ORSP NEWSLETTER

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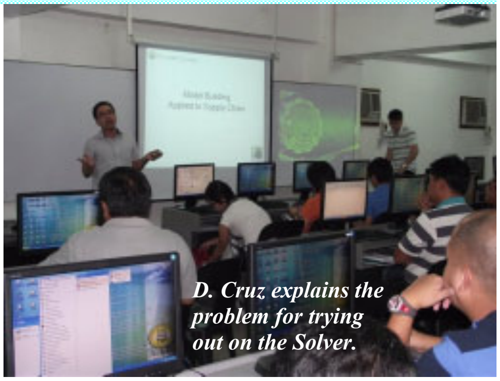
Official Publication of the Operations Research Society of the Philippines

October 2011

ORSP Conducts Case-Based Training



D. Cruz explains the problem for trying out on the Solver.

The Operations Research Society of the Philippines organized a workshop entitled "*Practical Operations Research for Faculty and Practitioners: A Hands-on Case-based Approach*" last July 22-23, 2011. Providing the venue and logistics for the event was event host Technological Institute of the Philippines (TIP). Quezon City.

The two-day workshop aimed to give insights and practical experience on how the academe can teach Operations Research (OR) more effectively, and how the industry practitioners can benefit from OR in solving complex decisions using readily available software. The first day was devoted to presenting the general OR concepts and methodological case studies followed by the software hands-on training on the second day.

On the first half day, Richard Li gave an overview on OR and its applications in Supply Chain. He discussed the concepts of Linear Programming (LP), and how it can help optimize the business decisions by maximizing revenue or minimizing cost. Dennis Beng Hui took over in the afternoon, giving a lecture on Simulation and applications in the Service System. Participants found his video of an actual plane evacuation and the amount of effort and expense it entailed effective in illustrating why simulation is useful, efficient and cost-effective for some types of decisions. This was followed by a discussion on the uses of computer simulation in virtually examining countless scenarios.

The second day of the workshop was devoted to hands-on training, Dennis Cruz tackled software tools for solving Linear Programming (LP) problems. He discussed three LP problems on Supply Chain, and participants solved the problems using Excel Solver. This was followed by an overview of solving the LP problems with General Algebraic Modelling Software (GAMS).

In the afternoon, Bryan Gobaco discussed software for Simulation. First on the list was ProModel, a Windows based Simulation software with an intuitive Graphical User Interface (GUI). Participants created a model of a simple manufacturing system with three workstations and a rework section. An Excel based software for decision making called @Risk was then taken up. Participants then performed Monte Carlo simulation with @Risk.

The Center of Operations Research and Management Science (CORMS) of the De La Salle University—Manila developed the material and all the four lecturers: Beng Hui, Cruz, Li and Gobaco are CORMS members and faculty of the DLSU Manila, apart from past and present ORSP Board Directors.

Close to 60 participants from industry and teachers from as far as Visayas and Mindanao attended the workshop, with special accommodation of students from Tarlac State University, who requested to attend the lecture portion.

A post-workshop online survey among the participants yielded very encouraging results.

(continued on page 2)

ORSP Formalizes Partnership with PACSB

by Alleli Domingo

ORSP's Miranda and PACSB's Bautista sign the MOA as Tan and Del Rosario look on.

The Operations Research Society of the Philippines entered into an agreement with the Philippine Association of Collegiate Schools of Business (PACSB) in the pursuit of academic excellence particularly in business education. ORSP President Francis Miranda and PACSB President Dr. Reynaldo Bautista signed the memorandum of agreement on August 20, 2011 at a luncheon meeting in Club Filipino Greenhills. The formal commitment to collaborate in fostering student faculty development was witnessed by ORSP board members and representatives Elise del Rosario, Wilson Wy Tiu, Marie Shella Tan, Jaypy Tenerife, Rex Aurelius Robielos and Alleli Domingo and PACSB officers.

The Philippine Association of Collegiate Schools of Business, a leading organization for business education involved in upgrading rules and standards for business education among its one hundred eighty (180) member schools, is looking forward to tapping the vast local and international resources of the ORSP. ♦

ORSP Conducts … *(continued from page 1)*

The positive feedback showed as an overall rating of 4.6 out of 5.0. Participants were also very pleased with the organization and logistics support provided by TIP faculty and students. Around 70% of survey respondents were eager to see a follow up one- day workshop on Excel Solver.♦

The Workshop in Pictures

Photos from the Workshop below document registration, lectures, hands-on exercises, breaks, closing remarks, and the TIP volunteers.

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A Pathway to Inclusive Growth: The Quantitative Approach *by Wilson C. Wy Tiu, Chair, ORSP Corps*

The Policy Center of the Asian Institute of Management (AIM/PC) organized a forum entitled "Pathways to High and Inclusive Growth" last September 23, 2011. It aimed to contribute to wider policy discussions and reform agenda on inclusive growth, specifically on three main levers: (1) social protection, (2) pro-poor employment, and (3) good governance and political participation. Three sessions were held corresponding to the three main levers.

ORSP was invited to the affair after the discussion between ORSP's Elise del Rosario and ORSP Corps Chair Wilson Wy Tiu with Prof. Ronald U. Mendoza, the Executive Director of AIM/PC on the possibility of collaborative works amongst ORSP, AIM/PC and the National Competitiveness Council (NCC). The NCC is public-private sector entity organized by virtue of an executive fiat issued by the Office of the President.

In the course, Prof. Mendoza intimated that while there may be realistic growth of the Philippine economy, over the past decade poverty incidence has increased. According to him, it actually led the AIM/PC to organize the September 23rd forum on inclusive growth. He also expressed interest to pursue the suggestion of ORSP for collaboration.

Prof. Mendoza's observation on poverty was confirmed by the National Anti-Poverty Council (NAPC) during its forum presentation on October 23. According to NAPC, between years 2003 and 2009, the economy grew by 4.8%, yet the population subsisting below the poverty increase by 16.7% and more than half of the population self-rated themselves as poor.

Also alarming to NAPC is the income distribution among sectors. The date shows that the private corporations made an aggregate of 3.90 trillion pesos, while the household sector took 3.04 trillion pesos. The government sector, including government-owned corporations, took another 0.74 trillion pesos.

The day-long "pathways" forum was timely and included such topics as:

- Various strategies on poverty alleviation, including the attainment of the Philippine Millennium Development Goal (MDG)
- Social protection, with focus on social insurance
- The imperatives of the provision of quality employment
- Framework of human development, specifically towards health, nutrition and education
- The influences of political dynasties on growth and social coherence

The sub-topics covered areas such as food and the global food crisis, energy, as well concerns for the infants, youth development and elderly persons. On the other hand, the greater concern is the appropriate strategy and course of action to be taken by the country in whole – to ensure that it will not just be another forum held and forgotten.

There are ground realities and constraints to poverty alleviation, e.g., finite resources, conflict of interests between sectors, organizations and individual persons, as well as headstrong prejudices. This, perhaps, sustains the call of

Conference Speakers :(Top L-R) Hon. Joel Rocamora, Lead Convenor, National Anti-Poverty Commission; Swiss Ambassador Ivo Sieber; Prof. Solita Monsod; Prof. Ronald Mendoza; Mr. Andrés Hijuelos, National Coordinator Advisor on International Issues, Mexico. (Bottom L-R) Ms. Natalie Chun, Economist, ADB; Congressman Mel Senen Sarmiento; Dr. Edilberto de Jesús, AIM President; Mr. Guillermo Luz, Co-Chairman of the National Competitiveness Council

ORSP for the fusion of economic modelling and quantitative approaches to problem solving. It would be noted that the mix of mechanical electrical and electronic engineering has produced technology products unparalleled in human history.

Indeed the advent of knowledge economy and digitized telecommunication has changed the lives of people forever – even to over-shadow sectarian biases. Besides poverty, one looming problem is the virulent impacts of climate change. The current series of climatic havocs are mere foreboders. According to some scientists, due to the rapid melting of the polar ice caps and rising ocean level, within the next half century the land mass of the Philippines may be reduced by two-third, i.e. from 300,000 to 100,000 square kilometers.

With or without climate change, indeed, there are many optimization works to be done. And on a positive note, with the drive of the current administration for reforms and the appointment of technically competent persons in the cabinet, the numbers can be utilized significantly to depoliticize policy setting and allocation decisions on infrastructural development and maintenance.

Numbers can also be the effective check against corruption. This can be the once-in-a-lifetime opportunity for the Operations Research practitioners to be relevant by helping in the moderation of corporate greed.

In recalling President Andrew Jackson's words that, "One man with courage makes the majority," we ask the practitioners if they up to the challenge. Or do we wait for the OWS landing (Occupy Wall Street)?♦

From the President's Desk

The 3 Cs: How did we do?

By Francis Miranda

During the start of the year, I outlined the main themes for my term namely "Collaboration", "Competency" and "Creativity". Now that the year is about to close, let me recap some of the activities of ORSP in 2011 and how they fit in with these themes.

On "Collaboration", the Operations Research Society of the Philippines (ORSP) signed a Memorandum of Agreement with the Philippine Association of Collegiate Schools of Business (PACSB) last August 20, 2011. This collaboration aims to strengthen the business and OR knowledge of both PACSB and ORSP members through seminars, workshops and other activities.

In terms of "Competency", ORSP conducted a Technical Forum last March 5, 2011 entitled "OR: The Science of Management" to increase the awareness of participants in the use of OR in the fields of supply chain management, category and product management, and workforce management for the Business Process Outsourcing (BPO) sector.

Pres. Francis Miranda shown above with Prof. Gozun of DLSU, sponsor of March forum; with PACSB President during the MOA signing; and awarding certificates of attendance to July Workshop participants.

ORSP also conducted a workshop last July 22-23 entitled "Practical OR for Faculty and Practitioners: A Hands-on Case-based Approach" at the TIP-QC campus.

This workshop aimed to raise the proficiency of participants in teaching OR and applying it in practice. It is timely too that the theme of the 5th National Conference of ORSP on November 5, 2011 will focus on using OR to boost the competitiveness of the Philippines. Of course, other ORSP annual activities like the Student Congress and OR Quiz Contest are meant to improve awareness and competency in OR.

To address "Creativity", ORSP plans to conduct future Technical Forums that will focus on non-traditional applications of OR that may have significant impact to society. One particular topic is "OR Applications in Healthcare". Talks of topics such as the use of OR for early detection and prevention of cancer or diabetes, and the use of OR for optimal location and size of a hospital's Emergency Room facilities are getting some members excited.

For next year, ORSP is also planning to create an online OR forum to complement the existing ORSP website. This online forum will allow members to exchange ideas regarding the various applications of OR in industry and the effective tools and resources for teaching or applying OR.

This online forum may also be used for finding local career opportunities in OR.

These three themes, though discussed separately, are really interrelated. Fostering collaboration with other organizations, for example, will also develop the competencies of both entities.

My goal for 2012 is to enhance the ORSP role in spearheading the advancement of organizations, institutions and the nation through Operations Research.♦

IFORS 2011: International OR Community Meets in Melbourne

Awarding IFORS Runner Up Prize with S.Datta.

Even with only two Philippine delegates present, ORSP was well represented during the 19th Triennial Conference of the International Federation of the Operational Research Societies (IFORS2011) held n Melbourne from 10 -15 July 2011.

One of the opening parallel sessions featured the Survey on OR Practice around the world. Elise del Rosario presented the results for the Philippines on behalf of ORSP while Brian Gozun of the De la Salle University College of Business presented his paper on " Identifying Health Market Innovations in the Philippines Using Cojoint Analysis and Analytic Hierarchy Programming."

With the theme *World OR: Global Economy and Sustainable Environment*, the conference attracted over a thousand delegates coming from 62 countries, with all the continents represented. Janny Leung of Hong Kong was overall program chair, responsible for putting together a rich scientific programme, which featured over sixty streams running in 21 parallel sessions over four full days. The three keynote speakers featured were Nobel Laureate Professor Sir James Mirrlees who talked on "*Optimum Choice Sets: How Tightly Should We Regulate*"; Professor Daniel Ralph on "*Risk Trading and Capacity Expansion in Energy Markets*" and Dr Brenda Dietrich on "*Operations Research for a Smarter Planet*". Abstracts of these talks and of the various session papers are available at: http://www.ifors2011.org/ (Click on Schedules/Abstracts (PDF) to get a complete copy of the program).

The Australian Society of Operations Research hosted the conference with Patrick Tobin as Local Organizing Chair. The social activities involved a creative opening reception which had some crocodiles, a dingo, a koala and, of course, a kangaroo welcoming the delegates. In addition, the Opening Ceremonies treated the audience to the sounds of aboriginal music on the didgeridoo. The traditional mid-week full day outing unique to IFORS conferences had the delegates choose between the Sovereign Hill and Ballarat Wildlife Park Tour or the Healesville Sanctuary and Winery Tour. Through the intermittent rain, the delegates were still able to enjoy the tours and make the most of the Australian winter.

The Gala dinner on the Thursday featured a magician who made their rounds among the tables. What made the dinner even more magical was the camaraderie and sharing among friends, both old and new. It was also the opportunity to present the winners of the IFORS Prize for OR in Development, a traditional IFORS activity that recognizes OR work which have a significant impact on development. Being a part of the jury, Elise del Rosario was on hand to help present the awards to the winners. Earlier in the week, the finalist application papers from Algeria, China, Chile, Sri Lanka, Brazil, and Bolivia were presented.

Answering questions from the audience with K. Hoffmann, H. Ittmann, A. Mason and S. Dunstall

IFORS President's Dinner on the Monday night was held in the Fish Bowl Room of the Melbourne Aquarium. Surrounded by sharks and other unusual sea life, Elise del Rosario was presented a token of appreciation for services rendered as Past President of IFORS.

In addition, del Rosario also presented reports for the IFORS Administrative Committee during the Board of Representatives Meeting in which she also represented ORSP. ♦

Search for IFORS-EURO Scholars to the ESI 2012

The office of the IFORS EURO Vice President is pleased to announce the sponsorship of two participants to join the EURO Summer Institute (ESI) on "Maritime Logistics (ESI 2011)" to be held in Bremen, Germany June 3 – 15, 2012. The Euro Summer and Winter Institutes (ESWI) are organized to encourage good social and working relationships among promising young OR scientists in Europe.

The selected IFORS- EURO scholars will receive joint sponsorship from IFORS and EURO. IFORS will sponsor the travel costs of two delegates coming from non-EURO member societies. Applicants from developing countries will be given preferential treatment for one of the two slots. On the other hand, EURO will shoulder expenses related to

IFORS 2011
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World OR: Global Economy and Sustainable Environment

Judging Prize competition with (l to r) J.van Vuuren (Africa), C. Ribeiro(Brazil) and S. Datta (India).

With sharks during the President's Dinner at the Melbourne Aquarium are H. Yannase, T. Oyama, E,del Rosario and S. Datta; below, Del Rosario delivering her paper.

the registration, accommodation, meals, and social activities to the two IFORS fellows.

The ESIs and EWIs aim to facilitate the establishment of a network of promising young (with less than 10 years experience in OR) researchers, thereby encouraging future collaborative work. The Institute seeks to involve 20-25 participants. While featuring lectures by invited speakers, the participants are expected to present and discuss their papers. A special issue of an international journal will be produced, based on the papers presented during the ESWI. The varied social program prepared for the participants is one of the unique features that enhance the learning activities.

If you:

1. are either a PhD student or possess less than two years research experience since completing a PhD;
2. possess significant experience in maritime logistics;
3. have authored an original (has not yet appeared in any journal) paper along the lines of the ESI 2012; and
4. are able to present your work and answer questions in English, you may be the person we are looking for.

Selected candidates will be required to submit to IFORS a report of their participation. If you think you qualify, submit your curriculum vitae, your proposed paper (or at least a two-page abstract of this work) and a letter of recommendation from one referee (preferably your thesis advisor or head of department) by December 1, 2011 to:

Professor Elena Fernandez
IFORS Vice President for EURO
Universitat Politecnica de Catalunya - Technical University of Catalonia
Departament d'Estadistica i Investigacio Operativa.
Campus Nord, C5-208 Jordi Girona, 1-3
08034 Barcelona, Spain
Tel: +34 93 401 70 32
Fax: +34 93 401 58 55
Email: e.fernandez@upc.edu

Deadline for submission of applications: December 1st, 2011
Notification of acceptance: February 1st, 2012

A Modeller's Journey through OR

by Leorey Marquez

I've been through so many highs and a few lows with Operations Research that if OR were a person, I would consider OR to be one of my most valued and trusted friends.

My journey with OR (in its many guises) started at the University of the Philippines when I took my first course in linear programming on the way to a Bachelor of Science degree in Statistics. My interest in OR was raised so much that I decided to make Applied Mathematics my area of concentration for my Master of Science studies in Mathematics. Subsequently, I chose Quantitative Decision Making as my primary area of study when I pursued my Ph.D in Computer and Information Sciences at the University of Hawaii in Honolulu.

An interesting account of how a UP statistics graduate ended up working on major OR projects for a premier Australian firm.

Computing science, statistics and OR proved to be an attractive combination when I started looking for work outside academics. Soon after receiving my PhD in 1992, I found myself flying to Melbourne, Australia to join CSIRO's DBCE (Division of Building, Construction and Engineering) and its Housing and Urban development (HUD) Program. CSIRO is the national research agency of Australia. I have been hired to port TOPAZ (Technique for the Optimal Placement of Activities in Zones), a land-use planning and optimisation tool, from Unix towards the increasingly pervasive MS Windows environment. The TOPAZ software was written in Fortran and used mixed integer programming to make allocations of land-use activities in geographic zones that minimise transport cost. I proceeded to make a Windows version of TOPAZ, this time with a graphical user interface, written in C++, and running simulated annealing in the optimisation engine. TOPAZ would later be extended to include the cost of water supply and other utilities in its objective function.

After TOPAZ, I also developed SUSTAIN (Sustainable Urban Structures and Interaction Networks), a compact urban simulation model that used idealised geometries of cities to evaluate urban transport energy consumption and emissions. TOPAZ and SUSTAIN were used in evaluating future development scenarios for Melbourne in the 1996 Australian National Inquiry into Urban Air Quality, as well as forecasting the impacts of hybrid vehicles on greenhouse gas emissions for the CSIRO Low Energy Vehicle Project. The Low Energy Vehicle Project was awarded the CSIRO Chairman's Medal for Outstanding Research in December 2000. TOPAZ was again used to investigate the sensitivity of urban freight patterns to various vehicle, traffic and infrastructure measures aimed at reducing emissions from trucks and other urban freight. The simulated annealing optimisation engine and C++ was again used for the Windows version of LAIRD (Local Area Impacts of Retail Development), a facility location tool implementing a gravity model for finding the best location for shops, restaurants, shopping malls and supermarkets.

LAIRD was used by a number of consultancies in New Zealand for optimising sales revenue and customer patronage given shopping floor space and location. There were requests from users to integrate LAIRD with GIS (geographic information systems) and complement the engine with other techniques such as genetic algorithms or Voronoi diagrams but resource limitations prevented these enhancements from being implemented.

Network analysis techniques for shortest routes, optimal flow and maximal spanning trees became the focus when my revamped group, the Transport Futures Team, undertook several projects involving Intelligent Transport Systems or ITS. One project looked at developing a decision support tool for the state bus authority that provides a variety of support services in route assessment and adjustment in order to identify opportunities to grow the business and rationalise inappropriate existing bus services. Another project looked at valuing the GHG savings from the implementation of traveller information systems in urban areas. A third project used MS Excel to implement an intelligent assistant for managing a fleet of trucks while meeting routing, loading and delivery requirements. A major CSIRO reorganization in 2006 brought me to the Division of

(Continued on page 6)

Mathematics, Informatics and Statistics (CMIS) and the Modelling, Optimisation and Simulation (MOS) group. Working under the Adaptive Supply Networks stream, I became involved in projects with some of the biggest mining, manufacturing and service companies in Australia. Discrete event simulation was used in a study conducted by CSIRO for the Dalrymple Bay Coal Terminal (DBCT), aimed at evaluating various operational and logistical options for expanding rail capacity and increasing efficiency in the coal supply chain.

For Bluescope Steel, our team developed BEISS (Break-bulk Export Inventory Scheduling System) as a tool for creating optimal production plans, material routing, and warehouse packing for steel coils made for export from its Port Kembla steelworks. BEISS uses a mixed integer linear programming (MILP) formulation to move steel coils from origin (mills) to storage (warehouses) to ship loading (berth) prior to voyage at minimum total logistics cost. An MILP formulation was also used in DVASS (Dynamic Vehicle Assignment and Scheduling System), a real-time fleet-scheduling system originally designed for use by one of New Zealand's biggest vehicle-rental companies. Applications in various types of vehicle allocation operations such as recreational vehicles (e.g. campervans), company cars, freight trucks and trailers have been established with various companies. The original DVASS used a dynamic link library that calls on a licensed copy of CPLEX for solving the vehicle assignment problem. We have since developed a CPLEX-free version of DVASS by creating our own solver for scheduling rental vehicles. Our solver employs a heuristic based on a method using Lagrangian relaxation first proposed by D. Wedelin.

Statistical techniques such as linear regression and analysis of variance were the main tools used in the development of a grape maturation model to help Australian wine makers predict when grapes will be ready for harvest. The CSIRO maturation forecasting model uses a Kalman Filtering technique to estimate the average change in Brix per day as a function of measurable factors such as initial Brix level, rainfall, temperature, and time of year. Our MOS team extended the maturation forecasting model to include temperature stress from extreme heat produced by anomalies in weather. Since 2008, we have been working with Australian wine companies and the Wine Supply Chain Council to insert small sensors in wine shipments bound for international markets. The sensors log time and temperature data during the journey from Australian wineries to international distributors. Time series analysis is applied to the logger data to identify which components of the entire journey pose serious risk to wine quality.

With serious economic and environmental difficulties currently stalking governments and industries worldwide, OR is becoming increasingly critical in helping organizations "do most with less". In recent months, CSIRO has strengthened its commitment to social systems research by setting up collaboration with government partners such as the Department of Human Services to deliver improved government services under increasing budgetary constraints. We are combining statistical forecasting with system dynamics and agent-based simulation to formulate strategies in a wide range of issues from forecasting the future skills requirements of the Australian economy, to modelling customer pathways in the delivery of government services, to determining the impacts of debt waiver limits. Finally, OR continues to play a major part in our emissions modelling studies, most recently, in (1) the optimization of the deployment of distributed energy technologies under four carbon constrained scenarios for Australia, (2) the evaluation of vulnerabilities of the Victorian fruit and vegetable supply chain to extreme weather events, and (3) the modelling of the Zero Emission House and Zero Emission Office.

Though my journey had been long with rough and narrow paths along the way, I can say that it had been enjoyable, thanks to OR. Armed with it, I cannot but be confident that I could face the challenges that the rest of this journey has in store for me. ♦

Leorey at work on his winery project.

Student

National Student Federation Conducts Annual Elections

By Paul Pederio

With 32 participants coming from various colleges and universities, the ORSP National Student Federation conducted its national elections last August 6 at the Technological Institute of the Philippines – Quezon City.

The activity began with a short prayer, followed by welcome remarks of ORSP Board Member in charge of Student Affairs, Jaypy Tenerife.

The program started with a *"getting to know each other"* activity which grouped the participants into four. Participants shared with their respective groups the activities they organize in their schools. Representatives from each group then shared with the whole body their discussions. Among those mentioned included quiz bees, community outreach, fund raising, seminars and technical forums, pageants, Battle of the bands, fun run, sportsfests, student exchange and parties. This brought on a comment from Engr. Tenerife that students must bear in mind that organized activities of the students are preferred to have an OR- related focus. After some discussions, the elections took place.

The newly elected officers for ORSP National Student Chapter Federation for SY 2011-2012 are : Sophia Alcantara of ADMU as President, DLSU Manila's Timothy Abello as Executive VP, Secretary Paul John Pederio *(TIP-QC),* Treasurer, Ma. Victoria Asuncion *(TSU),* and Marketing Officer, Melissa Mico *(UST).* Other Board Members are: Lendel Umali, Mariel Ariale, Angelica Pascua (*TSU*), Jogab De Leon, Jernie Romero (*UST*), Rafael Sison and Pauleen

Chapters

Officers (L-R, top to bottom): Alcantara, Abello, Pederio, Asuncion, Mico, Cabuslay, Sison, Lee, Santos, Pascua, Lacson, Perello, dela Cruz, Estera and Tandog

Cabuslay (*ADMU*), John Lee and Daniel Santos (*DLSU Mla*), Ryan Estera and Jay Tenorio (*TIP QC*), Mary Ann Sevilla, Salvador Valeros, Ervi Ausan (*DLSU Dasma*), Gary Dela Cruz and Jacob Perello (*Mapua*), Ana Ceniza Abarca, Klarisse Tandog (*UP Dil*), Paolo Ordona, Ricky Tanpho, FridaAl-lyza Esmanila and Kirstin Anne Lacson (*FEU East Asia College*). The elected officers will serve for the school year 2011-2012.

The elections for the new set of officers was capped by Engr. Tenerife who made announcements of ORSP activities as well as outputs expected from the Student Federation Board Members and Officers.

At the end of the day, all participants were preoccupied with the challenge put before them: that of finding ways by which the different schools could collectively better serve its members as well as the ORSP mother chapter. ♦

The Simulation Value Chain

*By Cyrus Angelo Selga**

After finishing my Industrial Engineering degree, I was eager to apply my OR knowledge on my job. Back then, OR for me was primarily mathematical programming, plus bits of queueing, statistics and of course, simulation modeling. On the job, however, or at least in the current scope of my work, I have found that simulation, particularly discrete-event simulation, to be the more applicable OR methodology. This is because simulation allows us to do credible evaluations of our proposed solutions.

Given the relevance of simulation in OR practice, has IE/OR education sufficiently prepared students and IE graduates to become users and practitioners of simulation methodology? I believe there is still significant room for improvement. We discuss three important areas: 1) education, 2) professional network, and 3) software.

The usual IE curriculum consists of three OR courses, which focuses on analytical models, with the third one being an applied course. Simulation, on the other hand, is treated in a separate course. In my opinion, this is insufficient for a thorough understanding of simulation methodology, particularly for model development, analysis and the use of software. A better option is to expand the simulation course into two subjects. If this is not possible, simulation can also be introduced in one of the three OR courses, while the dedicated simulation course can concentrate on the aspects mentioned earlier. With firm foundation in both analytical and simulation models, the applied course can deal with the interplay of these techniques. This is a valuable skill for the student to learn as industry projects usually involve the use of multiple IE/OR methodologies. This brings us to the need for the simulation practitioner's network. On a global scale, the annual Winter Simulation Conference, usually held in the USA, provides relevant information on the various aspects of simulation research and practice. Locally, the professional network is provided by the ORSP and its regular conferences and tutorials. These sessions provide a venue to discuss best practices for simulation projects. These also provide an opportunity to discuss and talk with vendors of simulation tools.

The selection of simulation software can be a difficult process, particularly due to the licensing cost and a large number of choices. While Promodel and Arena maybe the most popular in the academe, this need not be the case in industry. Newer simulation tools such as Flexsim and Simio provide 3-d visualization capabilities and can even import 3-d objects from online resources such as Google 3D Warehouse.

In the end, the business value of simulation can only be realized when practitioners are equipped with proper training and suitable software. This starts in the academe, but can only be sustained with continuous education and practice. ♦

Cyrus (2ns from left) on his first Board Meeting with (l to r) Wilson, Rex, Iris, Malu, Elise and Francis.

****Cyrus Angelo Selga is currently a Systems Specialist at the Restaurant Systems Division of Jollibee Foods Corporation, working on store modeling, capacity planning and simulation studies of store operations. He completed his Master in IE, major in OR, at the University of the Philippines Diliman. As a newly appointed member of the ORSP Board of Directors, he shares in the vision of OR being a relevant discipline in both the academe and industry. He believes that this can be done through continuous engagement of both entities, i.e. a complete value chain.***

Welcome New Members!

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

From the ***Academe***, we have Jannet Annit, an Instructor of San Sebastian College Recoletos de Cavite.

From the ***Industry*** sector, ORSP welcomes Jeramee Zorilla a Sales Planning and Market Research Analyst of Zuellig Pharma Corporation, Ronald Endaya who is Manager of Analog Devices, Inc. and from Analog Devices as well is Engineer Mary Joy Perido.

J. Annit

J. Zorilla

J. Perido

Balik-ORSP: We are overjoyed to see past Presidents renew their ORSP memberships. Emmanuel Macalalag, ORSP President for 1998 -1999, is currently AVP of Ginebra San Miguel, On the other hand, Juanito Mercado, ORSP President from 2001 to 2002, is President of OPRE Consulting.

E. Macalalag

J. Mercado

Invitation to

All ORSP Members

to attend the

Annual ORSP Christmas Party

Where: , #2 Acropolis Drive
Acropolis Subdivision, E. Rodriguez Jr. Ave., Q.C. (opposite Eastwood City)
When: December 6, 2011, 7 pm
Cost: Php 350/head
Please confirm by: December 2, 2011

From the Conference Chair

All Set!

We are pleased with the overwhelming interest in the 5th National Conference of ORSP, entitled ***Operations Research: Towards a More Competitive Philippines***. We have already received a record number of abstract submissions for presentation in the parallel sessions.

In addition, we have invited three speakers for the plenary morning session this year. Dr. Ronald U. Mendoza, who serves as the Executive Director of the Asian Institute of Management (AIM) Policy Center, is part of the core faculty of the Center for Development Management (CDM). He is a senior economist with research and policy experience in development policy, international economics and public finance. He will open our plenary session by discussing how competitiveness of the Philippines can be improved through policy reforms. Gulliermo ‘’Bill’’ Luz, the Chairperson for the Private Sector of the National Competitiveness Council (NCC), is our second invited speaker. He is Executive Vice President of Ayala Foundation, and was Executive Director of the Makati Business Club from 1987 to 2006. He will focus on the current state of Philippine competitiveness, and our goals by 2016.

To complete the plenary session is a presentation by our own Elise del Rosario, Executive Director of the Operations Research Society of the Philippines (ORSP). She is the immediate past president of the International Federation of Operational Research Societies (IFORS), the umbrella organization comprising the national Operations Research societies, and former Vice President in charge of Operations Research of San Miguel Corporation. She will provide the results of the OR practice survey done for the Philippines and how OR has remained untapped in making our country more competitive in today’s world.

Paper presentations in parallel sessions will follow in the afternoon. Researchers will present their findings in dealing with theoretical and computational aspects of OR, and share experiences on problems, methodologies, and future areas of research. OR practitioners will discuss application-oriented issues in solving real-world problems in their industries. What is new this year is a paper competition. A panel of judges will decide which paper and presentation will be given the “Best Paper Award” at the end of the Conference. We hope that in future conferences, the paper competition will bring in outstanding papers in more areas of operations research.

The 5th National Conference will be held on Friday, November 11, 2011, from 8 a.m. to 5 p.m. at the Richmonde Hotel in Eastwood City, Libis, Quezon City. Accepted abstracts of registered authors will be published in the publication of the National ORSP Conference with ISSN 2094-6031. ♦

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