

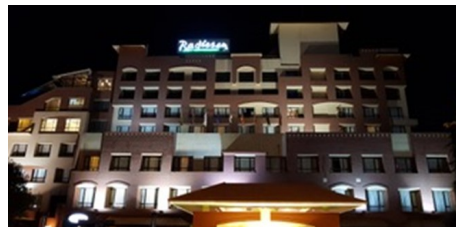


APORS 2021: Philippines Wins Bid to Host the 2021 Asia Pacific Regional Meeting

by Francis Miranda

During the recently-held Association of Asia Pacific Operations Research Societies (APORS) regional meeting last August 2018 in Kathmandu, Nepal, ORSP won its bid to host the APORS 2021 meeting in Cebu.

The APORS meeting is held every three years and is hosted by one of the member societies which include the national OR societies of



Radisson Hotel in Kathmandu—home away from home for the APORS 2018 participants.

lowing members in his team: Nezam Madhavi-Amiri from the OR Society of Iran as Vice President, Adibah Shuib from the OR Society of Malaysia as Secretary, and Xudong Hu from the OR Society of China as Treasurer.

The APORS 2018 held in Nepal from August 6 to 9 at the Radisson Hotel in Kathmandu was a success. More than 150 participants from 22 countries attended. IFORS was present through its IFORS Distinguished Lecture delivered by Leo Liberti on the topic: “Random Projections in Mathematical Programming”. James MacGregor Smith gave the IFORS Distinguished Tutorial on the topic: “Evacuation Network Performance Modelling and Optimization”. Other keynote

speakers included Edward H. Kaplan from Yale University who talked about “Operations Research and Public Health”, and Matthias Ehrhott from Lancaster University who spoke about “Considerations of Sustainability in Transportation – A Case for Multi-objective Optimization”.

There were also more than 100 papers presented during the conference, which made up for a very varied and enlightening academic program. ORSP’s own Francis Miranda served as chair in one of the parallel sessions on “Applications of OR in Management”.

The social activities were equally interesting, which included a cultural program on the third day of the conference. On the fourth and last day, the Nepal OR Society organized a tour within the Kathmandu valley, which was very well-appreciated by the international participants. ♦



Stage is all set for the conference.

Australia, China, Hong Kong, India, Iran, Japan, Malaysia, Nepal, New Zealand, the Philippines, Singapore and South Korea. The last time ORSP hosted the regional meeting was in January 16 to 18, 2006 at the Dusit Hotel in Manila. This time around, the venue proposed by the organizing committee led by Director Jed Loma, was Cebu, from February 16 to 19, 2021.

In line with this development, ORSP Immediate Past President Francis Miranda was elected President of the APORS, with the fol-



APORS Council meeting members (l to r): Adibah Shuib, Soong Joo Park, Govinda Tamang, Sunity Shrestha, Nezam Madhavi-Amiri, Yuhong Dai, Chang Won Lee and Francis Miranda discuss regional matters and strategies.

Forum Features OR Applications in the Food, Delivery, Airline and Banking Sectors

by Janni Boydon

OR in the Service sector came alive as four speakers talked about OR in the food, delivery, airline and banking sectors during the 2018 ORSP Technical Forum held last September 29, 2018 at the Leong Hall, Ateneo de Manila University. It was an eye-opening treatment of a subject from speakers who have had extensive experiences in their industries. As one participant commented, *"Daming sustansya sa seminar na to. The best! Gamit na gamit sa thesis namin. More speakers pls"*.

The first speaker is Restaurant Systems Officer of Jollibee Foods Corporation



B. Santiago tackles the quick service restaurant industry.

Benjamin Santiago, Jr., who talked about initiatives for optimization in the Quick Service Restaurant Industry. He

showed actual examples of improving service performance through simulation especially with the recent introduction of self-order kiosks. He was also particular about little improvements that can create big impacts such as the simple practice of optimizing table-chair mix in dining areas. He made this clearer by highlighting that a 1% cost reduction for a multi-billion dollar company amounts to a big contribution.

Cost reduction was also the key principle of the next speaker, Gloria Estabaya, Vice President for Operations and Business Analytics of Airfreight 2100, Inc. Emphasizing that logistics cost is actually 27% of total shipment cost, she

focused on the importance of considering last mile logistics, i.e., bringing goods and services to the exact point of delivery after going



G. Estabaya deals with the last mile of delivering goods to customers.

through the main networks. With challenges of a customer base demanding more service at a cheaper cost, coupled with a highly variable density distribution of customers spread across 7000+ islands of the Philippines, this industry has been served well by Operations Research, along with Data Analytics.

The third speaker was Felix Cruz, former chairman of PAL, who talked about the role of Operations Research in the Philippine airline industry. The numerous applications of Operations Research practices ranging from scheduling of flights, pilots, and airplane units, planning of routes



F. Cruz focuses on the various roles that OR plays in the airline industry.

across Philippine islands and to other nations, as well as managing promotions like seat sales and overbooking to optimize opportunities for profit were eye-opening for the large audience of students, teachers, and practitioners.

Vicente Reventar, last speaker for the forum and also currently a lecturer at the Ateneo de Manila University, discussed applications of Operations Research and Analytics in the Banking and Financial Sectors. By demonstrating an actual application using a particular software, he showed the huge impact that optimization and management of cash-in-vaults of Automated Teller Machines can do in providing service to customers of the banking industry.

Past and present ORSP directors Malu De Guzman, Vic Reventar, Alleli Domingo, and Janni Boydon, moderated the forum. The event was a success with a total of 528 participants from different schools, namely: Quezon City Polytechnic University, University of Southern Mindanao, Colegio de San Juan de Letran, Baliuag University, PUP Manila, De La Salle University, San Sebastian College Recoletos de Cavite, UP Diliman, University of Makati, Adamson University, UP Los Baños, St. Dominic College of Asia, and Mapua Institute of Technology. At the end of the forum, all the participants from practitioners, academics and students, gave the forum high marks! ♦



V. Reventar after his talk on the banking and finance sectors receives his plaque from organizers J. Boydon, A. Domingo and M. de Guzman U.

Operations Research and Analytics in the Banking and Financial Sectors.

Past and present ORSP directors Malu De Guzman, Vic Reventar, Alleli Domingo, and Janni Boydon, moderated the forum. The event was a success with a total of 528 participants from different schools, namely: Quezon City Polytechnic University, University of Southern Mindanao, Colegio de San Juan de Letran, Baliuag University, PUP Manila, De La Salle University, San Sebastian College Recoletos de Cavite, UP Diliman, University of Makati, Adamson University, UP Los Baños, St. Dominic College of Asia, and Mapua Institute of Technology. At the end of the forum, all the participants from practitioners, academics and students, gave the forum high marks! ♦

At the end of the forum, all the participants from practitioners, academics and students, gave the forum high marks! ♦

Participants Learn about Machine Learning

by *Elise del Rosario*

The Workshop on Machine Learning using Python held from June 22 to 23 at the Mapua University attracted 31 participants. With the aim of introducing Machine Learning and introducing Python, the Workshop was successful in getting participants acquainted with the various applications of Python.

ORSP Past President Francis Miranda led the team consisting of Trixie de Guzman, Vanessa Bermudez and Danielle Hizola in guiding participants as they went through pre-worked Python code that covered 5 cases. Cases ranged from predicting: auto. Insurance levels, house prices, credit scores, survivors of a ship wreck, birth weight, and geographic clusters. This was preceded by an extensive introduction of real-life uses of machine learning.

Even as the introduction clarified that the two-day training is not a programming course, participants got an idea of the language syntax and worked their way through changing some codes to see the effects on the output. Participants were exposed to a multitude of built-in Python libraries that they could call for their applications. As Board Director Rex Robielos quipped, "This will certainly fast

track my learning of the language, which I had started taking up in Coursera." The workshop leaders cited the various resources to get participants started in serious programming. In cooperation with Cypher Learning, participants were provided access to all the materials – slides, programs, data sets – which they could use after the Workshop.

Earlier, ORSP had also conducted a Workshop in R, and many participants acquainted with both commented on the advantages they see in shifting to Python. Other participants appreciated the opportunity to add to their set of Analytics tools. In general, participants gave the course and the trainers a score indicating satisfaction with the conduct of the Workshop and requested for additional training in other Analytics topics.

Participants came from: Cagayan State University, De la Salle – College of St Benilde, Holy Angel University, Mapua (Intramuros), Mapua University, Sunlife, Technopolly, Inc. An annual offering of the ORSP, the Workshop this year was held in partnership with the Mapua University and Cypher Learning.

Participants included: Arman Loui Arquilada, Arian A. Rabino, Gina Tumang, Maria Elena Timbang, R-Jay Quiambao, Kimberly Hazel Serrano, Ruselle Andrew Manalang, Elmer Perez, Gerard Cortez, Flor Mangalino, Renilda S. Layno, Hardy D. Sierra, Ronald Arciaga, Raymond Sedilla, Gloren Fuentes, Joel De Goma, Josseline Nolasco, Marjorie Navales, Martha Lauren Tan. ♦



Workshop participants pose for a photo after receiving their certificates: (top to bottom): Holy Angel University, De La Salle College of St. Benilde and Sunlife; and participants from the host school, Mapua University; and all participants with the organizers.



Participants listen to F. Miranda give the Introductory Lecture.

Conference Looks Back at the Last 30 Years of OR in the Philippines

by Iris Martinez

Founded in 1987, the Operations Research Society of the Philippines celebrated its 30th year anniversary during its national conference on November 24 at the Richmond Hotel in the capital city of Metro Manila. Lively plenary sessions marked the event, with past presidents of the Society taking key plenary spots.

Two tutorials were handled by Vicente Reventar on the topic *System Dynamics and the Integrated Sustainable Development Goals (iSDG) Planning Simulation Model* and another



Francis Miranda deals with a very interesting topic on the use of web crawling and statistics for predicting sales.



Vicente Reventar shows how Systems Dynamics can be put to work for Sustainable Development.

one by Francis Miranda on *Methodology to Estimate Online Sales Using Automated Web Crawling, Predictive Analytics and Statistical Extrapolation*. Meanwhile, a one-hour “talk show” format was conducted during the Plenary Panel with Past Presidents. Fielding the questions was moderator Jaime (Bing) del Rosario.

This talk show session was able to solicit the five presidents’ perspectives on a wide range of issues,

including breakthroughs and ORSP accomplishments and personal experiences in trying to get OR to work. All the presidents were unanimous in agreeing that their OR experience enabled them to adopt a system view of problems, structure and define them before embarking on a solution, whether for a client or in their personal lives. The topic of OR in the Philippines and how it compares to OR practice in other countries yielded a general view that OR practice is lagging, nationally compared with other APORS countries such as Australia. The topic of whether incorporating “Analytics” into the OR name yielded a divided outcome, with some preferring to retain the OR name and others, ready to embrace Analytics.

The keynote given by Department of Science and Technology Secretary Fortunato de la Peña on *The Role of Science & Technology in Environmental Sustainability* discussed the ways in which OR could be used to address sustainability



Moderator Bing del Rosario (left) directs the discussion of the Past Presidents Panel consisting of (l to r): Elise del Rosario, Aura Matias, Noli Macalalag, JC Mercado and Alleli Domingo.



Secretary de la Peña illustrates how the activities of the DOST address the 2020 Sustainable Development Goals.



Kathleen Aviso relates her extensive use of mathematical models for energy efficient networks and supply chains.

issues in accordance with the 2030 UN Global Goals for Sustainable Development. Himself an OR person, the Secretary discussed various optimization projects in the S&T sector.

In her talk on *Engineering a Sus-*



Michael Promentilla shows how an OR Toolbox can be used to structure problems.

tainable Future through Process Systems Engineering, Kathleen Aviso discussed her extensive work in the development of mathematical models to aid in decision-making for the design of resource conservation networks, identification of energy efficient supply chains, selection of sustainable supply chain pathways and disaster risk analysis and management. On the other hand, in his talk on *Proposing an Operations Research Toolbox to Resolve Problematic Situation in Energy and the Environment*, Michael Promentilla illustrated the use of a problem structuring method on a case involving industrial parks (EIPs) which are being promoted as a promising strategy to achieve sustainability in a circular economy.

The parallel sessions tackled various topics around environment, climate, risk, supply chains, manufacturing and traffic issues. The close to 200 participants gathered



Wilson Gan tells the audience that figures can be made a lot easier to understand.

back for the Closing Plenary which tackled a common concern of all OR people, namely, *How to Present Data and/or Analytics Results That is Easily Understandable by Any Audience* delivered by Wilson Gan. This was quickly followed by a business meeting and fellowship. A relief to the organizers, participants generally found the conference excellent. ♦



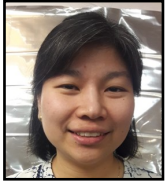
Players in the 30 years of ORSP pose with Secretary de la Peña (left to right): JC Mercado, Francis Miranda, Alleli Domiingo, Aura Matias, Elise del Rosario, F. De la Peña, Shella Mariscal, Nida Africa, Iris Martinez, Dennis Cruz and Rex Robielos.



Participants raise various points during the Q & A.

Banner Year Ushers in More Challenges

by *Sheila T. Mariscal*



The year 2017 came to a close with the celebration of ORSP's 30th Anniversary National Conference which focused on the theme of *Sustaining the Environment Through OR*. No less than DOST Secretary dealt with the S&T efforts towards a sustainable environment. An interesting plenary panel, centerpiece of the ORSP's 30-year celebration gave a very insightful look into the developments within the discipline and the community as seen from the eyes of the past ORSP presidents. Capping the event was a soft skills session with a very important topic for OR professionals: how to present data in a way that it can best be understood.

Turning to the young OR people was a good start for 2018. Expectedly, hot on the agenda were mobile applications tackled by guest speakers from BigBenta Marketplace, Ninja Van, and MyKuya. Simultaneous with the talks were the much-awaited Case Study and Quiz Bee competitions, both won by UP-Diliman.

A Technical Workshop on *Machine Learning using Python* benefited 31 participants who had a chance to work on several case studies on predictive analytics.

It may be said that the ORSP calendar of activities ended with a bang, with a record-setting attendance for a Technical Forum. Participants learned a lot on the use of OR in the Service Sector.

Year-end 2018 was enlivened with the welcome news that APORS is going to be held in Cebu in 2021! This definitely will entail a lot of work but with your help, we will be able to deliver!! ♦



Student Federation Elects 2018 Officers

by *Alona Moncada*

The ORSP Student Federation Annual Elections was held on September 22, 2018 at the Adamson University. Officers from respective affiliate organizations of the following schools: Tarlac State University, University of Perpetual Health System – DALTA, Bulacan State University, Colegio de San Juan de Letran – Manila, PATTS College of Aeronautics, Technological Institute of the Philippines – Quezon City, De La Salle University – Manila, University of Santo Tomas, Mapua University, University of the Philippines – Los Banos, Quezon City Polytechnic University, Malayan Colleges Laguna and Adamson University were on hand to participate in the day-long event.

Nominees from each school presented their respective General Plans of Action followed by a question and answer portion. Subsequently, voting took place through ballots and a live counting was done. The newly elected officers were officially announced by Engr. Nestley I. Sore, Adviser of ORSP-SF, and Oath Taking took place afterwards. An application

for the posts of Vice President for Marketing, Academics and Finance and other director positions was opened after the elections. After interviews, the remaining vice president and director positions for each committee team were filled. The newly elected board promises to make the year a fruitful one for the affiliate members of the Operations Research Society of the Philippines – Student Federation.

Elected as officers were: President, Maria Alona M. Moncada (UST); Executive Vice President, Andrea Jane F. Manrique (AdU); Secretary, Mariell G. Bacar (QCPU); Vice President for Communications, Arrem Christian S.A. Jusi (Mapua) Vice President for Operations, Jhon Carlo M. Vibora (UPHSD – Las Piñas); Vice President for Academics, Hilary Pearl F. Fesalbon (UST); Vice President for Finance, Charles Patrick B. Dujua (PATTS); Vice President for Publicity, Andrea Ivy S. Alejandria (BSU); Vice President for Marketing, Ivan Francis T. Yeung (DLSU). ♦



TRANSCEND: Operations Research At Your Fingertips

by Jermee Villacorte

Operations Research brings to life concepts that were only imagined decades ago. The 2018 national student congress tackled topics and issues designed to equip this generation with the tools and techniques of OR that are valuable in the digital age. The Student Federation sought to bring a better understanding of currently leading essential mobile applications.

With the theme, *TRANSCEND: Operations Research at Your Fingertips*, the congress was held last March 4, 2018 at the Medicine Auditorium of UST. It focused on the impact of OR tools and methodologies on on-line activities, where state-of-the-art innovations happen. It With over thirty-five (35) school organizations and a total of over 600 attendees, the student congress served as a platform for collaboration among youth and academe to improve its service to the nation through OR.

JT Solis, an entrepreneurial management professional serving as VP for Partnerships & Special Projects of the Xend Group of Companies, keynoted the event by highlighting the potential of OR in to-



JT Solis, tackles the potential of OR in entrepreneurial ventures.



Charlie Fong discusses the definite place of OR in his e-commerce platform.

day's trends. The main topics of the event were tackled by three persons who have been in the industry of mobile applications. First speaker was Charlie Fong, the founder and CEO of BigBenta Mar-



Kashish Manocha shows how MyKuya applications benefit from OR optimization.

ketplace. He talked about how his company utilized OR in the e-commerce platform. Martin Cu, the country head of the Ninja Van application, followed with his sharing of day to day processes of Ninja Van which use OR. The last resource speaker was Kashish Manocha from Machine Ventures who owns the MyKuya application. He discussed the optimization of their systems through OR.

Simultaneous with the plenary talks, the case study and quiz bee competitions were also conducted. Sixteen organizations joined the case study, who were eventually trimmed down to five. Winners were: UP Diliman Team B at first place; MAPUA University, at second place; UP Diliman Team A at third place; and finally PUP Manila, and SLSU, at 4th and 5th places, respectively. The top three places for the Quizz bee were won by: University of the Philippines Diliman, De La Salle University and Ateneo de Manila University, respectively.

Overall, the event was very enriching for the OR majors of the country. The organizers, led by Jermee Villacorte (ORSP Student Federation) and Joyce Laguna (ORSP UST) together with their different committee teams were one is wishing that the congress was able to somehow inspire the participants to be instruments in fostering a digital age enabled by Operations Research. ♦



Quizz Bee winners: Top photo shows UP Diliman which won first place; Bottom photo is Ateneo de Manila at third place.

Welcome New Members!

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

From the *Academe*, we have **Flor Mangalino**, Professor of Holy Angel University in Pampanga; **Grace Dumrigue**, Department Head of Eastern Visayas State University - Tanauan Campus; **Keneth Sedilla**, Instructor at the University of Asia and the Pacific; **Emanuel Gloria**, Performance Measurement and Operations Research Fellow of the Department of Health; **Edison Terr Rosario**, Instructor at Polytechnic University of the Philippines- Biñan; **Gabriel Bucu**, Instructor at University of Santo Tomas; **Moreno Tabios, Jr**, Instructor 1 at Catanduanes State University; **Alejandro Caranto**, Faculty of Tarlac State University; **Niña Apusaga**, Faculty of Quezon City Polytechnic University; and **Richard Abayhon**, Assistant Professor at Polytechnic University of the Philippines – Manila.

From the *Industry* sector are **Mariangela Obviar**, **Gabriel Villareal**, both Operations Research Analysts at San Miguel Corporation; **Leonard Cuento**, Operations Research Analyst of UCPB General Insurance Company, Inc.; and **Rommel Dinglasan**, AVP Implementation & Marketing of Joel Chavez Group of Companies.

Institutional Members joining ORSP for this period are the **University of Batangas – Lipa Campus** which designated **Joan Villanueva** and **Annabelle Magsino** as its ORSP representatives; and **Colegio de San Lorenzo** represented by **Ellen Dizon** and **Jose Angelo Gomez**. ♦



Flor Mangalino



Grace Dumrigue



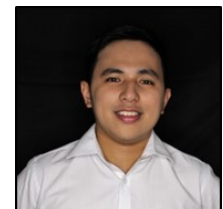
Keneth Sedilla



Emanuel Gloria



Edison Terr Rosario



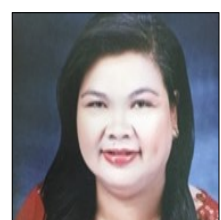
Gabriel Bucu



Moreno Tabios, Jr.



Alejandro Caranto



Niña Apusaga



Richard Abayhon



Mariangela Obviar



Gabriel Villareal



Leonard Cuento



Rommel Dinglasan



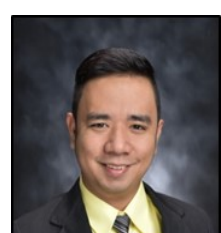
Joan Villanueva



Annabelle Magsino



Ellen Dizon



Jose Angelo Gomez