



## Data Visualization Forum Draws Huge Audience

by Malu de Guzman U

*Latest Trends in Data Visualization*, the last 2016 ORSP technical forum was held in Leong Hall of Ateneo de Manila last Sept 17, 2016. It was a Saturday afternoon packed with presentations by three guest experts who shared new trends in their field. It drew hundreds of participants from the academe and business world as well as students from ORSP federation chapters from all over Luzon.

The event was formally opened by ORSP president Francis Miranda, himself an expert on data and measurement.

The first speaker was Michelle Alarcon, the President and Managing Director of Z-Lift Solutions, a consulting firm with a mission to

make organizations run smarter with analytics. Her 21 years in the IT industry were spent mostly working directly with clients in the Philippines and abroad to implement business intelligence and analytics solutions. She has been leading the R Users Group of the Philippines for the past 3 years, as part of her personal advocacy to bring "analytics to the masses." Her presentation on *Data Visualization for the Enterprise*, included basics of data visualization, many examples, and cases on how it is used in business. It was a very effective tutorial on data visualization especially to those just getting acquainted with the topic.

The second guest speaker, Reina

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Leong hall accommodated all the participants and the lively discussions at the end of each talk.

## Workshop Tackles Machine Learning

by Francis Miranda

The ORSP Technical Workshop on business applications of Machine Learning was held last June 17 and 18, 2016 at the Asia Pacific College (APC). Leading the training was ORSP President Francis Miranda with Jose Mari Igama, Business Analyst at Holcim Philippines. Attendees coming from both academe and industry numbered 20.

The morning session of the first day of the workshop focused on an overview to Machine Learning and Data Science. Different algorithms on clustering, classification and regression were introduced. A tutorial on how to use KNIME software was also given. KNIME is an open-source analytics platform that can handle Big Data and can solve different machine learning problems.

In the afternoon session, the participants worked on two machine learning cases that can be solved using KNIME. The first case was a binary classification problem to predict the likelihood of an event, and the second case was an automated system to remove outliers in a dataset.

The participants worked on four more cases during the second day of the workshop. The third case was on *senti-*

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Reyes, a data science consultant with Z-Lift Solutions and Deal Grocer, Inc, teaches Data Visualization at Ateneo de Manila University with the Department of Information Systems and Computer Science, and writes a monthly column "Data Nuggets" at Stack PH ([www.stack.com.ph](http://www.stack.com.ph)). Her presentation on *Best Practices in Data*

[programmes/p00cgkfk](http://programmes/p00cgkfk). Readers are encouraged to go to the site where in *The Joy of Stats* Hans Rosling tells the story of the world in 200 countries over 200 years using 120,000 numbers - in just four minutes. Plotting life expectancy against income for every country since 1810, Hans shows how the world we live in is radi-



(l to r): Alarcon, Reyes and Lopez receive their token of appreciation from ORSP President Miranda.

*Visualization*, covered the bare basics of data visualization-- best practices, process, and tools. She made the concepts easier to grasp with her illustrations using real-world stories and examples, including data visualization of a variety of mouth-watering kakanin! *Meaningful Data Leads to Meaningful Experience* was presented by Geia Macatangay Lopez, who has 10 years of experience in Data and ROI-Centric Marketing for leading local and global brands. She has led the formulation of Digital Strategies for the likes of P&G, Microsoft, NIVEA, Nestle and Coca-Cola, and now leads the Marketing Solutions and Experience Planning Team of McCann Worldgroup--spanning the Media, Analytics, and Startup Partnership functions of the agency. She opened her presentation with a remarkable You Tube video which can be found at <http://www.bbc.co.uk/>

cally different from the world most of us imagine. Lopez continued to stress how data visualization can pinpoint opportunities for innovation and reform, and inspire people to take action. She emphasized, with examples, that collaboration between the research and creative communities can help accelerate the growth of data science in the country.

All the speakers were presented with their plaques of appreciation and Malu de Guzman U and President Francis Miranda. De Guzman-U closed the session by thanking all the participants, taking note that their questions and lively discussion made the afternoon one to remember. •



Del Rosario, Reyes, Alarcon, De Guzman U and Miranda take a moment to pose during the scheduled break.

*ment analysis* of a movie review website. The fourth case was on an automated document classification system for a medical database. The fifth case was a product recommendation system for a social media music website. The sixth and final case was a cluster analysis of a sample social media community. Participants who received certificates at the end of the two-day



Participants learn the rudiments before working on the computer

Workshop include: Reneboy Aguinaldo of APC; Ronald Endaya, Pio Francis Paguinto, Jerald John Buraga, Dexter Bautista and Kim Dela Rea, all from Analog Devices, Inc; Rosauro Manuel of National University; Mary Hildence Baluyot, Ronald Fernandez and Jun Grimaldo of UST College of Commerce and Business; Angelita Pagcaliwagan and Biana Gail Tolentino of De la Salle Lipa; Jose Rafael del Rosario of San Miguel Corporation; Andrew Ambubuyog of St. Scholastica's College Manila and Eduardo Canela of K + e Ventures, Asia.

As one attendee said, "it is necessary to keep updating skills to help you perform better in your work. I am glad that ORSP has this program to help professionals in their continuing education." •

# ORSP STUDENT FEDERATION ELECTS OFFICERS

The ORSP Student Federation Annual Elections was held on September 24, 2016 at the Adamson University. Present were officers from respective affiliate organizations of the following schools: Tarlac State University, University of Perpetual Health System – DALTA, Lyceum of the Philippines – Laguna, Taguig City University,

Technological Institute of the Philippines – Quezon City, De La Salle University – Manila, University of the Philippines – Diliman, University of Santo Tomas, Mapua Institute of Technology, University of the Philippines – Los Banos, Adamson University, and Polytechnic University of the Philippines – Manila.

Nominees presented their respective General Plans of Action and answered questions from the audience that followed. The initial planning was a spirited discussion which bodes well for another fruitful year ahead for the Operations Research Society of the Philippines Student Federation. •



ORSP Board Nestley Sore pose with the newly-elected Student Federation Officers.

## ORSP NATIONAL STUDENT CONGRESS

### Road Quest Explores OR in Transportation

The Annual ORSP National Student Congress was held last March 12, 2016 at the Diliman Film Institute, University of the Philippines.

The Congress highlighted the role of Operations Research in the transportation sector and fittingly, featured well-known speakers in the area, which included: Rene Santiago, Managing Director at Bellwether Advisory Inc., Noriel Tigla, Associate Professor at the

National College of Public Administration and Governance in the University of the Philippines, and Ramon Panis who served as a project consultant for various companies such as World of Fun and Holcim. Together, they painted a picture of what is and what could be with respect to the various aspects of transportation, including the current problem of traffic congestion and the role that OR has played and should play in this very

important sector of the economy. The case analysis competition was also held during the congress where the teams from Ateneo de Manila University, Cebu Technological University, and University of the Philippines – Diliman placed 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> respectively. Lastly, the quiz bee was also held during the latter part of the congress where teams from De La Salle University, University of the Philippines – Diliman, and Ateneo de Manila University won 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> places respectively. Overall, the congress was attended by a total of 467 participants coming from 25 schools in the Philippines.

The participants went home with a renewed sense of what OR is all about and its role in the real world, more specifically, how it can alleviate daily road quests that people have to face!•



# National Conference Focuses on Analytics as an Enabler for Growth

The 9<sup>th</sup> National Conference held last November 27, 2015 at the Richmond Hotel, Eastwood, Quezon City had the theme *Analytics: Fueling the Engines of Growth*.

More than one hundred participants from the academe and industry were joined by students who all took in, and took part in the plenary speeches, paper presentations, a panel discussion and the annual ORSP business meeting. Conference Chair Jed Loma, opened the morning session, which led into the plenary speeches *Policy Research And Ana-*

*Growing Private Sector*, Benedict Hernandez of Accenture stressed that while shared service centers have delivered cost savings, efficiencies and scale that support business growth, these centers are seeking more ways to drive further value and to embrace an agenda of innovation through analytics, automation, and exploiting benefits of as-a-service models in business process management. Lope Doromal of IBM tackled *Innovation Analytics* which talks about the new opportunities that are opened as analytics have pro-

first panelist Bryan Gobaco, underscored the importance of planning the implementation and deployment of OR models at the same time that the model is being formulated. Dennis Beng Hui, on the other hand, identified success factors for instilling OR thinking in the organization. Shella Mariscal talked about experiences on how the OR group in San Miguel handles challenges that crop up along the way of solving management problems through the use of OR.

This was followed with a talk by



Plenary Speakers (l to r), Reyes, Doromal, Hernandez, and Reyes touch on various aspects of the conference theme, *Analytics: Fueling the Engines of Growth*, giving participants a complete picture.

*lytics: Better Data, Better Policies, Better Lives* was the title of the talk given by Celia Reyes of the Philippine Institute of Development Studies. Showing how inclusive growth can be enabled by data, she cited how the collection and analysis of proper data can help in the formulation of policies and programs to provide opportunities and benefits for the entire population.

In his talk *Reinventing the Fastest*

provided business insights for organizations and businesses. He cited organizations that have taken big data and analytics to the next level by creating a platform for new types of innovation.

In the afternoon, a panel discussion on *Issues and Challenges of OR Practice* kept the industry practitioners listening for insights shared by the three panelists, all practitioners who work as external and internal consultants. The

Isaac Reyes on *Predictive Analytics in the Era of Big Data* which introduced the technologies, tools, and techniques used by data scientists to derive insights from Big Data. He cited the use of predictive analytics for marketing and price optimization. Paper presentations were grouped into the Case Study, Modeling Tools and Techniques, and Statistical Tools and Data Analytics, which were chaired by Edwin Bunag, Nestley Sore and Juanito Chan.



Participants listen intently to the Conference proceedings.

At the Business Meeting, ORSP President Francis Miranda gave an overview of the activities and plans for the year, capping it with the awarding of certificates to student chapters and induction of new members. Participants gave a very good feedback on all aspects of the conference. •



Various presentations caught on camera.



Isaac Reyes entertains questions at the end of his talk.



Three ORSP Board Members Del Rosario, de Guzman U and Martinez discuss conference logistics issues.

# ORSP Holds Post Conference Workshop on System Dynamics

An *Introduction to System Dynamics Workshop* was held immediately succeeding the National Conference on November 28, 2016 at the same venue as the National Conference, the Eastwood Richmond Hotel. Ten participants from Xavier University, APC, ABS CBN, DLSUD, IBM, ADMU, and The Nielsen Company Philippines learned the rubrics of Systems Dynamics from lecturers of the Center of Operations Research and Management Science (CORMS) of De La Salle University-Manila, led by Dennis Beng Hui.

The small size of the audience enabled greater interaction and facilitated learning, which covered: understanding feedback through causal loop diagrams and feedback loops illustrated through a case on The Flu; and understanding stocks and flows through stock flow diagrams (levels and rates) illustrated with the Population Model.



ABS CBN Participants with D. Beng Hui.

Participants got to use Vensim software to analyze a dynamic model, in this case, the predator-prey model. The training ended with a lecture on testing and policy designs.

Participants Ingrid Yvonne Madrial, Reneboy Aguinaldo, Apollo Marcelo, Eleazar Lopez, James Requesito, Carlo Bascoguin, Francis Miranda, Edwin Bunag, Jed Loma, and Ralph Marcelo got their certificates of completion at the end of the program, enthusiastic to try their hand at their own system dynamic models. •



Dennis Beng Hui (seated, center) poses with the participants of the System Dynamics Workshop.

# EURO XXVIII: OR at the EURO Regional Grouping

From IFORS News\*

The 28th European Conference on Operational Research, EURO 2016, was held in Poznan, Poland from July 3 to July 6, 2016. The Conference attracted more than 1800 participants from 170 countries.

The Program Committee chaired by Daniele Vigo from the University of Bologna offered excellent plenary and keynote lectures and included more than 1600 presentations organized in 465 sessions. The opening session held at the Aula Magna featured one of the award-winning performances of the Volantes Soni – the choir of Poznan University of Technology.

The central plenary lecture was delivered Robert Aumann, laureate of Nobel Memorial Prize in Economic Sciences for 2005. The **2016 IFORS Distinguished Lecture** (IDL) was delivered by Dimitris Bertsimas of MIT while Rolf Moehring of the Beijing Institute for Scientific and Engineering Computing gave the Closing Plenary Lecture. Poznan University of Technology campus with its mod-

ern, well-designed facilities and friendly atmosphere turned out to be the perfect choice for hosting the conference. A pre-conference Workshop, the *EWG ORD 8672* took place from 30 June to 1 July in celebration of a decade since the *EURO Working Group on OR for Development* (EWG ORD) was first put up and started organizing a vibrant community working in the area of OR for development. a satellite event of the *EURO 8672*. The 23 delegates from Australia, Colombia, India, Ireland, New Zealand, Nigeria, Philippines, Poland, Russia, Turkey, Ukraine, UK, and USA coming from various backgrounds in industry and academe performed various roles of mentor, student, and colleague. Presentations for the morning were kicked off with a talk by EWG ORD Co-Chair and IFORS DC member Elise del Rosario, who shared her consulting experience showing her vast experience in the field of OR. This was followed by a Workshop by Cathal Brugha, Emeritus and

Adjunct Professor at the University College Dublin Center for Business Analytics. Ashley I. Carreras, Principal Lecturer in Economics and Decision Analysis at the De Montfort University, presented a Tutorial/Workshop on *A Practicing Academic Perspective on Problem Structuring Methods*. Papers presented were carefully selected from various abstract submissions. Sectors addressed were health, education, agriculture, governance, finance and other topics.

The Workshop was not only an effective forum for discussion of researches in various areas impacting development but also a memorable bonding experience for all delegates. Most of the delegates attend these EWG ORD Workshops year after year, looking forward to renewing academic and personal links. At the end of each Workshop, experienced and early-stage OR workers go back to their countries and drawing boards, knowing that elsewhere in the world, similar problems and methodologies are being tackled by people they could easily call on for help and collaboration. •

\* Excerpts from articles that appeared in the IFORS News <http://ifors.org/september-2016-newsletter/>, V10, No. 3, Sept 2016 written by Joanna Józefowska, [joanna.jozefowska@cs.put.poznan.pl](mailto:joanna.jozefowska@cs.put.poznan.pl), Daniele Vigo, [daniele.vigo@unibo.it](mailto:daniele.vigo@unibo.it), Laura Lotero-Vélez, [Laura.lotero@upb.edu.co](mailto:Laura.lotero@upb.edu.co), Sadia Samar Ali, [sadia.samarali@ndimdelhi.org](mailto:sadia.samarali@ndimdelhi.org), Gerhard-Wilhelm Weber, [gweber@metu.edu.tr](mailto:gweber@metu.edu.tr)



EURO Working Group on OR for Development take a break from the Workshop for this picture. Along with Elise Del Rosario (8th from left) are Filipino participants: Milagros Baldemor (3rd), Cherie Marquez (5th), Leorey Marquez (11th) and Remedies Neroza (12th).

## Latin American Regional Grouping Meets in Santiago for CLAIO 2016

XVIII CLAIO, the Latin-Iberoamerican Conference on Operations Research was held in Santiago, Chile, from October 2 to 6, 2016 at the *Centro de Extensión de Pontificia Universidad Católica de Chile* in Santiago, Chile. The

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Opening Plenary was given by John Bartholdi, from Georgia Institute of Technology with a talk on *Self-Coordinating Buses Improve Service*. Other plenary speakers included Jorge Nocedal, Northwestern University who spoke on *Stochastic Gradient Methods for Machine Learning*, René Villalobos, Arizona State University on *Challenges and opportunities for Operations Research in Fresh Agri-Food Supply Chains*, Shmuel Oren, University of California, Berkeley on *Opportunities and Challenges for OR in Electricity Markets*. IFORS President Mike Trick gave the IFORS Distinguished Lecture Award to Monique Guignard-Spielberg, who talked about *Lagrangian Relaxation And Different Ways It Can Be Used*. The International Federation of Operational Research Societies (IFORS) Administrative Committee, represented by Mike Trick (US), Luciana Buriol (Brazil), Mary Magrogan (US), Richard Hartl (Austria), Karla Hoffman (US), Sue Merchant (UK), Elise del Rosario (Philippines) held its annual meeting here. The AC also took this opportunity to hold a strategy session on its Conferences.

CLAIO 2016 is organized by the **Department of Industrial and System Engineering of the School of Engineering at the Pontificia Universidad Católica de Chile**, together with the Association of Latin-Iberoamerican Operational Research Societies, ALIO, and the Chilean Institute for Operations Research, ICHIO. •



E. del Rosario poses beside the CLAIO conference banner.

## Capping A Year of Analytics

by Francis Miranda



The 9<sup>th</sup> ORSP **National Conference** held a year ago in November, themed *“Analytics: Fueling the Engines of Growth”*, highlighted the need to harness the increasing volume of Big Data available from social media, the internet, publicly available government information, as well as transactional business data to perform analytics and make better decisions that drive growth.

Participants learned a lot from the invited speakers. **Dr. Celia M. Reyes** from the Philippine Institute for Development Studies (PIDS) talked about how analytics and data visualization can help analyse and reverse the poverty trend in the country. **Benedict Hernandez**, Chairman of the Executive Committee of the Information Technology and Business Process Association of the Philippines (IBPAP) talked about the shift of the industry from Business Process Outsourcing (BPO) to Knowledge Process Outsourcing (KPO), where the latter is more focused on analytics and optimization. IBM's Chief Technologist **Lope A. Doromal, Jr.** dealt with “innovative analytics” such as using machine learning algorithms to solve healthcare problems, to combat crime and make predictions on consumer behaviour. **Isaac Reyes**, Chief Executive Officer of DataSeer, on the other hand dealt with predictive analytics in the era of Big Data, and showed how data visualization can help interpret large amounts of data.

The annual **Student Congress** held at UP Diliman last March was the first ORSP activity, where the OR Quiz Bee saw De La Salle University Manila in first place, UP-Diliman in second place, and Ateneo de Manila in third place. There was a

Case Analysis Competition in the afternoon. The winner was Ateneo de Manila, followed by Cebu Technological University (CTU) in second place, and UP Diliman in third place.

For the second quarter, the **ORSP Technical Workshop** took place at the Asia Pacific College (APC) in June. Around 20 participants attended the workshop on *Machine Learning using KNIME software*. KNIME is an open-source data analytics platform that can perform various machine learning algorithms and can handle Big Data.

The third quarter activity was the **Technical Forum- Latest Trends in Data Visualization** held at Ateneo de Manila University last September. Reinabelle Reyes, an ADMU faculty and freelance Data Science consultant, talked about data visualization applications on analysing the traffic in Metro Manila and the Philippine election results. Michelle Alarcon, Managing Director at Z Lift Philippines dealt with the use of data visualization in business. Geia Macatangay-Lopez, Planning Director at McCann Worldgroup spoke on providing a meaningful experience to users through data visualization.

2016 had been a good year for the ORSP and the shareholders it serves: the OR professionals from academe and industry and students. As can be seen, activities had mostly been focused on a very important part of OR: *Analytics*. The enthusiastic response we had to the various activities and lectures tells us that we are on the right track. It is but fitting therefore that we will close 2016 with the 10<sup>th</sup> National Conference with the theme *OR in Analytics: Exploring New Frontiers*. •

# Welcome New Members!

This newsletter issue welcomes new members who have joined the ORSP Team. They are all from the *Academe* as follows;

**James Patrick Acang**  
Instructor  
Mariano Marcos State  
University



**Napoleon Cacanindin**  
Instructor III  
Mariano Marcos State  
University



**Byron Joseph Hallar**  
Instructor Mariano  
Marcos State  
University



**Rhobert Alvarez**  
Dean of Colleges  
Batangas State  
University



**Marizen Contreras**  
Assistant Professor IV  
University of Batangas



**Floribelle Javier**  
Assistant Professor III  
Mariano Marcos State  
University



**Mauricio Magallon**  
Assistant Professor I  
University of  
Southern Mindanao



**Aile Amorado**  
Faculty  
Batangas State  
University



**Carina Raquel dela Cruz**  
Instructor III  
Mariano Marcos State  
University



**Bengie Antonio**  
Instructor  
Mariano Marcos State  
University



**Roberto Factores**  
Assistant Professor I  
Mariano Marcos State  
University



**Jasper Kim Rabago**  
Instructor  
Mariano Marcos State  
University

**Hector Louis Banda**  
Instructor  
Colegio de San Juan de  
Letran-Manila



**Zaldy Fernandez**  
Professor  
Mariano Marcos State  
University



**Ryan Samuel Ramos**  
Assistant Professor I  
Mariano Marcos State  
University



**Raymund Baniaga**  
Assistant Professor IV  
Mariano Marcos State  
University



**Charmaine Marie Flores**  
Faculty  
Saint Louis University



**Marlene Sabanal**  
Professor  
Cebu Technological  
University

**Milagros Barruga**  
Faculty  
Mariano Marcos State  
University



**Nenita Gallego**  
Associate Professor  
Batangas State  
University



**Lee Carlo Simon**  
Instructor  
Mariano Marcos State  
University



**Romeo Cablinan**  
Faculty  
Ifugao State University



**Annjeannette Alain Galang**  
Professor  
Mariano Marcos State  
University

ORSP wishes one and all a very Merry Christmas and a Happy New Year!