17 January 2019	Darwin C. Aranguren, Ray D. Alipio, and Gerald S. Trinidad
Public Consultative Meeting for the Revision of Philippine Agricultural Engineering Standards (PAES) for Four-Wheel Tractors- Specifications and Methods of Test	27 November 2018	Romulo E. Eusebio
BAFS TWG Meeting on the Deve-lopment of PNS for Peanut Grinder	19 November 2018	Darwin C. Aranguren
National Public Consultative Meeting (PCM) for The Revision of Philippine Agricultural Engineering Standards (PAES) for Slaughterhouse, Lairage and Cattle Restrainer	26 October 2018	Darwin C. Aranguren
Public Consultative Meeting for the Revision of Philippine Agricultural Engineering Standards (PAES) for Four-Wheel Tractors- Specifications and Methods of Test	24 October 2018	Darwin C. Aranguren
<b>BAFE Meetings</b>		
Meeting with DA RFO 6 and BAFE re: AMTEC Satellite Center	26 February 2019	Arthur L. Fajardo, Romulo E. Eusebio
Meeting/Workshop with BAFE re: SPIS, Strengthening, Satellite Center, Machinery Classification	15 February 2019	All Test Engineers
National Consultation for the Guidelines on the Registration and Issuance of Permit to Operate for Agricultural and Fisheries Machinery Manufacturers, Fabricators, Assemblers, Distributors, Dealers, Importers and Exporters (MFADDIE)	15-16 November 2018	Darwin C. Aranguren and Arthur L. Fajardo
TWG Meeting for the Guidelines on the Registration and Issuance of Permit to Operate for Agricultural and Fisheries Machinery Manufacturers, Fabricators, Assemblers, Distributors, Dealers, Importers and Exporters (MFADDIE)	19 October 2018	Darwin C. Aranguren
<b>Others</b>		
2019 Agri-Fishery Manufacturers and Suppliers Forum	16 August 2019	Arthur L. Fajardo, Cielo C. Pabella, Leslie O. Oliver
2nd Quarter Assessment of the High Value Crops Development Program	23 July 2019	Arthur Fajardo

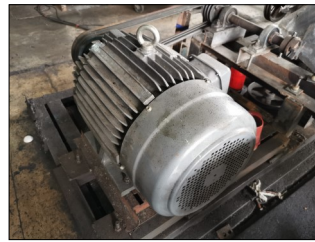


Type of Technical Assistance (Member, Participant, Resource Speaker)	Duration/ Date	Personnel Involved
<b>Others</b>		
Workshop on Rice Mechanization R&D Agenda and Program Setting	17-18 July 2019	Arthur Fajardo
Refresher Course on the Testing and Evaluation of Agricultural & Fishery Machinery	7-10 May 2019	Romulo Eusebio, Conrad Ian Tan, and Franklin Pajaron, Mr. Domingo Reboltan
Workshop on the drafting of evaluation scheme for the issuance of certificate of conformity	10-12 April 2019	Romulo E. Eusebio, Jasper C Aliangan, Arthur L Fajardo, Marife V Santiago
Appreciation briefing on the RA 10601: Agriculture and fisheries mechanization (AFMECH) law	27 March 2019	Romulo E. Eusebio and Dr. Arthur L. Fajardo
Technology Commercialization Mentorship Series re: Machine Testing	26 February 2019	Darwin C. Aranguren
Fourth Meeting of the ANTAM TWG's	25-28 June 2018	Romulo E. Eusebio
Refresher Course on Testing and Evaluation of Agricultural and Fisheries Machinery for Agricultural Engineers	4-8 December 2017	Romulo E. Eusebio
Refresher Course on Testing and Evaluation of Agricultural and Fisheries Machinery for Agricultural Engineers	27 November- 1 December 2017	Romulo E. Eusebio



## NUMBER OF MACHINES TESTED (December 2017- June 2020)

Year	No. of Machines Tested
December 2017	14
2018	445
2019	845
January to June 2020	81
<b>Total</b>	<b>1385</b>



# CENTER FOR AGRI-FISHERIES AND BIOSYSTEMS MECHANIZATION



The Center for Agri-Fisheries and Biosystems Mechanization (BIOMECH) of the College of Engineering and Agro-industrial Technology (CEAT) as a recently-elevated Center in 2015, from being originally a program of the College since 1979, has a long history and significant accomplishments in the field of agricultural and biosystems mechanization research, development, and extension or public service, as we have highlighted in our 40th Founding Anniversary Celebration in October 2019. As we adapt to the 'new normal' amidst the serious challenges of the COVID19 pandemic along with other persistent environmental concerns, related to soil and water conservation, and climate change, among others, BIOMECH is committed to continue on to its mandate to contribute in addressing these problems for the agricultural and fisheries mechanization sector.

In relation to COVID-19 University response, it has actively participated and assisted in the activities of the UPLB Technology and Facility Innovation Committee, in terms of specific designs and fabrication works of personal and protective equipment.

Recently, BIOMECH has embarked on open source local manufacturing of four-wheel tractor for conservation agriculture and sustainable mechanization innovation in collaboration with local and international partners. Further, it has launched and coordinated the CEAT wide-BEST-Mech Farms (Enhancing the Modernization of Philippine Agriculture and Fisheries through Biosystems Engineered Smart-Mechanized Farms) which will apply the principles of smart farming and innovations for a sustainable and productive farming system. Its program components include: sustainable water management system, weather monitoring and forecasting; satellite and remote sensing farm monitoring; controlled environment structures for crop, livestock and fisheries; bioenergy production; computer simulation for system analysis, system identification, and optimization methods; and establishment of the Demo-BEST-Mech Farms within UPLB, as a primary step prior to replication and introduction in other crop production areas.

We, at BIOMECH, are always grateful for the continued support of our College, the UPLB Administration and the UP System which contributed significantly to the achievement of our goals and objectives. Moving on, BIOMECH will carry on with its role through its RDE thrust on food security, environmental protection, energy sustainability, and climate change, towards Agriculture 4.0, through partnerships and collaboration with academe, government agencies, non-government agencies, farmer-groups and other beneficiaries/ clientele, and counterparts.



**Victor A. Rodolfo Jr., PhD**

Director, Center for Agri-Fisheries and Biosystems Mechanization (2018-2020)

## BIOMECH REPS AND ADMIN STAFF

### ADMINISTRATIVE STAFF

Amit, Jose Eric M.– Farm Worker II  
Eusebio, Aileen M.– Admin. Officer IV  
Milante, Nick C.– Machinist III  
Repoldo, Eric C.– Lab. Tech. I  
Del Rosario, Alexis C.– Engineer III  
Pangan, Ronel S.– Engineer III

Caracuel, Estanislao S.– Admin. Aide IV  
Lumitao, Juan M.– Farm Worker II  
Ramos, Hector R.– Draftsman II  
Repoldo, Rennie R.– Welder II  
Orozco, Jonatahan C.– Engineer II  
Rodulfo, Victor Jr. A.– Engineer IV

### REPS

De Ramos, Jose D.– University Extension Specialist III  
Larona, Maria Victoria L.– University Researcher II

Eusebio, Marck Ferdie V.- University Extension Specialist I  
Santiago, Marife R.- University Extension Specialist II

## PUBLICATIONS

	PUBLICATION DATE	SPECIFIC TITLE	AUTHOR/S	PUBLICATION AGENCY	
JOURNAL	2020	Optimization of the Floating-type Seaweed Dryer	Ronel S. Pangan, Mel Vincent A. Ampo and Ynno E. Barredo	Aquacultural Engineering Journal Vol. 89, 2020	
	2019	Utilization of Established Protocol in Identifying Potential Sites for Small Farm Reservoirs in Quezon Province, Philippines Using GIS-Based Water Resources Assessment	Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr., Patrick Lemuel P. Relativo, Maria Victoria L. Larona, Ronnie C. Valencia, Michel G. Acosta, Kobe Conrad R. Abellera, John Carlo L. Navasero, and Ria Salustia dG. Duminding	PJABE Vol. 15, No. 1, 2019	
	2018	Product Recovery After Processing and Drying of Philippine Sandfish ( <i>Holothuria scabra</i> ) into <i>Trepang</i>	Sharmaine N. Pardua, Emmanuel Lee O. Lapitan, Jeremy Deanon, Jonnel Andrew C. Duque, Ronel S. Pangan, and Kevin F. Yaptenco	PJABE Vol. XIV, 2018	
		Level of Agricultural Mechanization in Oriental Mindoro, Laguna and Quezon, Philippines Using the Modified Agricultural Mechanization Index for Lowland Rice	Rossana Marie C. Amongo, Mark Keylord S. Onal, Maria Victoria L. Larona, Arthur L. Fajardo, Clarissa Ileana L. Ila, Gherlee Nelle L. Lalap, Adrian A. Borja, Charleen Grace V. Deniega and Johanan V. Sumague	PJABE Vol. XIV, 2018	
	2017	Development of an Alternative Technology Package for Processing Sea Cucumber.	Ronnel S. Pangan,, Kevin F. Yaptenco, S. N. Pardua and Jonnel Andrew C. Duque	PJABE Vol. XIII, Issue 2017	
		Optimization of Parameters in the Production of Turmeric Powder Using a Hammer Mill-Type Pulverizer	Jose D. De Ramos, Engelbert K. Peralta, Kevin F. Yaptenco, Delfin C. Sumministrado, and Marife R. Santiago	PJABE Vol. XIII, Issue 2017	
		Diffusion and Utilization of UPLB Corn Mechanization Technologies in Masbate Province	Rossana Marie C. Amongo, Kevin F. Yaptenco, Ronaldo B. Saludes, Maria Victoria L. Larona, Fernando O. Paras, Jr., Rosa B. De los Reyes, Marion Lux Y. Castro, Jose D. De Ramos, Ronel S. Pangan, Victor A. Rodulfo, Jr., Erwin P. Quillooy, MDG Estrada, and Ronnie C. Valencia	PJABE Vol. XIII, Issue 2017	
	PROCEEDINGS	2020	Development of an electric hand tractor (e-Tractor) for agricultural operations	Rossana Marie C. Amongo, Erwin P. Quillooy, Mark Angelo F. Ranches, Maria Victoria L. Larona, Marish S. Madlangbayan	Earth and Environmental Science, 542, 012027
			Land Consolidation (Contiguous Farming) for Sustainable Crop Production for the Agro-Industry	Rossana Marie C. Amongo, Maria Victoria L. Larona, Arsenio N. Resurreccion Mark Keylors S. Onal, Gherlee Nelle L. Lalap, Mark Twain A. Limbo	International Conference on Green Agroindustry and Bioeconomy, Aug 25, 2020
		2019	Impact Assessment of the BIO-MECH Agricultural Mechanization Extension Project in Dumingag, Zamboanga Del Sur - <b>Paper</b>	Maria Victoria L. Larona, Jose D. De Ramos, Alexis C. Del Rosario, Marife R. Santiago, and Rossana Marie C. Amongo	69th PSABE Annual Convention
Approaches in Determining of Small-Scale Irrigation Projects (SSIPs) in CALABARZON Region, Philippines through GIS-based Water Resources Assessment for Food Security - <b>Paper</b>			Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr., Maria Victoria L. Larona, PLP Relativo, Ronnie C. Valencia, and Kobe Conrad R. Abellera	69th PSABE Annual Convention	
Development of a Standardized Procedure for the Determination of the Philippine Fisheries Mechanization Index (FishMI) - <b>Paper</b>			Mark Keylord S. Onal, Rossana Marie C. Amongo, Maria Victoria L. Larona, Gherlee Nelle L. Lalap, Clarissa Ileana L. Ila, Adrian A. Borja and Mark Twain A. Limbo	69th PSABE Annual Convention	

PUBLICATION DATE	SPECIFIC TITLE	AUTHOR/S	PUBLICATION AGENCY
2019	Determination of Fisheries Mechanization Index (FishMI) in Selected ASEAN Countries - <b>Paper</b>	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Clarissa Ileana L. Ila, Gherlee Nelle L. Lalap, Mark Twain A. Limbo and Adrian A. Borja	69th PSABE Annual Convention
	Boat and Engine Matching: An Evaluation of Existing Methodologies for Selecting Engine Power Rating for the Philippine Outrigger Crafts - <b>Paper</b>	Adrian A. Borja , Adrian A. Borja Mark Keylord S. Onal and Gherlee Nelle L. Lalap	69th PSABE Annual Convention
	Development of an Electric Hand Tractor (e-Tractor) for Transport - <b>Paper</b>	Rossana Marie C. Amongo, Erwin P/ Quillo, Mark Angelo F. Ranches, Maria Victoria L. Larona and Marish S. Madlangayan	69th PSABE Annual Convention
	Testing and Evaluation of an Off-Grid Solar PV Charging Station for Electric Vehicles- <b>Paper</b>	Fernando O. Paras Jr., Mark Keylord S. Onal, Arthur L. Fajardo, GP Bustilla, HV Canonio, Maria Victoria L. Larona and Marish S. Madlangayan	69th PSABE Annual Convention
	Testing and Evaluation of a Horizontal Axis Wind Turbine for Rural Off-Grid Community-Based Battery Charging Station- <b>Paper</b>	Mark Keylord S. Onal, Fernando O. Paras Jr., Arthur L. Fajardo, HV Canonio, GP Bustilla, Maria Victoria L. Larona and Marish S. Madlangayan	69th PSABE Annual Convention
	Needs and Design Assessment for the Identification of Potential Sites for Small Scale Irrigation Projects (SSIPs) in Laguna, Philippines Through GIS-Based Water Resources Assessments - <b>Poster</b>	Maria Victoria L. Larona, Rossana Marie C. Amongo, Roger A. Luyun, Jr., Ronaldo B. Saludes, Ronnie .C Valencia, and Michel G. Acosta	69th UP RE PSS Annual Scientific Conference
	Impacts of BIOMECH Agricultural Mechanization Extension Project in Dumingag, Zamboanga Del Sur - <b>Poster</b>	Maria Victoria L. Larona, Jose D. De Ramos, Alexis C. Del Rosario, Marife R. Santiago, and Rossana Marie C. Amongo	69th PSABE Annual Convention
	Site Suitability Analysis for Pump Irrigation Open Source System (PISOS) Development in Mindoro, Philippines through GIS-based Water Resources Assessment - <b>Poster</b>	JCL Navasero, Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr., Maria Victoria L. Larona, PLP Relativo, Ronnie C. Valencia, Michel G. Acosta, and Kobe Conrad L. Abellera	69th PSABE Annual Convention
	Protocols for the Identification of Small-Scale Irrigation Projects' (SSIPs) in Mindoro Provinces, Philippines through GIS-Based Water Resources Assessment for Food Security - <b>Paper</b>	Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr., Maria Victoria L. Larona, JCL Navasero, and Michelle G. Acosta	69th PSABE Annual Convention
	Approaches in Determining of Small-Scale Irrigation Projects (SSIPs) in CAL-ABARZON Region, Philippines through GIS-based Water Resources Assessment for Food Security- <b>Poster</b>	Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr., Maria Victoria L. Larona, PLP Relativo, Ronnie C. Valencia, and Kobe Conrad L. Abellera	69th PSABE Annual Convention
	Potential Site Identification for Small Farm Reservoir Development (SFR) in Laguna, Philippines, through GIS-based Water Resources Assessment for Food Security - <b>Poster</b>	MG Acosta, Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr., Jr., Maria Victoria L. Larona, PLP Relativo, Ronnie C. Valencia, Kobe Conrad L. Abellera, and JCL Navasero	69th PSABE Annual Convention
	Site Suitability Analysis for Diversion Dam (DD) Mindoro Philippinwa using GIS-based Water Resources Assessment - <b>Poster</b>	Kobe Conrad R. Abellera, Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr., Maria Victoria L. Larona, PLP Relativo, Ronnie C. Valencia, Michel G. Acosta and RSDG Duminding	69th PSABE Annual Convention

PROCEEDINGS	PUBLICATION DATE	SPECIFIC TITLE	AUTHOR/S	PUBLICATION AGENCY
	2019	Protocols for the Identification of Small-Scale Irrigation Projects (SSIPs) in Mindoro Provinces, Philippines through GIS-based Water Resources Assessment for Food Security - <b>Poster</b>	Rossana Marie C. Amongo, Ronaldo B. Saludes, Roger A. Luyun, Jr., Maria Victoria L. Larona, JCL Navasero, Michel G. Acosta, and RSDG Duminding	69th PSABE Annual Convention
		Determination of the Philippine Fisheries Mechanization Index (FishMI) Equation for the Determination of the level of aquaculture and capture fisheries mechanization in the Philippines - <b>Poster</b>	Mark Keylord S. Onal, Rossana Marie C. Amongo, Maria Victoria L. Larona, Gherlee Nelle L. Lalap, Clarissa Ileana L. Ilao, Adrian A. Borja and Mark Twain A. Limbo	69th PSABE Annual Convention
		Existing Methodologies on Fisheries Mechanization Index (FishMI) in Selected ASEAN Countries- <b>Poster</b>	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Mark Twain A. Limbo, Clarissa Ileana L. Ilao, Gherlee Nelle L. Lalap, Mark Twain A. Limbo, and AA Borja	69th PSABE Annual Convention
		Different Approaches on the Implementation of Contiguous Farming in Rice and Corn Areas in the Philippines - <b>Poster</b>	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Arsenio N. Resurreccion, Adrian A. Borja and Gherlee Nelle L. Lalap	69th PSABE Annual Convention
		E-Tractor for Agricultural Transport Application - <b>Poster</b>	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, AN Resurreccion, Adrian A. Borja, and Gherlee Nelle L. Lalap	69th PSABE Annual Convention
		Performance Evaluation of An Off-grid Solar PV Community-based Battery Charging Station for Electric Vehicles- <b>Poster</b>	Fernando O. Paras Jr., Mark Keylord S. Onal, Arthur L. Fajardo, GP Bustilla, HV Canonio, Maria Victoria L. Larona and Marish S. Madlangbayan	69th PSABE Annual Convention
		Performance evaluation of an off-grid wind energy community-based battery charging station- <b>Poster</b>	Mark Keylord S. Onal, Fernando O. Paras Jr., Arthur L. Fajardo, HV, Canonio, GP Bustilla, Maria Victoria L. Larona and Marish S. Madlangbayan	69th PSABE Annual Convention
		Development of an electric hand tractor (e-tractor) for agricultural operations –Paper- 2nd Best Paper for Category A Agricultural Machinery Design	Rossana Marie C. Amongo, Erwin P. Quillooy, MAF Ranches, Maria Victoria L. Larona , and Marish S. Madlangbayan	3rd AESAP International Conference in IPB Bogor Indonesia
		Rapid Prototyping of a Cost Efficient Tipping Bucket Rain Gauge using Fused Deposition Modeling -paper and poster	Marck Ferdie V. Eusebio Adrian A. Borja	69th PSABE Annual Convention
		Design Improvements to the developed Floating-type Seaweed Dryer - Paper	Ronel S. Pangan	69th PSABE Annual Convention
		Optimization of the Floating-type Seaweed Dryer - Paper	Ronel S. Pangan, Mel Vincent A. Ampo and Ynno E. Barredo	69th PSABE Annual Convention
		The Modified and Improved Floating-Type Seaweed Dryer -Poster	Ronel S. Pangan, Mel Vincent A. Ampo and Ynno E. Barredo	69th PSABE Annual Convention
Some Physical and Mechanical Properties of Turmeric Rhizomes ( <i>Curcuma longa</i> L.) - Poster	Marife R. Santiago, Jose D. De Ramos, RP Baretto, and JR Cullat	69th PSABE Annual Convention		
Local Production of Single Cylinder Engine for the Agri-Fishery Sector - poster	VA Rodulfo, Jr., MR Santiago, AL Fajardo, RC Martinez, MJB Reyes, and AE Llarena	69th PSABE Annual Convention		
2018	Level of Mechanization in Oriental Mindoro and Laguna, Philippines Using the Modified Agricultural Mechanization Index for Lowland Rice Ecosystem (MAMIrice) – paper and poster	Rossana Marie C. Amongo, Mark Keylord S. Onal, Maria Victoria L. Larona , AL Fajardo, Clarissa Ileana L. Ilao, Gherlee Nelle L. Lalap, CGV Deniega, LE Oguis, and PB Melendez	68th PSABE Annual Convention	

PROCEEDINGS	PUBLICATION DATE	SPECIFIC TITLE	AUTHOR/S	PUBLICATION AGENCY
	2018	Development of Seaweed Drying System-paper	Ronel S. Pangan, Ampy Paulo K. Roxas	68th PSABE Annual Convention
		Impact Assessment of the Agricultural Mechanization Interventions of BIOMECH-CEAT-UPLB in Siquijor Province – Paper and Poster	Maria Victoria L. Larona, Jose D. De Ramos, Alexis C. Del Rosario, Marife S. Santiago, and Rossana Marie C. Amongo	68th PSABE Annual Convention
		Potential Site Identification For Small Scale Irrigation Projects (SSIPs) In Calabarzon Region, Philippines Through GIS-Based Water Resources Assessment - Poster	Rossana Marie C. Amongo, RB Saludes, RA Luyun, Jr., Maria Victoria L. Larona, Ronnie C. Valencia, and Michel G. Acosta	68th PSABE Annual Convention
		Formulation of Standard Methodology for Determining the Level of Fisheries Mechanization Index - poster	Rossana Marie C. Amongo, MKS Onal, Maria Victoria L. Larona, Gherlee Nelle L. Lalap, Clarissa Ileana L. Ilaog, and Adrian A. Borja	68th PSABE Annual Convention
		Local Production of Single Cylinder Engine for the Agri-Fishery Sector: Imperative Policy Recommendations - paper	Victor A. Rodulfo, Jr., Marife S. Santiago, Arthur L. Fajardo	68th PSABE Annual Convention
		Optimization of Parameters in the production of Turmeric Powder using Hammer-Mill-Type Pulverizer – paper Third Placer Technical Paper Presentation Agricultural Processing	Jose D. De Ramos, Marife R. Santiago Engelbert K. Peralta, Kevin F. Yaptenco, Delfin C. Suministrado	68th PSABE Annual Convention
		An Electronic Method of Measuring Seed Drop Distances produced in Precision Corn Planters- paper	Adrian A. Borja, Rossana Marie C. Amongo, Jaderick P. Pabico & Delfin C. Suministrado	68th PSABE Annual Convention
		The role of mechanization in strengthening smallholders’ resilience through conservation agriculture in the Philippines - Presented in regional Workshop on the Role of Mechanization in Strengthening Smallholders’ Resilience through Conservation Agriculture in Asia and the Pacific, 18-20 April 2018, Phnom Penh, Cambodia	Rossana Marie C. Amongo, Maria Victoria L. Larona, Jose D. De Ramos, Marck Ferdie V. Eusebio, and Ronnie C. Valencia	CSAM-UNESCAP
		Data-informed Policy-making for Sustainable Development Goals (SDGs) in the Philippines Presented Workshop on June 28-29, 2018 Developing a Regional Database on Sustainable Agricultural Mechanization in Asia and the Pacific	Rossana Marie C. Amongo, Maria Victoria L. Larona	Proceedings for the UN-UNESCAP
Level of Agricultural Mechanization of Corn Production and Postproduction Systems in Bondoc Peninsula, Quezon, Philippines - Poster		Maria Victoria L. Larona, Adrian A. Borja, AGM Castalone, Marck Ferdie V. Eusebio, JMC Amongo, EC Repollo, and Rossana Marie C. Amongo	5th UP REPSS Annual Scientific Conference	
An Electronic Method of Measuring Seed Drop Distances produced in Precision Corn Planters - paper	Adrian A. Borja, Rossana Marie C. Amongo, Jaderick P. Pabico & Delfin C. Suministrado	68th PSABE Annual Convention		
Development of Seaweed Drying System - paper	Ronel S. Pangan & Ampy Paulo K. Roxas	68th PSABE Annual Convention		
Local Calibration of Hargreaves Equation for Estimation of Reference Evapotranspiration in Los Baños, Laguna - <b>Paper</b>	Marck Ferdie V. Eusebio Jeffrey A. Gonzales	68th PSABE Annual Convention		
Development of Site-Specific Calibration Method to Estimate Reference Evapotranspiration Using Hargreaves Equation - <b>Poster</b>	Marck Ferdie V. Eusebio Jeffrey A. Gonzales	68th PSABE Annual Convention		

	PUBLICATION DATE	SPECIFIC TITLE	AUTHOR/S	PUBLICATION AGENCY
PROCEEDINGS	2018	Mechanization Gaps & Prospects Along Selected Value Chains of Corn and Cassava in the Philippines - paper	Alexis C. del Rosario, Kristina Kay R. Rellve, Ruby Jane C. Estadilla and Mary Grace M. Oplencia	68th PSABE Annual Convention
	2017	Promotion of Sustainable Agricultural Mechanization Strategy in the Philippines	Rossana Marie C. Amongo	5 <sup>th</sup> Regional Forum on Sustainable Agricultural Mechanization in Asia and the Pacific and Regional Workshop on Integrated Straw Management in Asia and the Pacific
POLICY PAPER	2019	Policy brief: Policy Study on the Implementability of Contiguous Farming in the Philippines	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Arsenio N. Resurreccion, Mark Twain A. Limbo, Gherlee Nelle L. Lalap, Francia M. Macalintal, Lyn E. Oguis, Jovita Gonzales, Bernard B. Masa	DA-PCAF and BIOMECH
	2017	Operational Procedure and Policy for the Standardized Agricultural Mechanization Index in the Philippines	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Clarisse Isla L. Ila, Gherlee Nelle L. Lalap, L.E. Oguis, and P.B. Melendez	DA-PCAF and BIOMECH

## CONFERENCES ATTENDED

	NAME OF PERSONNEL	TITLE OF CONFERENCE	VENUE	DATE
INTERNATIONAL	Victor A. Rodulfo, Jr., Ronel S. Pangan, Alexis C. del Rosario, Jose D. de Ramos, Maria Victoria L. Larona, Marife R. Santiago, Marck Ferdie V. Eusebio, Jonathan C. Orozco	International Webinar on impact of Covid-19 on Agriculture in the Asia-Pacific and the Role of Mechanization sponsored by CSAM-ESCAP	UN-ESCAP YouTube	18 June 2020
	Victor A. Rodulfo, Jr. (presenter) Participants: Ronel S. Pangan, Alexis C. del Rosario, Jose D. de Ramos, Maria Victoria L. Larona, Marife R. Santiago, Marck Ferdie V. Eusebio, Jonathan C. Orozco	SEARCA Online Learning and Virtual Engagements (SOLVE) Food and Nutrition Insecurity through Open System Agricultural Machinery Manufacturing	SEARCA Fb and Zoom	10 June 2020
	Maria Victoria L. Larona, Marife R. Santiago	International Online Conference on Land Pooling/Land Readjustment for Development Projects - Lessons Learnt and Way Forward	Zoom app	May 2020
	Victor A. Rodulfo, Jr., Ronel S. Pangan, Alexis C. del Rosario, Jose D. de Ramos, Maria Victoria L. Larona, Marife R. Santiago, Marck Ferdie V. Eusebio, Adrian A. Borja	30th Philippine Agricultural Engineering Week, 16th International Agricultural Engineering Conference and Exhibition, & 69th Annual Convention of the Philippine Society of Agricultural Engineers	SMX Convention Center, Bacolod City, Philippines	21-27 April 2019
	Ronel S. Pangan	Aquaculture 2019 International Conference and Exposition	New Orleans/World Aquaculture Society	7-11 March 2019
	Victor A. Rodulfo, Jr., Ronel S. Pangan, Alexis C. del Rosario, Jose D. de Ramos, Marife R. Santiago, Marck Ferdie V. Eusebio, Adrian A. Borja	Joint ASEAN Cooperation on Agricultural and Biosystems Engineering (ACABE) and ASEAN Universities Consortium on Food and Agro-Based Engineering and Technology Education (AUCFA)	Royce Hotel and Casino, Clark, Pampanga, Philippines	6-8 November 2018
	Rossana Marie C. Amongo	Data-informed Policy-making for Sustainable Development Goals (SDGs) Developing a Regional Database on Sustainable Agricultural Mechanization in Asia and the Pacific	Bayview Hotel Georgetown, Penang Malaysia	27-30 June 2018



	NAME OF PERSONNEL	TITLE OF CONFERENCE	VENUE	DATE
INTERNATIONAL	Rossana Marie C. Amongo, Victor A. Rodolfo Jr., Ronel S. Pangan, Alexis C. del Rosario, Jose D. de Ramos, Maria Victoria L. Larona, Marife R. Santiago, Marck Ferdie V. Eusebio	29th Philippine Agricultural Engineering Week, 15th International Agricultural Engineering Conference and Exhibition, & 68th Annual Convention of the Philippine Society of Agricultural Engineers co-located with the 6th ASEAN University Consortium on Food and Agro-Based Engineering & Technology Conference	USEP Sports and Cultural Center, Iñogo St., Bo. Obreiro, Davao City, Philippines	23-27 April 2018
	Rossana Marie C. Amongo	5 <sup>th</sup> Regional Forum on Sustainable Agricultural Mechanization in Asia and the Pacific and Regional Workshop on Integrated Straw Management in Asia and the Pacific	Kathmandu, Nepal	11-16 December 2017
	Ronel S. Pangan, Victor A. Rodolfo, Jr., Alexis C. del Rosario, Jose D. de Ramos	International Conference of Sugarcane Mechanization	Laibin, China	9-13 December 2017
LOCAL	Marck Ferdie V. Eusebio	Training Workshop on Science Tourism Development Scope and value of tourism	TREES Training Hall, CFNR	27-28 Feb 2020
	Victor A. Rodolfo, Jr., Alexis C. del Rosario, Maria Victoria L. Larona, Alfrederick D. Salandanan	National Agricultural and Fisheries Mechanization Summit	San Fernando, Pampanga	20-21 November 2019
	Marck Ferdie V. Eusebio	Seminar on Scientific Career Path	School of Environmental Science and Management (SESAM) Seminar Room, UPLB	9 September 2019
	Marck Ferdie V. Eusebio, Adrian A. Borja	Laser Land Leveling Roundtable Discussion	International Rice Research Institute (IRRI), Los Baños, Laguna	4 June 2019
	Alexis C. del Rosario	Agricultural Machinery Training and Assessment for Rice Machinery	PCAARRD-DOST	21-24 May 2019
	Victor A. Rodolfo, Jr., Ronel S. Pangan, Alexis C. del Rosario, Jonathan C. Orozco, Adrian A. Borja, Jose D. de Ramos, Marife R. Santiago, Marck Ferdie V. Eusebio, Adrian A. Borja	Enhancement and Awareness of Agricultural and Biosystems Engineering Profession,	Tanza Oasis Hotel and Resort, Tanza, Cavite, Philippines	11-12 April 2019
	Victor A. Rodolfo, Jr., Ronel S. Pangan, Alexis C. del Rosario, Jose D. de Ramos, Maria Victoria L. Larona, Marife R. Santiago, Marck Ferdie V. Eusebio, Adrian A. Borja	30th Philippine Agricultural Engineering Week, 16th International Agricultural Engineering Conference and Exhibition, & 69th Annual Convention of the Philippine Society of Agricultural Engineers	SMX Convention Center, Bacolod City, Philippines	21-27 April 2019
	Maria Victoria L. Larona	UPREPSS 6th Annual Scientific Conference and 10th General Assembly Meeting. Theme: Advancing Research, Extension and Development of UP REPs towards Excellence	Lima Park Hotel, Malvar, Batangas.	13-14 March 2019
	Alexis C. del Rosario	Training-Writeshop on CRADLE Program Proposal Packaging for the ARM Sector	PCAARRD-DOST	12-14 March 2019
	Victor A. Rodolfo Jr., Alexis C. del Rosario, Ronel S. Pangan, Jose D. de Ramos, Jonathan C. Orozco, Marife R. Santiago, Marck Ferdie V. Eusebio, Adrian A. Borja	ACABE, AUCFA and BAFE National Workshop	Royce Hotel, Clark, Pampanga	7-9 November 2018
	Marck Ferdie V. Eusebio	Standard First Aid Training	CEC, UPLB	29 October 2018
Marck Ferdie V. Eusebio, Nick C. Milante	Intensive Gender Sensitivity and Anti Sexual Harassment Workshop for MOVE Champions	Lima Park Hotel, Malvar, Batangas	11-12 October 2018	

	NAME OF PERSONNEL	TITLE OF CONFERENCE	VENUE	DATE
LOCAL	Marck Ferdie V. Eusebio, Adrian A. Borja	Creating Websites Using Wordpress (Training)	AMTEC Conference Room, CEAT, UPLB	10 September 2018
	Rossana Marie C. Amongo, Victor A. Rodolfo Jr., Ronel S. Pangan, Alexis C. del Rosario, Jose D. de Ramos, Maria Victoria L. Larona, Marife R. Santiago, Marck Ferdie V. Eusebio	29th Philippine Agricultural Engineering Week, 15th International Agricultural Engineering Conference and Exhibition, & 68th Annual Convention of the Philippine Society of Agricultural Engineers co-located with the 6th ASEAN University Consortium on Food and Agro-Based Engineering & Technology Conference	USEP Sports and Cultural Center, Iñogo St., Bo. Obrero, Davao City, Philippines	23-27 April 2018
	Marck Ferdie V. Eusebio, Adrian A. Borja, Jose D. de Ramos, Marife R. Santiago, Ronnie C. Valencia	Training Workshop on Mathematical Modeling and Simulation for Engineering Education Application of Mathematical and Simulation Modelling	AMTEC Conference Room, CEAT, UPLB	26 March 2018
	Maria Victoria L. Larona	5th UP REPSS Annual Scientific Conference and 9th General Assembly Meeting	Shercon Resort and Ecology Park, San Sebastian, Mataas na Kahoy, Batangas,	March 21-22, 2018
	Marck Ferdie V. Eusebio, Adrian A. Borja, Mark Angelo F. Ranches	SOLIDWORKS Design to Manufacturing Process Solution	Microtel, Sto. Tomas, Batangas	16 March 2018

## CONFERENCES/ SEMINARS CONDUCTED BY THE CENTER

TITLE OF CONFERENCE/ SEMINAR	VENUE	DATE
BESTMech (BIOMECH Engineering Seminar and Training on Mechanization) Webinar with the theme Smart Mechanization Innovations for Sustainable Intensification in Agriculture for the Topic on Climate Smart and Conservation Agriculture for Sustainable Intensification on the occasion of the 41st Anniversary Celebration of BIOMECH, CEAT, UPLB	Zoom	29 October 2020
National Consultative Workshop on the Assembly and Transfer of Technology of an Open System Tractor Design and its Implements for Conservation Agriculture for Sustainable Intensification in the Philippines	CEC, UPLB and BIOMECH-CEAT, UPLB	13-14 January 2020
Training on the ORM of the Floating-type seaweed dryer	Sta. Teresa, Magsaysay, Occidental Mindoro	7-8 November 2019
Symposium on Current Status of Agricultural Mechanization and Smart Farming for the 40 <sup>th</sup> Founding Anniversary Celebration of BIOMECH	BIOMECH, CEAT, UPLB and Baker Hall, UPLB	23 October 2019
Collaboration Workshop on Research, Extension, and Training for HEIs, manufacturers (MAMIA) in collaboration with Region 12, TESDA, Phil-Mech, BAFE, and BIOMECH	PCA, Davao City	16-18 October 2019
Training on the Construction of the Seaweed Dryer	Magsaysay, Occidental Mindoro	24-27 September 2019
Training on Seaweed Dryer Technology	Magsaysay, Occidental Mindoro	4 September 2019
Review, Monitoring, and Planning Workshop for the Luzon Cluster Small-Scale Irrigation Projects (SSIP) R&D Projects Presentation of the SSIP project updates for CALABARZON, MIMAROPA, and Bicol Region	Obdulla F. Sison Hall, CEC, UPLB	28-30 August 2019
Technology Forum on Floating Seaweed Dryer	Dipolog City	4 July 2019
Consolidation Workshop Cum Training on the generation of SSIP Potential Maps in MIMAROPA Region	IABE, CEAT, UPLB	14 June 2019
Training on the Strategies for the NGCP-UPLB-FI RE Technologies' Sustainability on Monitoring of Income and Expenses of the RE Technologies	Brgy. Macabud, Rodriguez, Rizal	13 June 2019



TITLE OF CONFERENCE/ SEMINAR	VENUE	DATE
Hands-On Training and Encoding of the Agriculture and Fisheries Mechanization Research, Development, and Extension Database and Information System (AFMechRDE DIS) for Higher Education Institutions (HEIs) - Visayas Cluster	ATI Regional Training Center VIII, Visayas State University, Baybay City, Leyte	4 June 2019
Agricultural Machinery Training and Assessment for Rice Machinery	BIOMECH, CEAT, UPLB	21-24 May 2019
Agricultural Machinery Training and Assessment for Corn Machinery Lectures on operation of various machineries for corn and Assessment of participants on use of various machineries for corn	BIOMECH, UPLB	May 7-10, 2019
Operation, Repair and Maintenance of UPLB Hand Tractor	Yuson, Nueva Ecija	3 May 2019
Hands-On Training and Encoding of the Agriculture and Fisheries Mechanization Research, Development, and Extension Database and Information System (AFMechRDE DIS) for Higher Education Institutions (HEIs) - Mindanao Cluster	De Luxe Hotel, Cagayan De Oro	2-3 May 2019
Hands-On Training and Encoding of the Agriculture and Fisheries Mechanization Research, Development, and Extension Database and Information System (AFMechRDE DIS) for Higher Education Institutions (HEIs) - South Luzon Cluster	AMTEC Conference Room, AMTEC, CEAT, UPLB	21-27 April 2019
Benchmarking Activity for the Project on "Policy Study on the Implementability of Contiguous Farming in Rice and Corn Areas in the Philippines" in Thailand - Visits of institutions related to the implementation of land consolidation/mega farms Thailand	Chai Nat Mega Farm for Corn; meeting arranged by Department of Agricultural Extension; Visit of Megafarm for High Value crop; Visit of Megafarm for Rice; Visit of rice processing facility Rural Irrigation Development, Bureau of Central Land Consolidation	April 16-20, 2019
Operation, Repair and Maintenance of UPLB Hand Tractor on	BIOMECH, CEAT	15 April 2019
Benchmarking Activity for the Project on "Policy Study on the Implementability of Contiguous Farming in Rice and Corn Areas in the Philippines" in Republic of Korea	Chonnam National University; Yeongsangang Project Office, Korean Rural Community Corporation (KRCC); Disaster Management Center, KRCC; Dongjin District Office, KRCC; LS Mtron Ltd -Tractor Manufacturer; KRCC Regional Office in Chungbuk, Korea KRA Office; KRA Exhibition Centre RDA, Korea	24-30 March 2019

TITLE OF CONFERENCE/ SEMINAR	VENUE	DATE
Identifying suitable sites for small scale irrigation projects (SSIPS) in CALABARZON through GIS-based water resources assessment - Enumerators' training of agricultural technicians, collection of questionnaires	Rizal, Batangas, Cavite, Laguna	March 6 and 12, 2019; March 18-20, 2019; March 27-29, 2019; March 28 & 29, 2019
Identifying suitable sites for small scale irrigation projects (SSIPS) in Mindoro Provinces through GIS-based water resources assessment Enumerators' training of agricultural technicians, collection and questionnaires	Lubang Island, Occ. Mindoro	March 19-21, 2019
Perception Survey of the RE Technologies after the Conduct of training of RE Technologies for the UPLB Un-Energized Community-Based Sustainable Energy Research Program	Brgy. Macabud, Rodriguez, Rizal	17 March 2019
Consolidation workshop cum training for the project on Identifying suitable sites for small scale irrigation projects in MIMAROPA through GIS-based water resources assessment	AMTEC Conference Room, CEAT, UPLB	15 March 2019
Agricultural and Fisheries Mechanization Research, Development and Extension Network (AFMechRDEN) Organizational Meeting cum Workshop	West Avenue Suites, West Avenue, Quezon City, Manila	27-28 February 2019
Identifying suitable sites for small scale irrigation projects (SSIPS) in Mindoro Provinces through GIS-based water resources assessment -Enumerators Training	Enumerators' training for agricultural technicians Bansud, Roxas, and Mansalay in Oriental Mindoro	30 January 2019
Identifying suitable sites for small scale irrigation projects (SSIPS) in Mindoro Provinces through GIS-based water resources assessment - -Enumerators Training	Enumerators' training for agricultural technicians of San Teodoro, Victoria, Socorro, and Occidental Oriental Mindoro	30 January 2019
BIOMECH Planning Workshop and Teambuilding	Solemar del Pansol Village, Pansol, Calamba	13-14 December 2018
Training of the enumerators of Occidental Mindoro for the project on Identifying suitable sites for small scale irrigation projects (SSIPS)	Occidental Mindoro	6 December 2018
Training of the enumerators of Oriental Mindoro for the project on Identifying suitable sites for small scale irrigation projects (SSIPS)	Oriental Mindoro	15 November 2018
Training on geo-tagging and parameter measurement of Small-scale irrigation project	AMTEC, CEAT, UPLB	9 November 2018
Conducted validation workshop with LGU, PLGU, RAEG to present project outputs for project area in Negros Occidental	Negros Occidental	25 September 2018
Conducted validation workshop with LGU, PLGU, RAEG to present project outputs for project area	Iloilo	21 September 2018
Conducted validation workshop with LGU, PLGU, RAEG to present project outputs for project area in Capiz	Capiz	19 September 2018
Calibration Program for the Prospective Lead Assessors for Agricultural Machinery Operations NC II held	PhilMech, Munoz, Nueva Ecija	4-7 September 2018
Training on the Fabrication of the Seaweed Drying System	Quezon, Palawan	14 August 2018
BIOMECH Midyear Review & Planning and Team Building Activities	Zambalez	18-19 June 2018
Technology Forum on Seaweed Drying System	Quezon, Palawan	16 June 2018
Technology Forum on Seaweed Drying System	Gasán, Marinduque	14 June 2018
Hands-On Training on the Operation and Maintenance of the Agriculture & Fisheries Mechanization Research, Development, and Extension (RDE) Database and Information System (DIS) for Higher Education Institutions (HEIs)	AMTEC Conference Room, CEAT	29 May 2018
Training on Farm Equipment Operation and Maintenance: Single Cylinder Engine, Two-wheel tractor and Four-wheel tractor	Naic, Cavite	23-24 May 2018
Training Workshop on Mathematical Modeling and Simulation for Engineering Education	AMTEC Conference Room, CEAT	26 March 2018

TITLE OF CONFERENCE/ SEMINAR	VENUE	DATE
Hands-On Training and Encoding of the Agriculture and Fisheries Mechanization Research, Development, and Extension Database and Information System (AFMechRDE DIS) for Higher Education Institutions (HEIs) - North Luzon Cluster- co-organizer with PHil-Mech	PHilMech Training Hall, PHilMech, CLSU Compound, Science City of Muñoz, Nueva Ecija	19-20 March 2018
Training of enumerators for the conduct of survey of the Small-Scale Irrigation Systems in Quezon Province	CEAT, UPLB	30 April 2018
Training on Geo-tagging and Parameter Measurements of Small-Scale Irrigation Projects (SSIPs) and Survey of Farmers utilizing SSIPs	CEAT, UPLB	25 February 2018
BIOMECH General Assembly and Team Building Activity Presentation of Highlights of 2017 Accomplishments	Tagaytay International Convention Center	20 December 2017

## ONGOING AND COMPLETED RDE PROJECTS

TITLE OF ONGOING PROJECTS	PERSONNEL INVOLVED	FUNDING AGENCY
Development of machinery in support of the food processing activities of the project areas in Zamboanga del Norte and Sur	Jose D. De Ramos, Marife R. Santiago	BIOMECH
Design and Development Smart Agricultural Sprayer for Herbicide Application (SASHA)	Marck Ferdie V. Eusebio, Adrian A. Borja, Juan Miguel J. Bawagan	BIOMECH
Modification of a Precision Planter for Corn Production	Jonathan C. Orozco	BIOMECH
BEST-Mech Farms (Enhancing the Modernization of Philippine Agriculture and Fisheries through Biosystems Engineered Smart-Mechanized Farms)	Moises A. Dorado, Victor A. Rodulfo, Jr., BIOMECH Technical Core Staff, CEAT Unit Representatives	BIOMECH
Design and Development of Smart and Cost-Effective Automatic Weather Stations for Agricultural Monitoring (AWSAM)	Marck Ferdie V. Eusebio, Adrian A. Borja, Ronaldo B. Saludes, Jeffrey A. Gonzales, John Paolo A. Ramoso, and Melvin C. Ilang-Ilang	BIOMECH
Design, Development and Adaptation of Oggun tractor	Jose D. de Ramos, Victor A. Rodulfo, Jr., Alexis C. del Rosario, Jonathan C. Orozco, Ronel S. Pangan	BIOMECH
Development of Technology Package for the Production of Charcoal Briquetting System	Victor A. Rodulfo, Jr., Ronel S. Pangan	BIOMECH
Impact Assessment of the Agricultural Mechanization RDE Interventions of BIOMECH in Calamba, Laguna; Dumingag, Zamboanga del Sur; Province of Siquijor; PSFI in Rizal, Province; and Cebu	Maria Victoria L. Larona, Jose D. de Ramos, Alexis C. del Rosario, Marife R. Santiago, Ronel S. Pangan	BIOMECH
Capture of NH <sub>3</sub> from Animal Manure Compost	Omar F. Zubia, Ronaldo B. Saludes	BIOMECH
Field deployment of SINAG solar incubator	Fernando O. Paras Jr., Ralph Kristoffer B. Gallegos	BIOMECH
Development of Smart Environmental Control System (SECS) for Greenhouses	Ronaldo B. Saludes, Keynty Boy V. Magtoto	BIOMECH
Phytase production from different utilization of agricultural residues in solid-state fermentation by filamentous fungi	Jerico Z. Alcantara	BIOMECH
Cost-effective Cultivation of Spirulina platensis in Enclosed Rotating Algal Biofilm Reactor (eRABR)	Butch G. Bataller	BIOMECH
Solar powered recirculating aquaculture system (RAS)	Aurelio A. delos Reyes. Jr.	BIOMECH

TITLE OF ONGOING PROJECTS	PROPOSERS	FUNDING AGENCY
Improvement and Promotion of a Technology Package for the Production of Powder from Turmeric for Commercial Application	Jose D. De Ramos, Marife R. Santiago, Roselle P. Barretto, Nina Mae G. Talara, Jessica R. Cullat, John L. Casas and Edgardo M. De Mesa	DA-BAR
Assessment of the level of mechanization of the rice and corn production and Postproduction Systems in Region IV (Implemented by AMD-IAE, with 1 BIOMECH staff as study leader and as project co-proponent)	Rossana Marie C. Amongo, Ralph Kristoffer B. Gallegos, Arsenio N. Resurreccion, Maria Victoria L. Larona, Ronnie C. Valencia, Ria Salustia D. Duminding, Gherlee Nelle L. Lalap	DA-BAR
Assessment and Analysis of the Effects of the Extensive Use of Mechanization on Farm Labor Use and Patterns: Study in Support for Policy on Sustainable Human Resource Development of the Agricultural Labor Sector	Victor A. Rodulfo, Jr., Alexis C. Del Rosario, Maria Victoria L. Larona, Alfredrick D. Salandanan, Marie Grace M. Oplencia	DA-PCAF
Optimization and Pilot Testing of the developed Drying System for Seaweeds	Ronel S. Pangan , Mel Vincent A. Ampo, Ynno E. Barredo, Emmanuel C. Repoldo	DOST-PCAARRD
Optimization and Pilot Testing of M3DAS System (Development and of a Comprehensive Mechanization Resource Mapping, Monitoring and Data Analysis System (M3DAS) for Mechanization Planning, and Policy Data Generation)	Alexis C. del Rosario, Jose D. de Ramos, Marife R. Santiago, KKRRelleve, MGR Pagatpatan, HS Pabla, Jessica A. Cullat	DOST-PCAARRD

TITLE OF ONGOING EXTENSION PROJECTS	PERSONNEL INVOLVED	FUNDING AGENCY
Introduction of Appropriate Agricultural Mechanization Technologies (A collaborative project between AMDP-CEAT and the Municipality of Dumingag, Zamboanga del Sur)	Jose D. de Ramos, Marife R. Santiago, Rennie R. Repoldo, Rossana Marie C. Amongo (January 2017 to September 2018)	BIOMECH
Enhancing Farmers' Productivity through the Introduction of Appropriate Agricultural Mechanization Technologies in Region 7	Jose D. de Ramos, Marife R. Santiago, Alexis C. del Rosario, Rossana Marie C. Amongo (January 2017 to September 2018)	BIOMECH
Introduction, testing and evaluation of appropriate mechanization technologies for corn and other major crops in Masbate	Marck Ferdie V. Eusebio, Victor A. Rodulfo, Jr., Ronel S. Pangan, Jose D. de Ramos	BIOMECH
Promotion of BIOMECH developed agricultural mechanization technologies	Marife R. Santiago, Jose D. de Ramos, Marck Ferdie V. Eusebio	
<ul style="list-style-type: none"> <li>Conduct technology demonstrations and exhibits</li> </ul>	Marife R. Santiago, Jose D. de Ramos, Marck Ferdie V. Eusebio	BIOMECH
<ul style="list-style-type: none"> <li>Production of information dissemination materials, printed materials on agricultural mechanization (brochures, leaflets, posters, etc)</li> </ul>	Marife R. Santiago, Jose D. de Ramos, Marck Ferdie V. Eusebio, Maria Victoria L. Larona	BIOMECH
<ul style="list-style-type: none"> <li>Maintenance of BIOMECH display area</li> </ul>	Marife R. Santiago, Jose D. de Ramos, Jonathan C. Orozco	BIOMECH
BIOMECH Capability building and training		
<ul style="list-style-type: none"> <li>Conduct symposiums/ conference/ training/ workshop</li> </ul>	Marife R. Santiago, Jose D. de Ramos, Maria Victoria L. Larona, Mark Ferdie V. Eusebio	BIOMECH
<ul style="list-style-type: none"> <li>Coordinate CEAT Lecture Series</li> </ul>	Marife R. Santiago	BIOMECH

TITLE OF ONGOING EXTENSION PROJECTS	PERSONNEL INVOLVED	FUNDING AGENCY
BIOMECH Technical Assistance		
Briefing of Visitors and Respond to Technical Assistance Requests	Marife R. Santiago, Jose D. de Ramos, Mark Ferdie V. Eusebio	BIOMECH
Publication		
Publication of the Philippine Journal of Agricultural & Biosystems Engineering (PJABE) and Publication of the Philippine Agricultural Mechanization Journal (PAMJ)	Engelbert K Peralta, Editor-in-Chief ; Editors: Rossana Marie C. Amongo, Ma. Concepcion M. Detras, Ronaldo B. Saludes, Aurelio A. delos Reyes, Jr.,  Editorial Staff: Maria Victoria L. Larona Mark Ferdie V. Eusebio	BIOMECH
Development and updating of BIOMECH Website	Marife R. Santiago, Victor A. Rodulfo, Jr., Ronel S. Pangan, Alexis C. del Rosario, Jose D. de Ramos, Maria Victoria L. Larona, Marck Ferdie V. Eusebio, Jonathan C. Orozco	BIOMECH
Implementing the role of the Center for Agri-Fisheries and Biosystems Mechanization (BIOMECH) in the Agricultural and Fisheries Mechanization Law of 2013 (R.A. 101601) Activity 1. Conduct of technical staff meetings for monitoring and updating of center activities Activity 2. BIOMECH Role in the implementation of the Agricultural and Fisheries Research, Development and Extension Network (AFMechRDEN) Activity 3. BIOMECH Role in the Agricultural and Fisheries Engineering Research Network Network (AFMechERN) Activity 4. BIOMECH Role in the Agriculture and Fisheries Mechanization Committee	Victor A. Rodulfo, Jr., Ronel S. Pangan, Alexis C. del Rosario, Jose D. de Ramos, Maria Victoria L. Larona, Marife R. Santiago, Marck Ferdie V. Eusebio, Jonathan C. Orozco RC Amongo (January 2017 to September 2018)	BIOMECH

TITLE OF COMPLETED PROJECTS	PERSONNEL INVOLVED	FUNDING AGENCY
Design and fabrication of a Blower for a Pneumatic Planter	Jonathan C. Orozco	BIOMECH
Field testing of High Moisture Corn Sheller	Alexis C. del Rosario	BIOMECH
Fabrication and field testing of a vermicompost sieve	Ronel S. Pangan	BIOMECH
Design and Development of Mechanical Peanut Sheller	Alexis C. del Rosario	BIOMECH
Design and modification of mini corn mill	Victor A. Rodulfo, Jr.	BIOMECH
Development of Crop Weather Monitoring System using 3D printing and Arduino Technology	Ronaldo B. Saludes Khenty Boy V. Magtoto	BIOMECH
Design, Testing and Installation of a Micro-Hydro System	Rossana Marie C. Amongo Arthur L Fajardo	BIOMECH
Design and Installation of WECS at PSFI Training Center at Pililia Rizal	Rossana Marie C. Amongo Mark Keylord S. Onal, Ronel S. Pangan	BIOMECH





TITLE OF COMPLETED PROJECTS	PERSONNEL INVOLVED	FUNDING AGENCY
Automation and Design Improvements for SINAG (Solar Incubator for Agriculture) System	Fernando O. Paras Jr.	BIOMECH
Mechanization of Heat Treatment of 'Carabao' Mango for Quarantine Disinfestation and Disease Control	Kevin F. Yaptenco	BIOMECH
Evaluation and Pilot-testing of Shallow Tubewells (STWs) as Recharge Wells	Roger A. Luyun, Jr.	BIOMECH
The UPLB Un-Energized Community-Based Sustainable Energy Research Program, Study on Needs and design assessment for the establishment of e-tractor, e-vehicle and e-charging station – project with Civil Eng'g Dept and AMPED-IABE	Maria Victoria L. Larona	NGCP
Development of a Drying System for Seaweeds	Ronel S. Pangan, Ampy Paolo Roxas Mel Vincent Ampo Ynno Barredo , Emmanuel Repoldo	DOST-PCAARRD
Identifying suitable sites for small scale irrigation projects (SSIPS) in Region IV-A (CALABARZON) through GIS-based water resources assessment	Rossana Marie C. Amongo Roger A. Luyun, Jr. , Ronaldo B. Saludes, Maria Victoria L. Larona Patrick Lemuel P. Relativo, Ronnie C. Valencia (Sept 2017 - Jan 2019), Michele G. Acosta (Sept 2017 - Aug 2018 & Feb - Dec 2019), Kobe Conrad R. Abellera (Sept 2018 - Jan 2019 & July - Aug 2019), RSD Duminding (Feb - June 2019), Rommel A Arrobang (Aug 2019 - Mar 2020)	DA-BAR
Identifying suitable sites for small scale irrigation projects (SSIPS) in Mindoro Provinces through GIS-based water resources assessment	Rossana Marie C. Amongo Roger A. Luyun, Jr. , Ronaldo B. Saludes, Maria Victoria L. Larona Patrick Lemuel P. Relativo, Michele G. Acosta (Sept 2018 - Jan 2019), John Carlo L. Navasero (Sept 2018 - June 2019), Kobe C R. Abellera (Feb - June 2019 & Sept - Dec 2019), Khendy SA. Bautista (Sept 2018 - Mar 2020), Rommel A. Arrobang (Aug 2019 - Mar 2020)	DA-BAR
Intensive Use of Mechanized Technology in the Agriculture Sector: An Evaluation of the Effects and Implications in Selected Commodity Value Chains	Rossana Marie C. Amongo, Victor A. Rodulfo, Jr., Alexis C. del Rosario, Maria Victoria L. Larona, David L. Bondoc (Oct 2017 - Jan 2019), Ria Salustia D. Duminding (Oct 2017 - Jan 2019), Victor Anton N. De Padua (Oct 2017 - Oct 2018), Alfrederick D. Salandanan (Oct 2017 - Jan 2019)	DA-PCAF and SEARCA
Policy Formulation of the Standard Procedure for Fishery Mechanization Index (FishMI) Integrating the Best Practices on the Utilization of Fisheries Mechanization Technologies	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Arsenio N. Resurreccion, Clarissa Ileana L. Ilaio, Gherlee Nelle L. Lalap, Adrian A. Borja, Emmanuel C. Repoldo	DA-PCAF
Policy study on the implementability of contiguous farming in rice and corn areas in the Philippines	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Arsenio N. Resurreccion, Mark Twain A. Limbo, Gherlee Nelle L. Lalap	DA-PCAF
Operational Policy for the Development of the Philippine Agricultural Mechanization Index for the development of the Modified Agricultural Mechanization Index (MAMI)	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Clarissa Ileana L. Ilaio, Gherlee Nelle L. Lalap	DA-PCAF
Development and of a Comprehensive Mechanization Resource Mapping, Monitoring and Data Analysis System (M3DAS) for Mechanization Planning, and Policy Data Generation	Alexis C. del Rosario, Jose D. de Ramos, Marife R. Santiago,, KKR Relleve, ABTolentino, DFCalanoga, ERLReblora, ACCEscandor	DOST-PCARRD



## TECHNICAL ASSISTANCE DELIVERED

TECHNICAL ASSISTANCE	DATE/ VENUE	PERSONNEL INVOLVED
Sub-committee on Fabrication of Nebulizer Hood, Oxygen Hood, and Aerosol/Intubation Box for the UPLB Technology, Facility and Innovation Committee – PPE Fabrication	Regular weekly meetings via zoom (May to September 2020); monthly meeting (October onwards) Fabrication (March 2020 to October 2020)	Victor A. Rodulfo, Jr., Jonathan C. Orozco BIOMECH Technical Staff Shop Personnel
National Banner Program Committee on Agricultural and Fisheries Mechanization (NBPC on AFMech)	18 September 2020 Google meet	Victor A. Rodulfo, Jr., Maria Victoria L. Larona Participants/Resource Person
National Agricultural and Fisheries Mechanization Program Technical Working Group Meeting	08 July 2020	National Agricultural and Fisheries Mechanization Program Technical Working Group Meeting
Oggun Tractor Manufacturing Team SEARCA, KSU-SIIL, Danfoss, BIOMECH, and Local Manufacturers Collaboration	April-October 2020 weekly meetings Microsoft teams app	Victor A. Rodulfo, Jr., Alexis C. del Rosario, Maria Victoria L. Larona Project Collaborators/ Coordinators
BIOMECH Initiatives on Open System Agricultural Machinery Manufacturing Presentation in SEARCA SOLVE Food and Nutrition Insecurity through Open Systems Agricultural Mechanization	10 June 2020, Zoom SEARCA Webinar	Victor A. Rodulfo, Jr. Presenter/Resource speaker
Pre-Summit Meeting for the National Agriculture and Fisheries Mechanization Summit Presentation of the accomplishments of the agencies involved in the implementation of the National Agricultural and Fisheries Mechanization Program	8 October 2019 DA-PCAF Office, Quezon City	Victor A. Rodulfo, Jr., Maria Victoria L. Larona Participants/ Presenters
DA-BAFE Meeting on revision of IRR for RA 10601 and arrangements for the Discussed mechanics for the review of the IRR Discussed schedule of consultation meetings in Luzon, Visayas and Mindanao	11 October 2019 DA-BAFE Office, Quezon City	Victor A. Rodulfo, Jr., Alexis C. del Rosario, Maria Victoria L. Laron Participants
UPLB Research Ethics Committee Meeting PHREB Accreditation Possible Ethics Training of members this coming October	4 September 2019 OVCRE Annex Main Conference Room	Marck Ferdie V. Eusebio Member
Techno-forum on the UPLB developed seaweed drying technology – introduction of developed seaweed dryer to seaweed farmers the	29-30 August 2019 Perez, Quezon	Ronel S. Pangan Technical expert
DA-PCAF-AFMec Technical Working Meeting on Training and Extension with TESDA	20 August 2019 DA, PCAF, Q.C.	Victor A. Rodulfo, Jr., Marife R. Santiago Resource Persons



TECHNICAL ASSISTANCE	DATE/ VENUE	PERSONNEL INVOLVED
BAFE and National TWG on Contiguous Farming Meeting and presentation of the project output to the BAFE and national TWG Committee members of Contiguous Farming in the Philippines and discussion on the plans of the committee	18 July 2019 BAFE, DA, Q.C.	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Mark Twain A. Limbo, Gherlee Nelle L. Lalap, Ronnie C. Valencia,, RSD Duminding- Resource Persons Project Implementers
AFMeC Meeting on the Manufacture of Single Cylinder Engine and Committee on Machinery Registration of DA-PCAF	16 July 2019 DA-PCAF, Quezon City	Victor A. Rodulfo, Jr., Alexis C. Del Rosario Resource Persons
National TWG Meeting of the Agricultural and Fisheries Mechanization Engineering Resource Network (AFMechERN) Portal	10 July 2019 PHilMech Liaison Office, ATI Bldg., Elliptical Rd., Diliman, Q.C.	Jose D. De Ramos, Maria Victoria L. Larona Member of the TWG for AF-MechERN Portal
Collaborative meeting with PHilMech on the proposed project on involvement of HEI network on the establishment of Custom Service facilities as part of Rice Competitiveness Enhancement Fund (RCEF)	3-4 July 2019 PhilMech, Munoz, Nueva Ecija	Arnold R. Elepaño, Victor A. Rodulfo, Jr., Alesix C. Del Rosario, Maria Victoria L. Larona Resource Persons
Orientation on the procedure for the Modified Agricultural Mechanization Index and Fisheries Mechanization Index for Regional Agricultural Engineer Division <i>and overview/</i> Background of the MAMI and FishMI Projects funded by DA-PCAF	25 June 2019 DA-PCAF, Elliptical Rd., Diliman, Q.C.	Rossana Marie C. Amongo, Mark Keylord S. Onal, Maria Victoria L. Larona, Ronnie C. Valencia, Gherlee Nelle L. Lalap, Mark Twain A. Limbo Project implementers and Resource Persons
National Committee Meeting of the Agricultural and Fisheries Mechanization Engineering Resource Network (AFMechERN) <i>on updates and plans and programs of the Network</i>	19 June 2019 PHilMech Liaison Office, ATI Bldg., Elliptical Rd., Diliman, Q.C.	Maria Victoria L. Larona Member of the National Committee
Presentation of the outputs of the Policy Study on the Implementability of Contiguous Farming in Rice and Corn Areas in the Philippines presented in Special AFMeC Meeting and the National Consultation	28 & 31 May 2019, PCAF, DA, Q.C.	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Gherlee Nelle L. Lalap, Mark Twain A. Limbo, Arsenio N. Resurreccion Project Implementer
Agriculture and Fisheries Mechanization Research, Development and Extension Network (AFMechRDEN) Executive Meeting	8-9 May 2019 DA-RFU II Batanes Experimental Station, Basco, Batanes	Victor A. Rodulfo, Jr., Maria Victoria L. Larona BIOMECH as co-chair of AF-MechRDEN
TEAAC Workshop on the proposed guidelines on accreditation of machinery suppliers, list of accredited test engineers, and other matters concerning test, evaluation and accreditation issues	10-12 April 2019 BSP Hotel, Los Banos, Laguna	Victor A. Rodulfo, Jr., Alexis C. del Rosario Committee Members
UPLB Research Ethics Committee Meeting General Policies and Guidelines as requirement for accreditation	10 April 2019 OVCRE Annex Main Conference Room	Marck Ferdie V. Eusebio Committee Member
DA-PCAF Committee on Fisheries and Aquaculture Meeting for the presentation of project outputs and policy recommendations for adoption of the committee	31 January 2019 DA Apacible Conference Room, Elliptical Rd., Diliman, Q.C.	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Arsenio N. Resurreccion, Gherlee Nelle L. Lalap, Mark Twain A. Limbo, Adrian A. Borja Project Implementers
DA-PCAF Agriculture and Fisheries Executive Committee for the AFMeC Plan of activities for 2019 and review of past accomplishments	31 January 2019, DA Apacible Conf. Room, Elliptical Rd., Diliman, Q.C.	Victor A. Rodulfo, Jr., Member of AFMeC Execom
TWG ACPC Loan Program Committee	25 January 2019 DA Apacible Conference Room, Elliptical Rd., Diliman, Q.C.	Victor A. Rodulfo Jr., Alexis C. del Rosario Committee Members

TECHNICAL ASSISTANCE	DATE/ VENUE	PERSONNEL INVOLVED
UPLB Research Ethics Committee (REC) Meeting	30 January 2019 OVCRE Annex Conference Room	Marck Ferdie V. Eusebio Committee Member
Launching/Inauguration of the newly constructed floating seaweed dryer	19-21 September 2018 Looc, Romblon	Ronel S. Pangan, APKRoxas Technology developer
4th Organizational Meeting and consultation workshop of the Agriculture and Fisheries Mechanization RDE Network Organizational meeting of the AFMechRDEN Consultation on the AF-MechRDE Network Agenda	12-13 September 2018 Maharajah Hotel, Clark, Pampanga	Rossana Marie C. Amongo, Maria Victoria L. Larona Participant and resource persons
Calibration Program for the Prospective Lead Assessors for Agricultural Machinery Operations NC II Presentation of the AMO NC II TM and CATs - conducted of actual AMO NCII assessment for prospective Lead Assessors and Finalization of the AMO NCII TM and CATs	4-7 September 2018 PHilMech, Muñoz, Nueva Ecija	Victor A. Rodulfo, Jr., Ronel S. Pangan, Jose D. de Ramos, Mark Keylord S. Onal, Marife R. Santiago- Presentor and Lead Assessors and Technical Experts
Agriculture and Fishery Mechanization Committee (AFMeC) Regular Meeting on Presentation of the results of the project on Policy Formulation of the Standard Procedure for Fishery Mechanization Index (FishMI) Integrating the Best Practices on the Utilization of Fisheries Mechanization Technologies and results of the Road map for the Local Manufacture of Single Cylinder Engine	29 August 2018 DA –PCAF, Quezon City	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Mark Twain A. Limbo, Gherlee Nelle L. Lalap, Victor A. Rodulfo, Jr.- Participants/Project Implementer
Construction of Floating Seaweed Dryer	25-27 July 2018 Looc, Romblon	Ronel S. Pangan- Technical expert
Benchmarking study focusing on the value chains for corn and coffee mechanization FGDs with the academe, government program implementers, farmers and traders	22-27 July 2018	Maria Victoria L. Larona, Victor A. Rodulfo, Jr.- Project Experts
Benchmarking study focusing on the value chains for rice, corn and cassava mechanization -FGDs with the academe, government program implementers, farmers and traders, millers and manufacturers of agricultural machinery	8-13 July 2018 Thailand	Rossana Marie C. Amongo, Alexis C. del Rosario, Maria Victoria L. Larona- Project Experts
TWG meeting on the Discussion on the draft PNS for pellet mill and hot water treatment tank	12 July 2018 Fertilizer and Fertilizer Authority, Quezon City	Victor A. Rodulfo, Jr., - Resource Person
Public Consultation Meeting Presentation of the final draft of PNS for Peanut Grinder	10 July 2018 La Breza Hotel, Quezon City	Victor A. Rodulfo, Jr., TWG member
Consultation Meeting with Lutheran World Relief (LWR) Presentation of the Developed seaweed dryers	5 July 2018 BIOMECH, UPLB	Ronel S. Pangan APKRoxas Technical Expert
TWG meeting on the Discussion on the draft PNS for cassava grater and pulverizer	5 July 2018 BAFS Quezon City	Victor A. Rodulfo, Jr., TWG member
AFMeC meeting on the Prioritization of agricultural mechanization technologies for PAES development	3 July 2018 DA –PCAF, Quezon City	Victor A. Rodulfo, Jr., representing Rossana Marie C. Amongo as Committee Member
Validation of the Expanded Basic Competencies Integrated with 21st Century Skills Conducted Focus Group Discussions on the different Competencies	28 June 2018 TESDA, Taguig	Ronel S. Pangan, Victor A. Rodulfo, Jr., MRSantiago Technical experts
DOST-UP Science Technology & Innovations Festival “Agham Bayan” - Presentations of the different UP Innovations and Technology – Fora and Exhibitions	20 June 2018 PICC, Pasay City MM	Rossana Marie C. Amongo Participant/ CEAT Delegation
Briefing on the Modified Agricultural Mechanization Index for Lowland Rice (MAMI <sub>rice</sub> ) during the DA-PCAF Luzon Wide Consultation for the National Guidelines on the Classification and Accreditation on Agri-Fisheries Machinery Supplies and Briefing on the Modified Agricultural Mechanization Index (MAMI) and Guidelines on the procurement of DA-Agri-Machinery and Equipment	19 June 2018 Lohas Hotel, Clark Freeport, Pampanga	Rossana Marie C. Amongo, Mark Keylord S. Onal, and Maria Victoria L. Larona Authors/Presenter

TECHNICAL ASSISTANCE	DATE/ VENUE	PERSONNEL INVOLVED
UPLB Institutional Ethics Committee Workshop on Standard Operating Procedures	13-14 June 2018 Development Academy of the Philippines, Tagaytay City	Marck Ferdie V. Eusebio Member
Technical Committee on Agricultural and Biosystems Engineering (TCABE) Meeting Review of the Applications for the offering of BSABE 4-year curriculum of UPLB, CLSU, VSU	13 June 2018 CHED, Diliman	Rossana Marie C. Amongo Committee Member
AFMechRDEN Executive Committee Meeting	6-8 June 2018 NOMIARC, DA-10, Malaybalay, Bukidnon	Rossana Marie C. Amongo, Maria Victoria L. Larona Members
Public Consultation Meeting for the draft standard for silo	5 June 2018 BAFS, Q.C.	VA Rodulfo Jr. TWG Member
Briefing on the Modified Agricultural Mechanization Index for Lowland Rice (MAMI <sub>rice</sub> ) during the DA-PCAF Mindanao Wide Consultation for the National Guidelines on the Classification and Accreditation on Agri-Fisheries Machinery Supplies and Briefing on the Modified Agricultural Mechanization Index (MAMI) and Guidelines on the procurement of DA-Agri-Machinery and Equipment	29-31 May 2018 Pinnacle Hotel, Davao City	Rossana Marie C. Amongo, Mark Keylord S. Onal, Maria Victoria L. Larona Authors/Presenter
PHILMech 40th Foundation day and Postharvest Losses week and Meeting	22 May 2018, PHilMech, Muñoz, Nueva Ecija	Victor A. Rodulfo, Jr. -Resource person, Alexis C. del Rosario, Jose D. de Ramos, Ronel S. Pangan, Marife R. Santiago, Maria Victoria L. Larona, Marck Ferdie V. Eusebio Participants
PHilMech, DA-IRD and BIOMECH meeting on the nomination of the Philippines to Governing Council of CSAM about the Briefing on the CSAM activities from 1979 to date to PHilMech and DA-IRD for the nomination; benefits of the Philippines participation to CSAM; and nomination Governing Council of CSAM	7 May 2018 IRD-DA, Q.C.	Rossana Marie C. Amongo and Maria Victoria L. Larona Authors/Presenter
Technical Working Group meeting (AFMeC-PCAF) Planning workshop on the approved policy recommendations on local engine manufacturing	6 April 2018 PCAF-DA	Victor A. Rodulfo, Jr., Resource Person
Philippine National Standards (PNS) development for the Development of standards for specifications and method of tests for: Corn mill and Cassava Granulator	5 April 2018 PCAF-DA	Victor A. Rodulfo, Jr., TWG Member
Meeting with the DA International Relations Division Office and PHILMECH for the Nomination of the country representative to the CSAM Governing Council	5 April 2018 IRD-DA, Q.C.	Victor A. Rodulfo, Jr., Resource Person AM Eusebio
UPLB Institutional Assessment for EU SHARE	5-6 February 2018	Rossana Marie C. Amongo, Maria Victoria L. Larona Resource Person/Interviewees
PCAF National Sectoral and Strategic Concerns Committees Policy Agenda Setting Workshop for 2018	15 December 2017, BSWM, Diliman Q.C.	Victor A. Rodulfo, Jr., Maria Victoria L. Larona Resource persons
Philippine National Standards (PNS) development Development of standards for specifications and method of tests for: Multicrop Pulverizer, Multicrop Grater, and Cassava Granulator	5-6 December 2017 UP Diliman Campus, Quezon City	Victor A. Rodulfo, Jr., Technical Working Group Member
Agriculture and Fisheries Mechanization Committee (AFMeC) Meeting to present the Quarterly Accomplishment Report for the FishMI Project	5 December 2017 PCAF-DA	Rossana Marie C. Amongo, Maria Victoria L. Larona, Mark Keylord S. Onal, Gherlee Nelle L. Lalap, Clarissa Ileana L. Ilao Presenter, Resource persons

## LECTURE SERIES COORDINATED BY THE CENTER

TITLE OF LECTURE	SPEAKER	DATE
Career Talk on “Leading Globally, Live Your Purpose, Proud CEAT Alumnus”	Engr. Romeo Capuno Jr., Director, Global Supply Chain, Commercialization and Business Development, The McDonald’s Division The Coca-Cola Company, Atlanta GA USA 30313	8 October 2018
Save and Grow A Policymaker’s Guide to the Sustainable Intensification of Smallholder Crop Production	Dr. Manny Reyes, Research Professor, USAID, Kansas State University	30 August 2018
Conservation of Natural Resources in Concrete Field	Dr. Atsushi Ueno, Associate Professor, Graduate School and Faculty of Urban Environmental Sciences, Tokyo Metropolitan University	3 September 2018
Analysis of Protein Content in Soybean Meal Using NIR Hyperspectral Imaging	Princess Tiffany Dantes	10 August 2018
Machine Learning in Engineering Education	Engr. John Paolo A. Ramoso	7 May 2018
Introduction of the Human Science International Course and Interactive Evolutionary Computation	Professor Hideyuki Takagi	23 March 2018
Introduction to Physical Ergonomics	Assistant Prof. Ping Yeap Loh	
An Introduction to Human Perception and Brain Research –	Associate Prof. Gerard B. Remijin	
How Good Ideas Start: An Introduction to the Berkeley Method of Entrepreneurship Pitches and Pivots: Startup Semester at UC Berkeley	Dr. Kevin F. Yaptenco	26 February 2018
Role of Young Filipino Engineers in Achieving the 17 UN’s Sustainable Goals	Engr. Charles John C. Gunay	
Irrigation System Design and Management: Some Problems that Affect Equitable Distribution of Water	Engr. Domingo F. Tabbal	

## VISITORS PROVIDED WITH TECHNICAL ASSISTANCE

- 200 Participants from 18 SUCs during the PAESTigan 2019
- 200 Participants from 18 SUCs during the PAESTigan 2018
- 200 Senior High School students from Treston International College
- Faculty and Staff from Northwestern Samar State University
- Personnel from Kalipayan Natural Farm
- Technical Assistance for Las Piñas City National Science High School Students
- Technical Assistance for Technological University of the Philippines – Manila
- Philippine Military Academy Faculty Visit for their benchmarking activity
- Senior high school students from University of the Philippines Integrated School
- Agricultural Engineering Senior class of Mindanao State University-General Santos with faculty and staff
- Technical Assistance for University of Sto Tomas Students re: Hand Tractor
- Faculty, staff and students from Bataan Peninsula State University
- Other walk-in visitors from DA-STIARC, PhilMEch, UPLB students and staff
- Faculty and Staff from Cavite State University
- Technical Assistance for Agrieskwela in Marogondon Cavite as per request from TESDA Los Banos and TESDA Cavite regarding Rice Machinery Operation
- Staff from Adores Farm regarding Rice Machinery Operation

## NATIONAL COMMITTEE MEMBERSHIPS

NAME OF NATIONAL COMMITTEE	BIOMECH REPRESENTATIVES/ MEMBERS
Committee on the revision of the National Agriculture and Fisheries Mechanization Program	Victor A. Rodulfo, Jr.
Agriculture and Fisheries Mechanization Committee (AFMeC)	Victor A. Rodulfo, Jr.
Philippine National Standards Development	Victor A. Rodulfo, Jr.
Testing, Evaluation, Accreditation and Advisory Committee (TEAAC)	Alexis C. Del Rosario Victor A. Rodulfo, Jr.
National Committee on Agricultural and Fisheries Engineering Resource Network of the AFMech Law of 2013	Jose D. de Ramos Maria Victoria L. Larona
National Technical Working Group on the implementation of Contiguous Farming	Rossana Marie C. Amongo, Maria Victoria L. Larona
National Technical Working Group on the Revision of AFMech Law IRR	Victor A. Rodulfo, Jr. Maria Victoria L. Larona Alexis C. Del Rosario
National Implementation of Farmer Scientist Training Program (FSTP) collaborative project with FSTP-College of Agriculture	Alexis C. Del Rosario Jose D. de Ramos



# CEAT Special Awards

## CEAT Outstanding Senior Faculty

2020	Dr. Marloe B. Sundo
2019	Dr. Catalino G. Alfafara
2018	Dr. Engelbert K. Peralta

## CEAT Outstanding Junior Faculty

2020	aP Rodolfo A. Aguirre Jr.
2019	aP Mark Keylord S. Onal
2018	aP Adrian Augusto M. Sumalde

## CEAT Outstanding Professional

2020	Engr. Darwin C. Aranguren (Posthumous)
2019	Dr. Victor A. Rodulfo Jr.
2018	Engr. Darwin C. Aranguren

## CEAT Outstanding Extensionist

2020	Engr. Marife R. Santiago
2019	Dr. Maria Victoria L. Larona

## CEAT Outstanding Researcher

2020	Dr. Ronel S. Pangan
2019	Dr. Rossana Marie C. Amongo
2018	Dr. Kevin F. Yaptenco

## CEAT Outstanding Extension Team

2020	AMTEC
2019	Center for Agri-Fisheries and Biosystems Mechanization (BIOMECH)

## CEAT Outstanding Research Team

2020	Smale Scale Irrigation Program : SSIPs Team
2019	CHED-PCARI-WiSEIr Project Team & Biofuels Research Team

## CEAT Outstanding Technician

2020	Mr. Archimedes L. Marasigan
2019	Mr. Rodel A. Deriquito
2018	Mr. Arturo L. Macandili

## CEAT Outstanding Office Personnel

2020	Ms. Connie S. Orte
2019	Mr. Rusellen E. Baraquio
2018	Ms. Analy SA. Bautista

## CEAT Outstanding Supervisor

2019	Ms. Lina C. Copioso
2018	Mr. Eugenio L. Eugenio

## Outstanding Blue Collar Employee

2018	Mr. Crispino L. Marasigan
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## Special Awardee

aP Angelo C. Ani
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## CEAT Loyalty Awardees

<b>2020</b>	Ms. Marites M. Castro (40 years)	Ms. Sofia L. Merin (40 years)
	Dr. Jessie C. Elauria (40 years)	Dr. Rex B. Demafelis (35 years)
	Engr. Alexis C. del Rosario (35 years)	Mr. Glenn E. Lebornio (25 years)
	Mr. Domingo L. Reboltan (20 years)	Mr. Nicolas N. Bea (15 years)
	Dr. Manolito E. Bambase Jr. (15 years)	Dr. Marilyn C. del Barrio (15 years)
	Dr. Monet Concepcion M. Detras (15 years)	Ms. Connie S. Orte (15 years)
	aP Paul Michael O. Tarnate (15 years)	aP Vicente DG. Ballaran Jr. (15 years)
	aP Kathleen L. Baldoz (10 years)	Dr. Diana Marie R. De Silva (10 years)
	aP Francis M. Mulimbayan (10 years)	aP Maurice A. Duka (10 years)
	aP Denise Ester S. Sanchez (10 years)	Dr. Jerico Z. Alcantara (10 years)
<b>2019</b>	Engr. Darwin C. Aranguren (40 years)	Dr. Engelbert K. Peralta (40 years)
	Mr. Crispino P. Marasigan (40 years)	Mr. Carlos S. Pasuquin (40 years)
	Engr. Romulo E. Eusebio (35 years)	Dr. Catalino G. Alfafara (35 years)
	Mr. Eugenio L. Eugenio (35 years)	Mr. Arturo L. Macandili (35 years)
	Mr. Nick C. Milante (30 years)	aP Antonio Gabino P. Sobremisana (30 years)
	Dr. Fernando O. Paras Jr. (25 years)	Dr. Marish S. Madlangbayan (20 years)
	aP Erwin C. Escobar (15 years)	Dr. Omar F. Zubia (15 years)
	Dr. Ramer P. Bautista (10 years)	aP Rodolfo A, Aguirre Jr. (10 years)
	aP Gianina Martha A. Tajanlangit (10 years)	aP Marc Immanuel G. Isip (10 years)
	Dr. Aurelio A. Delos Reyes Jr. (10 years)	Dr. Ralph Kristoffer B. Gallegos (10 years)
<b>2018</b>	Ms. Leonor B. Ramos (40 years)	Mr. Andres T. Sobreñañas (40 years)
	Mr. Arturo L. Macandili (35 years)	Mr. Alberto R. Gutierrez (35 years)
	Dr. Victor B. Ella (35 years)	Mr. Sofio M. Eusebio (30 years)
	Prof. Moises A. Dorado (30 years)	Dr. Monaliza F. Delos Reyes (15 years)
	Dr. Marion Lux Y. Castro (15 years)	aP Roderick L. Catriz (15 years)
	Dr. Richelle G. Zafra (15 years)	aP Butch G. Bataller (10 years)
	aP Jasmin Z. Vasquez (10 years)	Dr. Jewel A. Capunitan (10 years)

# IN THE PIPELINE

The past terms have been very challenging to every administrative and research, development and extension (RDE) units, and academic departments of the college. Additionally, the effects and impacts of the COVID-19 pandemic have pushed us out of our comfort zones in order to serve both offline and online, and to cater the needs of our faculty, staff, students, and clientele in the new set-up of RDE and education - the remote learning.

For the past years, we have set our goals and did our best in order to successfully attain our aims and objectives in support and aligned to the vision of the UPLB Chancellor, UPLB administration, and the UP System for the university- to become a leading regional and global university in an environment that sustains 21st century learning, knowledge creation and public service for society and humanity.

With the teamwork of the faculty, staff, students, alumni and industry partners and with the support of the UPLB administration, we believe that we can do more for the coming years.

## I. Broaden Learning Environment

- a. Institution of the syllabus of the BS Materials Engineering Program
- b. Institution of the syllabus of the MS Electrical Engineering and MS Civil Engineering Program and PhD in Chemical Engineering by Research
- c. Accreditation to the Washington Accord through the Professional Technical Council
- d. Enhance the BS Mechanical Engineering curriculum to be a dynamic program in the future

## II. Improve Research's Training Volume, industry academe linkages, and reputation

- a. Intensify the Engineering Industry Research programs of the college to broaden industry linkages and provide engineering solutions to industry needs
- b. Strengthen the market and brand "CEAT" to alumni and industry partners
- c. Apply selected CEAT technology for patent

## III. Increased refereed articles in journals

- a. Publish refereed journal articles for every research projects
- b. Accreditation of PJABE to ISI/SCOPUS/ Clarivate Analytics

## IV. Enhanced Local and international exposure for staff and students

- a. Enhance industry immersion programs through the Engineering Industry Research to strengthen academe-RDE-industry linkages
- b. Expand international student-exchange program
- c. Disseminate technologies to private partners to strengthen faculty immersion programs

As the college faces new challenges, there are more goals to attain and visions to look forward. The term is about to end but we are looking forward to witness the continuation of the goals and thrusts of the college for the advancement of engineering education and RDE in UP Los Baños and in the Philippines. As we approach a new season and new administration, we believe, that with every help from our faculty, researchers and extensionists, administrative staff, students, alumni and industry partners, we can strive forward as one team.

Together, let's gear up for the future!

The CEAT End-of-Term Report Team would like to thank the units and departments that contributed to the contents of the “The CEAT’s End-of-Term Report (December 2017 to October 2020): Gearing Up for the Future”:

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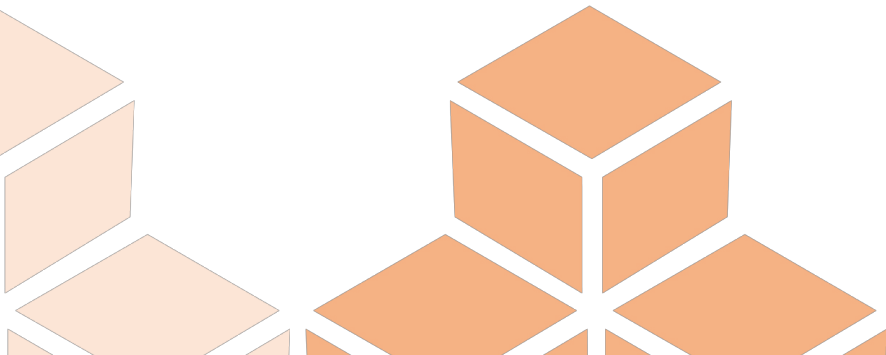
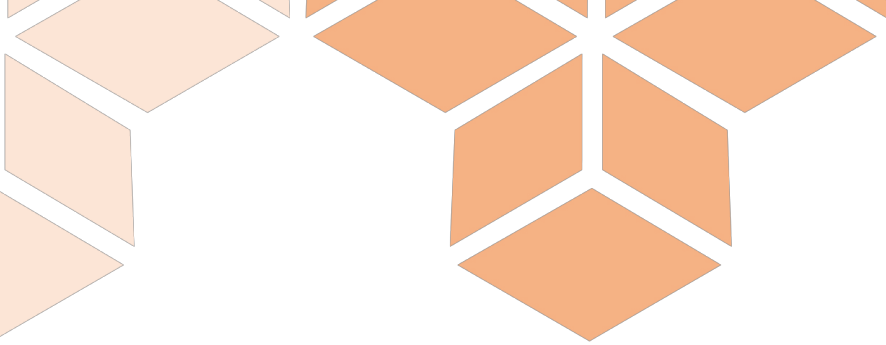
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### Citation:

2020 UPLB CEAT’s End-of-Term Report (December 2017– October 2020): Gearing Up for the Future.  
Los Baños, Laguna: University of the Philippines Los Baños





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