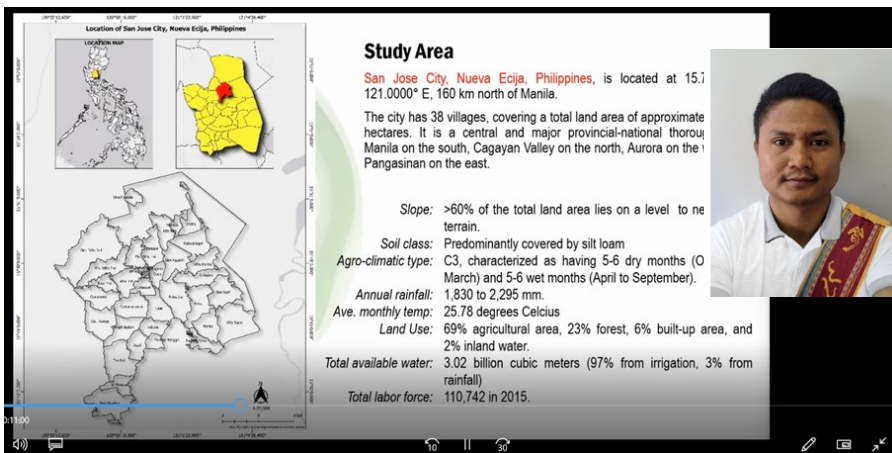




OR: Addressing Current National Issues Opens 2022 ORSP Webinar Series

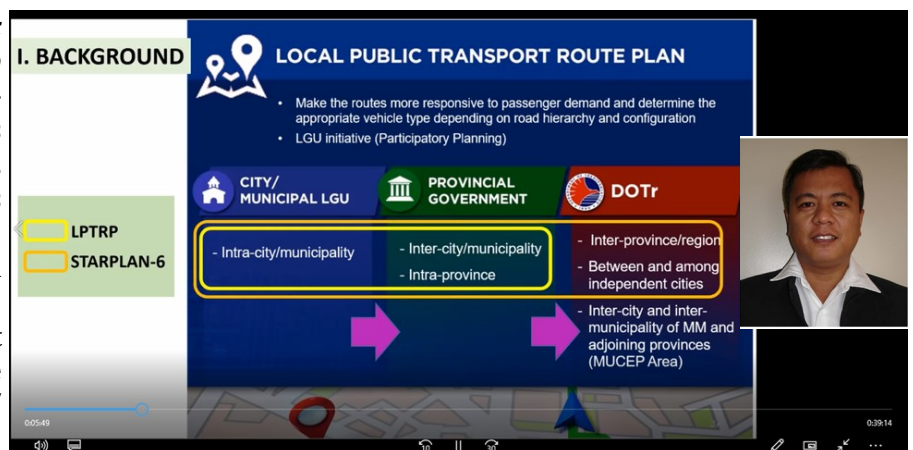
OR practitioners, students, teachers from industry, universities, and local government units from Metro Manila, all over Luzon, and as far south as the province of Antique comprised the 139 participants of the first 2022 online webinar series organized by ORSP last March 2, 2022. OR aspects of national issues involving agriculture, traffic, and poverty were discussed by **Dr. Jerrold M. Tubay**, an Associate Professor of the Mathematics Division in the Institute of Mathematical Sciences and Physics; **Dr. Alex M. Fillone**, Specialist in Transportation Engineering and full professor at DLSU; and **Dr. Jose Ramon G. Albert**, Senior Research Fellow at the Philippine Institute for Development Studies, respectively.



J. Tubay, in his paper on *Agricultural Land Use Allocation under Current and Projected Scenarios*, presented a decision support system that optimally allocates agricultural land considering conflicting development goals aggravated by climate change as applied to 48 villages with a total area of 18000 hectares in San Jose, Nueva Ecija that produce rice, onion, tomato, and bitter melon. Maximizing production-suitability measures for each of the crops comprise the first four objective functions which address increased production and optimal land use. The other

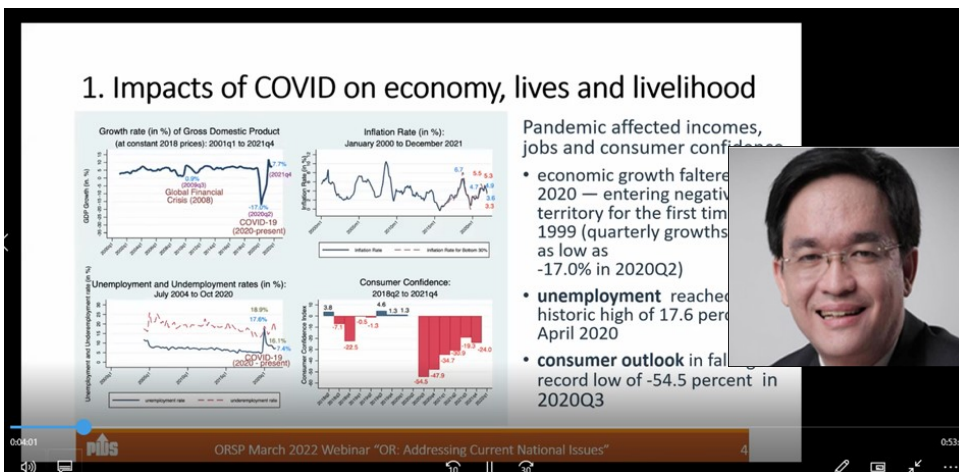
three objective functions that maximize residential suitability, household income, and agricultural employment, address the pursuit of equitable employment and economic sustainability. The complete multi-objective binary linear programming model with the seven objectives and constraints cover water resource, land area, and supply production. Results of the model-generated optimal allocation for the present until 2035 were then presented, aiming to guide policy and decision-making for San Jose City.

A. Fillone's *Operationalizing Public Transport Planning from the Regional to the Municipal* targets the route rationalization component of the government's flagship PUV modernization initiative. Using Region VI or Western Visayas as pilot area, the model enables a sustainable local public transportation route plan that integrates the air, road, and maritime transport network using smart technologies. Data are gathered by: the LGU stakeholders for intra-city/



municipality route planning; the provincial government for inter-city/municipality and intra-province route planning; and DOTr for inter-province/regional level route planning. Since 2018, data gathered include inventory of the road network, jeepney/bus/UV/water ferry routes, locations of important facilities. The LGUs of the different provinces of Region VI conducted surveys -home and roadside interviews to generate volume of movement for various origin-destination points. Some municipalities that have completed data gathering have been able to replan PUV routes and tricycle zoning. Initial statistical analysis of tricycle supply has been carried out.

A. Fillone presented the replanned networks for sample municipalities in Iloilo and Antique and then proceeded to describe the ideal system with appropriate vehicles (express buses, rapid buses, jeepneys, UV express, tricycles and motorcycles) assigned to regional, provincial, and municipal roads, following designated schedules and stops, with all three levels integrated not just in route plans but also in one fare system. Amid the many challenges such as lack of roads; road networks being highly dependent on national roads, this research promises to lead to the destination of an ideal transportation network for the Philippines.



J. Albert's *The Forgotten Agenda of Poverty and Inequality: Examining Poverty and the Middle Class Amid Covid* started with lack of poverty statistics in 2020 and the need to measure the impact of the pandemic across income classes. He enumerated some effects of lockdowns and restrictions of movement as reduced incomes and jobs, increased burden of unpaid domestic and care work, and the emergence of a mental health crisis. He went on to discuss the definition of poverty

as shortfall of income from the official poverty thresholds as defined by NEDA. He stressed, however, that poverty is multi-dimensional; consisting of hunger, lack of shelter, not being able to go to school, not having access to a hospital, having no job, being unrepresented, living one day at a time. Thus, looking at monetary income alone is limited. He cited that a pilot study on a multi-dimensional poverty index (MPI) that measures the proportion of Filipinos living in multi-dimensional poverty was decreased from 24% to 17% from 2016, with education being the biggest contributor to the MPI.

He then presented a simulation of the impact of covid on poverty with different scenarios of income contraction, with and without social amelioration (“ayuda”) from the government. Effects on poverty incidence, actual number of the poor and subsistence/very poor on a national scale and for the different regions of the Philippines were shown. He ended by citing the upside for future analysis which involve the use of big data that improve small area estimates of poverty.

M. De Guzman U summarized the talks and J. Loma invited participants to the upcoming APORS 2022. ♦



Alleli Domingo manages the session of **J. Tubay**, **Rene Santiago** does the honors for **A. Fillone**, and **Josef Yap** moderates the session of **J. Albert**.

F. Miranda Takes on IFORS VP Role Representing APORS



ORSP Past President Francis Miranda was appointed as IFORS Vice President representing APORS for the period 2022-2024. The International Federation of Operational Research Societies (<https://www.ifors.org/national-societies/>) is a 63 year-old organization composed of 54 national OR Societies, of which the Philippines is a member. Each regional grouping in Asia (APORS), Europe (EURO), North America (NORAM), and South America (ALIO) is represented by a Vice President. The current officers are: Janny Leung, President 2022-2024, M. Grazia Speranza, Past President 2019-2021, Frits Spijksma, Vice President, Richard Hartl, Treasurer, Stefan Nickel, VP representing EURO, Rina Schneur, VP representing NORAM, Antonio Mauttone, VP representing ALIO, and Mary Magrogan, IFORS Secretary. ORSP's own Elise Del Rosario was IFORS President from 2007-2009.

F. Miranda was previously the President of the Association of the Asia Pacific Operational Research Societies (APORS) from 2019 - 2021. As IFORS VP for APORS, F. Miranda helped organized the APORS Youth Forum held April 26 to 27, the IFORS global webinar on OR and the Pandemic last May 4, as well as the upcoming webinar on Operational Research for Public Health Emergencies in partnership with WHO's Global Outbreak Alert and Response Network (GOARN). Related to this, he is also spearheading the set-up of a Special Interest Group (SIG) in this area. He also chairs the ORSP-sponsored 2022 APORS Conference to be held in Cebu. ♦

E. del Rosario Podcast Interview is Online

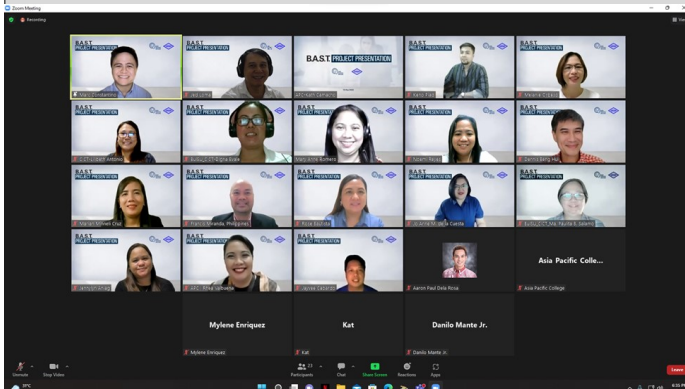
E. del Rosario was invited to guest in "Subject to", a podcast (<https://www.youtube.com/channel/UCKMY2i-ROJjOXCxePFewnkg/videos>, <https://anchor.fm/subject-to>) that offers a series of informal conversations with relevant figures in the fields of Operations Research, Combinatorial Optimization and Logistics. You Tube views of the podcast has surpassed 25,500 with viewers and listeners from at least 45 countries. She joins guests who include Panos Pardalos, Maria Grazia Speranza, Mauricio Resende, David Pisinger, Nelson Maculan, Michel Gendreau, Claudia Archetti, Dimitris Bertsimas, Margaret Brandeau, Warren Powell, Vašek Chvátal, among others.



<https://anchor.fm/subject-to>
<https://youtu.be/B2fH8NeOIC4>

The one hour interview is broken down into chapters and in one of them, E. del Rosario discusses some interesting OR projects formulated and implemented when she headed the OR Department of the San Miguel Corporation. ♦

First Batch Completes APC-ORSP BAST Course



Asia Pacific College completed the first batch of the BAST Program, which culminated in a Capstone project presentation last May 13, 2022. A total of 12 participants attended the program, 10 faculty members from Bulacan State University and 2 from Asia Pacific College.

The program covering 4 months enlightened the participants about the various applications and tools in analytics and systems thinking. Topics include advanced business analysis using Excel, Predictive Analytics using Knime and Python, Prescriptive Analytics using Excel and Open Solver, Data Visualization using Power BI and Systems Thinking using Vensim. The partic-

ipants showed during their Capstone presentations how Analytics and Systems Thinking can be used to reduce the student drop-out rate, and increase their employability.

It will be remembered that on June 15, 2021, ORSP signed a Memorandum of Agreement to undertake the program in cooperation with Asia Pacific College. ORSP Directors Francis Miranda and Dennis Beng Hui handle the Business Analytics and Systems Thinking modules, respectively. ♦

ORSP Student Federation Pushes Restart Button



Together with the Philippine Institute of Industrial Engineering - Operations Research Society of the Philippines (PIIE-ORSP) Adamson Chapter, the Operations Research Society of the Philippines (ORSP) Student Federation conducted the 5th Industrial Engineering Summit *AVENier: Leading Future Industrial Engineers to a Technology-driven Industry* last May 14, 2022 via Zoom.

The event, which aimed to provide students an understanding of Industry 4.0 and skills required for the continuous modernization of industry, was attended by close to 400 industrial engineering students all over the country, ORSP Past President and guest speaker Francis Miranda discussed *Digital Trends in the Research and Analytics Industry* where he cited the shift of companies from analog to digital during the pandemic. After replying to questions from interested participants, he accepted the token of appreciation from Vice President of External Affiliations Alec Kristoffer Gawaran, and PIIE-ORSP AdU Chapter President Alyssa Tandoc. ♦

REGISTRATION DETAILS

- Participants who register and pay will be given the Zoom details of the conference. All sessions will be recorded and will be made available to registered participants.
- Registration is free for active ORSP MEMBERS who register on or before May 30, 2022
- Registration fee for non-members and students is Php 100
- Registration link: [Understanding Cryptocurrencies in the Philippines - Google Forms](#)

RESERVATION/PAYMENT METHODS

- Payment may be deposited directly to BDO Account No. 00151 0028 666 under the name of *Operations Research Society of the Philippines, Inc.* (please do not abbreviate). Please send proof of payment with your registration form.
- If you are an ORSP member, check that your membership fees are paid for the year.
- Payments may also be made by GCash to 0917 863 4196
- You may choose to apply for/renew your membership to avail of member rates.
- Certificates of attendance will be available upon request.

Invitation to the Second 2022 Webinar



Operations Research
Society of the Philippines
A Member of 



CRYPTOCURRENCIES IN THE PHILIPPINES

ORSP ONLINE WEBINAR SERIES
JUNE 1, 2022 1:50 - 4:30



**Cryptocurrency
Fundamentals and
Emerging Trends in the
Philippines**
Christian John
Immanuel Boydon
Lecturer, UP



**Blockchain: What it is,
why it matters, and what
it means for us**
Arvie de Vera
Co-Founder & Chief Executive
Officer, Union Digital



**Regulatory Perspective:
The Hoops and Loops of
Virtual Asset Landscape**
Melchor Plabasan
Director
Bangko Sentral ng Pilipinas

contact secretariat@orsp.org.ph or call +63 927 877 5219

Analytics for Making Better Decisions

Featured in 4th 2021 Webinar

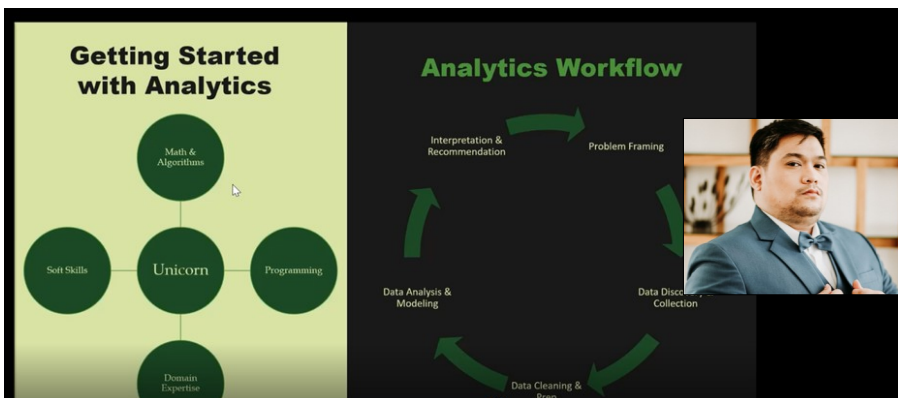
ORSP's last quarterly technical forum for 2021 was held online on Monday, Nov. 8 and attended by 113 industry practitioners, professors, and students. Featured were two analytics experts, **Fabricio Medeiros**, Market Intelligence Lead for APAC of GfK, a world-leading provider of data and analytics, and **Michel Onasis S. Ogbinar**, Data Management Head of San Miguel Corporation, one of the Philippines' top and most diversified conglomerates with over 45,000 employees throughout Asia Pacific. The webinar focused on analytics and how it drives decision-making in today's business world.

In his talk on *How Point of Sale Analytics Can Drive Decisions for the Market Mix (Product, Price, Distribution, Promotion)*, F. Medeiros focused on point of sales (POS) data and the information, analysis, and decisions it can generate. Through very well-crafted charts and graphs, he described how distribution decisions in the short term and portfolio decisions in the long term could be guided by point of sales data. For example, clear information as to the relative sales performances, numerical and weighted, of different branches and response to sales promotions can lead to better decisions regarding inventory distribution, promotion planning, and sales force deployment.



On the other hand, for the long term, point of sales data can provide strong visibility into the growth of the market, the market share of brand vis a vis others, the market share of specific product offerings within the brand, and the intended target markets or niche messaging of different competitors. All these allow one to look at a global picture and better plan future models to design and produce, as well as determine when to optimally launch these products and at what prices to offer them.

F. Medeiros also discussed how point of sales data may further be used in the realm of predictive analytics. One example he showed was a model which calculates how a temporary price change for one item may affect its own sales and revenues as well as the respective sales and revenues of every other item the company and its competitors are selling. POS data may also drive demand forecasting and, consequently, guide inventory optimization and numerous supply chain decisions for the business.



This was followed by *Analytics in Practice* by M. Ogbinar of San Miguel Corporation. He first talked about operations research and while acknowledging there are many definitions of analytics vis a vis OR, he offered his take on what differentiates OR from analytics. He showed the four functions of analytics being descriptive, diagnostic, predictive, and prescriptive, and how OR fits into the prescriptive area. He described the analytics workflow in detail, emphasizing that it is a cycle of different steps, with data analysis and modelling being one of them.

He went through an example by walking participants through the Santa Claus problem of planning his gift-giving routes throughout the Philippines and the rest of the world. His thorough discussion started from locating the targeted gift recipients to bringing in more information to go with the

data for clarity, data clean up and visualization, on to k-means clustering of the points to create geographical groupings, creation of networks for each cluster, use of travelling salesman heuristics, and finally the route recommendations for Santa that lead to happy children at Christmas. The speaker was quick to say that the analysis does not end here, as there may be changes in the situation or new constraints that must be incorporated, such as restricting time windows or limiting the number of trips or load weight per trip.

The audience gained valuable insight into careers in analytics from M. Ogbinar's talk. He enumerated the important skills one needs: math/algorithm skills, programming, domain expertise, and soft skills. One need not have all these, however, as all four are rarely to be found in a single person. Soft skills and more specialized skills are needed in varying degrees for roles in IT, data and analysis, and business domain expertise. Thus, one needs to focus on what one is good at amid the wide spectrum of possibilities in an analytics career.

At the end of the webinar, participants were all invited to upcoming ORSP activities, the Business Analytics and Systems Thinking Professional Track on November 27, 2021 to March 12, 2022, and the APORS International Conference to be held in Cebu in November 2022 which ORSP is hosting. ♦

3rd 2021 Webinar

OR Conversations Bring Enlightenment and A Clamor for More

After a series of forums on special OR topics, the September 8, 2021 Operations Research Society of the Philippines was a trip back to the basics. It was an afternoon of learning and sharing for 131 operations research students, teachers, and industry professionals. Even for an online event, participant enthusiasm was palpable. Presentations by invited speakers were followed by unprecedented breakout room discussions, a new feature of the technical series. This offered all participants an opportunity to interact and share experiences, making this webinar truly live up to its name, "OR Conversations".



Elise del Rosario provides a brief background of OR

social media, as well as COVID-19 vaccine deployment and health care capacity estimation. Her concluding synthesis for the whole presentation provided a concise working definition of operations research as "the application of analytical methods to help in decision-making."

The second presentation, *On the Practice of OR*, was delivered by **Martha Tan** and ORSP Director **Dennis Beng Hui**, both from the management consulting firm Technopoly, Inc. They are also both part of academe, with Martha handling operations management in Ateneo de Manila University and Dennis a former chair of Department of Industrial Engineering at the De La Salle University - Manila. M. Tan energized the attendees with a series of questions on their demographics, interests, and challeng-

Hosted by ORSP Director Juanito Chan, the webinar was opened formally by ORSP President Marie Shella Tan-Mariscal. **Elise del Rosario**, past president of the International Federation of OR Societies (IFORS) and founding member of ORSP, then opened the afternoon sessions with *OR: An Express Overview*. She packed her presentation with many real-life applications she helped bring to life as OR Manager in San Miguel Corporation and beyond. She brought to light basic OR tools within Waze, Google Maps, Amazon, vehicle routing and ride-hailing apps, and a glimpse of their mathematical formulations. She covered a wide range of applications covering supply chain, optimal restocking of ATMs, marketing in the age of TV ads and social



Martha Tan tackles The Practice of OR through an example



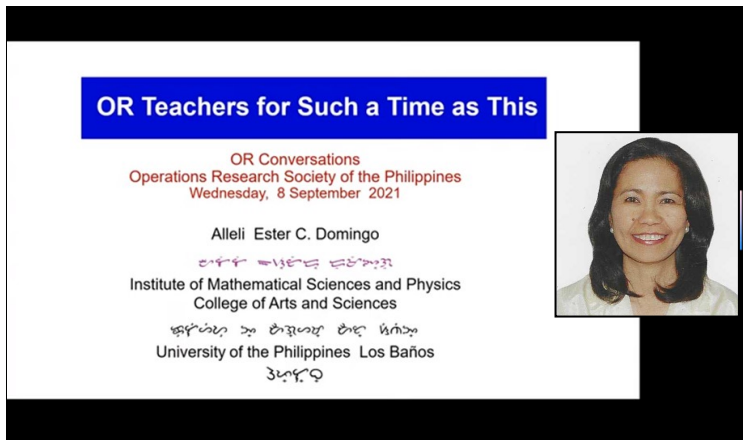
The challenges of OR practice today

Dennis Beng Hui cites the challenges faced by OR practitioners in the current milieu.

es through Mentimeter. D. Beng Hui explained the differences between OR in the classroom, where everything is well-defined, versus the volatility, uncertainty, complexity, and ambiguity one encounters when applying OR in the real world. He emphasized that in applying OR in the real world, focus is not so much on tools and techniques, but rather, on fully understanding the problem, employing systems thinking to spell out the goals not of the different compartments but of the entire organization. M. Tan then discussed a project with PhilSys to improve the systems involved in the national ID registration of 70 million Filipinos in

2021. She touched on the intricacies of the project such as dealing with data and generating evidence-based insights, subject to a demanding time frame in which to deliver results.

The last speaker, **Alleli Ester Domingo**, presented *On the Teaching of OR* she shared a wealth of experience since starting her teaching career in 1978. As a teacher of different OR subjects at the University of the Philippines Los Baños Institute of Mathematical Sciences and Physics, she discussed how teaching has evolved through the years from merely delivering instruction to facilitating learning, and that a teacher must always focus on how students learn best. Her alumni students' stories were inspiring to hear, especially the nonstellar ones and those who started out with little or no interest. From her classes, they grew to appreciate OR and learned not just tools of OR but also tools for success. Truly deserving each and every one of her teaching awards, A. Domingo quoted Christa McAuliffe, "I touch the future, I teach". She ended with a quote from Amanda Gorman, "... that we'll forever be tied together, victorious", no doubt, inspiring teacher and student participants, especially amidst the difficult online learning environment.



OR Teachers for Such a Time as This

OR Conversations
Operations Research Society of the Philippines
Wednesday, 8 September 2021

Alleli Ester C. Domingo
Institute of Mathematical Sciences and Physics
College of Arts and Sciences
University of the Philippines Los Baños

Alleli Domingo shared valuable tips with teachers of OR

At the end of the three presentations, participants were assigned to several breakout rooms, each having a facilitator and a mix of students, teachers, and industry professionals. Prior to the event, participants responded to some discussion points, such as teaching and learning methods, important OR tools, necessary skills for an OR consultant, among others. Several student attendees were curious about applications, how it differs from business analytics, how best to make classroom learning more practical. Although time was short, attendees overwhelmingly appreciated this opportunity and have requested longer discussions in future events. An open forum followed where questions collected from the Padlet wall were raised by ORSP director Nestley Sore and answered by the speakers. The webinar closed with a wrap up by ORSP director Malu de Guzman U. Winners of the raffle prizes were informed after the forum.

Everyone rated the webinar and the speakers, excellent, only wishing that there had been more time for the breakout and Q&A with the speakers. They left the webinar encouraged and energized, realizing yet again that OR functions amidst the complexities of the modern world, and that it plays a crucial role in supporting decision-making. Whether it is clearly presented or hidden underneath many layers and varying sectors within an organization, or within software tools embedded in apps, OR always tries to make systems more efficient, and, in so doing, improves lives. ♦

Welcome New Members!

This newsletter issue welcomes new members who have joined the ORSP Family.

From the **Academe** are: **Loren Aina L. Trinidad**, Assistant Professor at Holy Angel University; **Floresto A. Franco**, Assistant Professor at Mariano Marcos State University; **Rowanne Marie Mangompit**, Faculty at Cebu Technological University; **Raymond Paul Eclarin**, Assistant Professor IV at Mariano Marcos State University; **Dinah C. Vidad**, Faculty at Mariano Marcos State University; **Liliwa A. Olalo**, Faculty at Mariano Marcos State University; **Emely P. Tanagon**, Associate Professor III at Mariano Marcos State University; **Ruby Celia D. Cagaoan**, Assistant Professor IV at Mariano Marcos State University; **Ruween Nicky C. Guzman**, Faculty at Mariano Marcos State University; **Maria Cristina L. Nudalo**, Instructor at Cebu Technological University – San Francisco Campus; **Honeylou F. Fariñas**, Assistant Professor III at Mariano Marcos State University, **May M. Ferry**, Instructor IV at University of Batangas-Alangilan, and **Idello Melvin H. Cayabyab**, Professor at Mariano Marcos State University.

From the **Industry** sector: **Michel Onasis S. Ogbinar**, Data Management Head at San Miguel Corporation, **Rowell Castro**, Digital Innovations Advisor for East Markets at Pilipinas Shell Petroleum Corporation, and **Alexander L. Hipolito**, Director - Operations Research, Advanced Analytics Group at Bain & Company Philippines Inc.

Institutional Members joining ORSP for this period is the **University of Makati** which designated **Dr. Dennis A. Sandoval** and **Dr. Nemesio T. Barboza** as its ORSP representatives.



Loren Aina L. Trinidad



Floresto A. Franco



Rowanne Marie Mangompit



Raymond Paul Eclarin



Dinah C. Vidad



Liliwa A. Olalo



Emely P. Tanagon



Ruby Celia D. Cagaoan



Ruween Nicky C. Guzman



Maria Cristina L. Nudalo



Honeylou F. Fariñas



May M. Ferry



Michel Onasis S. Ogbinar



Rowell Castro



Alexander L. Hipolito



Dennis A. Sandoval



Nemesio T. Barboza

OPERATIONS RESEARCH ONWARDS TO RECOVERY



HOSTED BY THE OPERATIONS RESEARCH
SOCIETY OF THE PHILIPPINES

**VENUE: RADISSON BLU
CEBU**

**NOVEMBER 9 - 12, 2022
CEBU CITY, PHILIPPINES**



THE ABSTRACT SUBMISSION DEADLINE IS ON June 10, 2022

Abstracts must be written in English. Each attendee is allowed to present ONE paper at the conference. The abstract should be typed in English, should not include mathematical notations, and must contain the following:

- Paper/proposal title;
- Abstract of not more than 500 words (no formulas or mathematical notation allowed);
- Author(s) name(s), organization, full mailing address, email address, with an indication of author(s) presenting the paper; and
- Topic (at most three, chosen from the Conference Topics List) under which paper falls and additional topics if not included in the list.

CALL FOR PAPERS AND SESSIONS

- The call for the proposal of [invited session](#) is open. An invited session is composed of 4 or 5 talks on a specific theme.
- [Abstract and paper submission](#) is now open, through [EasyChair.Org https://easychair.org/account/signin?l=5aFqerF5JqCyrUYepZm3o4](https://easychair.org/account/signin?l=5aFqerF5JqCyrUYepZm3o4)

IMPORTANT DATES

Abstracts:

Submission of abstracts	1 February to 10 June 2022
Deadline for receipt of abstracts (500 words)	10 June 2022
Notification of acceptance	TBC

Registration:

Registration Opens	1 April 2022
Early bird Registration Deadline	12 August 2022
Speaker registration and payment deadline	20 August 2022

REGISTRATION FEES

	Early	Regular
Local Participants		
ORSP	₱12,000	₱14,000
non ORSP	₱13,000	₱15,000
Students	₱5,000	₱7,500

For more information, please visit the website www.apors.org