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From the Editor

Responding to the Needs of the Community

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The international OR community congregated in Barcelona for the big event - IFORS 2014. There was something for everyone to discover – recent trends, new findings, emerging OR use in other disciplines, even the magic of Gaudi and Dali, and most of all, new friends, and the growing network of OR professionals throughout the world. This is one of the ways by which IFORS has responded to the needs of its members.

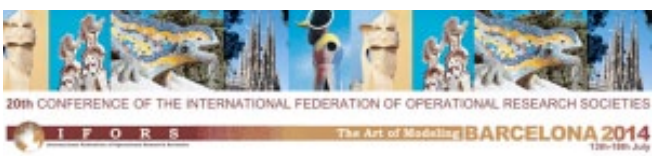
Art Museum welcomes *The Art of Modeling* participants.

This issue covers thoughtful reactions from members on the plenary sessions, the scientific and social programs, the Board of Representatives meeting, as well as the various initiatives on OR for Development, particularly the IFORS Prize. It also covers the ICORD, which was held just before the Triennial. From our IFORS correspondents are reports of Conferences pre and post IFORS 2014 – in Germany, Poland, Russia, France, Turkey, Mexico, Cuba and Spain. Another conference in Greece is also covered, which was sponsored by HELORS, our featured OR Society in Focus.

That IFORS also responds to the needs of potential OR movers of tomorrow is clear in its involvement with the Summer Institutes. This issue contains an account of an IFORS scholar as well as a call for applicants for yet another such activity. While the future is taken care of, the past is not forgotten. We present the movers of yesterday – an obituary for Manfred Padberg is a small tribute to someone who has contributed to the discipline. In recognition of her contribution to IFORS, Helle Welling who has occupied the Secretariat post for the longest time, was invited to IFORS 2014 and is interviewed in this issue.

Other IFORS members who have OR Publications will surely learn from the success of OR/MS Today, an INFORMS magazine. Incidentally, it was a former INFORMS President who authored a book that is featured in the Book Review.

On the other hand, that the OR discipline itself has continuously responded to the needs of mankind is the topic of the editorial From the AC. Furthermore, a quick look at the IFORS Prize and ICORD papers proves this same point. One of these papers showing how OR has been used successfully to help people avoid and cope with the effects of natural disasters is the featured application of the OR Impact section. Taking a view from higher up, remote sensing is an ideal tool for disaster management since it offers information over large areas and at short time intervals. How OR figures here is tackled in our Tutorial.



Indeed, IFORS has responded to the needs of our community in a lot of ways, in the same manner that our discipline has continued to evolve to respond to needs of mankind. Our discipline and our community have so much to offer. Do you have something to offer to IFORS? As we wait for IFORS 2017 in Quebec, you may want to consider hosting the 2020 Triennial conference. Details of this, and everything above are in the following pages. Enjoy!

What's Inside:

OR: Evolving Applications for Evolving Needs

Lorena Pradenas Rojas <lpradena@udec.cl>

Over the years, OR has been used for different purposes. From initially winning a war, it then became the tool for improving profits in the manufacturing, then eventually in the service sector. We find that now, OR is more and more used to improve the quality of lives of people and their environment. Below are some examples of these relatively new areas, with which I had been involved.

Pollution. Over the years, the classical vehicle routing problem had consistently been tackled by the OR community in its work in the area of logistics and distribution. In recent years, a new approach has been proposed to consider the appropriate use of fuel and lower emissions of CO_2. With the use of combinatorial optimization and operations management (Pradenas, Oportus, & Parada, 2013), we find a new vehicle routing model incorporating energy reduction in the objective function and the reduction of CO_2 emissions of transportation companies. Work is on-going for transportation problems involving a heterogeneous fleet and multiple objectives (Pradenas, Bravo, & Parada, 2014).

Reverse Logistics. Taking a strong relevance only in the last decade of Supply Chain Management (SCM) is Reverse Logistics (RL), which seeks to ensure the reutilization or elimination of products that have reached the end of their useful lives. Here, the transfer of raw materials and/or products, or recycling process is considered. Based on mathematical models to solve situations of RL, we have proposed computationally efficient algorithms. This has dealt with RL of medical devices in a public hospital (Pradenas, Matamala, 2012). Another application involves packing of sharp objects (Figure 1), for their subsequent disposal, considering mathematical and metaheuristic models that arrive at solutions in reasonable times.

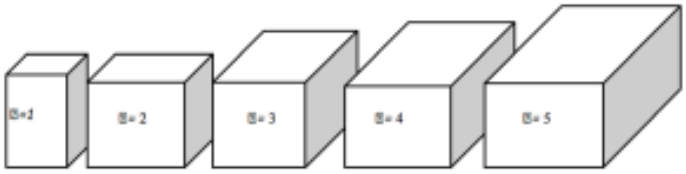


Figure 1. Boxes with sharp elements to be packed

Figure 2. Humanitarian logistics

Humanitarian Logistics. In cooperation with local organizations, we have developed the characterization of Humanitarian Logistics (Figure 2) and localization of supplying centers of necessary goods after such natural disasters as earthquakes, tsunamis, volcanic eruptions, and forest fires. The output is a procedural guideline to be applied for the mentioned events

Energy. Considering optimization in the generation and distribution of energy that ensure low CO_2 emissions, we mathematically modeled the operation of a power plant and obtained a simple and easy to replicate model. In developing the study of electrical power distribution, solution methodologies for CO_2 footprint minimization are being proposed. In the pipeline is also an aggregate planning system for the manufacture of steel balls used in copper that minimizes electricity consumption by operating in low demand periods.

Services. With the growth of the service sector vis-à-vis manufacturing, scheduling problems have become commonplace. Areas of application tackled include scheduling surgeries, crew scheduling of transport systems in a subway and airplanes, (Elizondo, Parada, Pradenas, & Artigues, 2010; Henriquez, Pradenas, & Parada, 2013) as well as timetabling in schools. In all these cases, we have proposed integrative models and the use of metaheuristics and solution strategies considering complex and big instances, which involved short computational times. Also for the service sector, we have developed localization studies of ambulances for cities and rural sectors (Figure 3). The topic is currently under development (Tiznado, Pradenas, 2014).

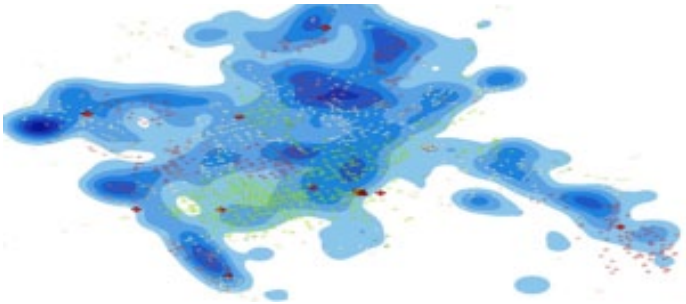


Figure 3. Overview of Region with the analysis of hot Points and Kernel density in order to locate new ambulances

Natural Resources. For the forestry sector, we have proposed computational models and tools to improve the profitability of operations (Pradenas, Garcés, Parada, & Ferland, 2013); (Hinostroza, Pradenas, & Parada, 2013).

Nutrition. We have also worked on the design and implementation of methods for generating accurate nutritional menus suitable for children suffering from various diseases, athletes and the elderly (Gallardo, Pradenas, 2014). Given the inherent combinatorial nature of the problem, we have worked with nutritionists and dieticians, who have provided real cases to test our models and methods. The results so far are very satisfactory and have a huge potential for helping nutritionists in their daily work.

These are but some of the applications that show how OR has responded to the evolving needs of decision-makers. Decision-makers are now called on to make decisions that affect public policies and therefore, the lives of people and those of future generations. In the proper hands, OR has provided support in the past and can be counted on to do its part for our future.

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Manfred W. Padberg (1941-2014)

Manfred W. Padberg, who coined the term "branch and cut", died of cancer on May 12, aged 72.

Manfred W. Padberg's well-known research centered on the study of linear and combinatorial optimization, with an emphasis on developing polyhedral theory and fast algorithms that can aid in the solution of large, real-world optimization problems.

His long career started with a move from Germany to the US where he received both his master's degree and doctorate (1971) in Operations Research and Industrial Engineering from the Carnegie Mellon University under the direction of Egon Balas. This was followed by a research fellowship in Berlin at the International Institute of Management. Back to the US in 1974 at the Stern School of Business, New York University, he became Full Professor in Operations Research four years later. This was capped by a move to Paris in 2002.

His fluency in Italian, French, English and German allowed him to lecture throughout the world. He was a guest scientist and/or a visiting professor at the University of Bonn, at the IBM Thomas J. Watson Research Center in Yorktown Heights, INRIA in Rocquencourt, at the École Polytechnique in Paris, the National Institute of Standards (NIST) in Maryland, the European Institute of Advanced Studies in Management (EIASM) in Brussels, the Center for Operations and Economics (CORE) in Louvain-la-Neuve, the Zuse Institute in Berlin, the Institute for Systems Analysis and Informatics (IASI) in Rome, and the State University of New York at Stony Brook. He spent his retirement in Paris and Marseille.

Over his lifetime, Manfred received all of the most significant prizes in the field of Operations Research, including:

- 1983: The Lanchester Prize of the Operations Research Society of America (ORSA).
- 1985: The George B. Dantzig Prize of the Mathematical Programming Society and the Society of Industrial and Applied Mathematicians (SIAM).
- 1989: The Alexander von Humboldt Senior US Scientist Research Award (Germany).
- 2000: The John von Neumann Theory Prize (INFORMS).
- 2002: INFORMS Fellow.

Manfred is best known for his work on applying polyhedral cuts to difficult optimization problems, often called "branch-and-cut" (a term he coined). He was most interested in graph-related problems and the algorithmic design of solution methodologies for such problems. He was always motivated by real-world applications and worked to solve previously unsolvable problems.
During the latter part of his research, he worked on ideal matrices and almost-perfect graphs.
His citation (see boxed insert) shows in a nutshell, why he is an OR icon.

The interested reader may further refer to the following works by and about the author: Martin Grötschel (editor), The Sharpest Cut: The impact of Manfred Padberg and his work, SIAM, 2004; Manfred Padberg and Dimitris Alevras, Linear optimization and extensions, Springer, 3rd edition, 2001; and Manfred Padberg and M. Rijal, Location, Scheduling, Design and Integer Programming, Kluwer, 1996.

He is survived by his wife, Suzy Mouchet-Padberg, his brother Friedhelm Padberg, his sister Christa Padberg, his daughter Britta Padberg-Schmitt, his son Marc Oliver Padberg, his stepson Hannibal Renberg and five grandchildren: Franziska, Franz Josef, Mia, Maya and Mei.

John von Neumann Theory Prize Citation

Since receiving his Ph.D. from Carnegie Mellon University in 1971, Manfred Padberg has made fundamental contributions to both the theoretical and computational side of integer programming and combinatorial optimization. His early work on facets of the vertex packing polytope and their liftings, and on vertex adjacency on the set partitioning polytopes, paved the way toward the wider us of polyhedral methods in solving integer programs. His characterization of perfect 0/1-matrices reinforced the already existing ties between graph theory and 0/1-programming.

Padberg is the originator and main architect of the approach known as branch-and-cut. Concentrating on the traveling salesman problem as the main testbed, Padberg and Rinaldi successfully demonstrated that if cutting planes generated at various nodes of a search tree can be lifted so as to be valid everywhere, then interspersing them with branch and bound yields a procedure that vastly amplifies the power of either branch and bound or cutting planes themselves. This work had and continues to have a lasting influence.

One of the basic discoveries of the 1980's in the realm of combinatorial optimization arrived at by three different groups of researchers in the wake of the advent of the ellipsoid method for convex programming, was the equivalence of optimization and separation: Padberg and M.R. Rao formed on these groups.

Padberg's work combines theory with algorithm development and computational testing in the best tradition of Operations Research and the Management Sciences. In his joint work with Crowder and Johnson, as well as in subsequent work with others, Padberg set an example of how to formulate and handle efficiently very large scale practical 0/1 programs with important applications to industry and transportation.

IFORS 2014: A View from the Scientific Program Chair

Stefan Nickel <stefan.nickel@kit.edu>

The IFORS 2014 was held from July 13 to 18 in the beautiful city of Barcelona. It was the 20th IFORS Triennial Conference and took place in Spain for the first time.

As far back as the summer of 2012, the Scientific Program Committee had met at the EURO conference in Vilnius. The challenge of assembling a Program Committee for such an important global meeting was to ensure that the group was small enough to manage but big enough to represent various research directions and geographic areas. Looking back, I think this goal was accomplished. Thanks to the great network of all 23 members of the committee, nearly 3000 abstracts were submitted. We were also able to attract four high profile keynote speakers from academia and practice: Margaret L. Brandeau (Stanford University, Stanford, USA), Jaime Barceló (UPC, Barcelona, Spain), Robert Blackburn (BASF SE, Germany) and Kate Smith-Miles (Monash University, Clayton, Australia).

Turning IFORS 2014 into the largest IFORS conference ever were around 2300 talks in 45 parallel sessions presented by participants from over 70 countries, Thankfully, we were able to fulfill almost every scheduling request of the hundreds we received and tackled the challenge of redesigning the sessions and streams after around 600 presentations had to be removed from the schedule due to cancellations or missing registrations.

Program Chair and birthday celebrant S.Nickel receives token from N.Maculan.

The conference theme "The Art of Modeling" fit perfectly to this city full of culture and arts. We could experience this at the very beginning of the conference at the Welcome Reception, which was held at the National Museum of Catalonia. Also, on the day of the excursion, there was an abundant range of tours to chose from, including visiting arts of Gaudí or Dalí, the "wild" coast Costa Brava, and experiencing culture in a monastery or a winery with local products.

It was a very fruitful conference, full of interesting talks and sessions, inspiring plenary talks, and a great insight into the Spanish culture. I would like to thank the Scientific Program Committee and all stream and session organizers, as well as Elena Fernández and her Organizing Committee, who made this conference possible with all their hard work.

Many Facets of the *Art of Modeling*

Elena Fernández <e.fernandez@upc.edu>

The many facets of the Art of Modeling were definitely for everyone to experience during IFORS 2014. The parallel sessions covered such a diverse collection of OR topics. But one does not have to look far. Prominently featured in the program were the plenary sessions, whose speakers came from different parts of the world - Australia, Europe and North America. Equally multi-faceted were the topics these speakers covered, serving to highlight the multidisciplinary nature of OR and its applications.

The impact of OR on health policy was the topic for the Monday plenary. Margaret Brandeau talked on *Operations Research and Health Policy: Models that Can Make a Difference*. It was a privilege to listen to her share the challenges in public health and describe how OR models may play a central role in health policy. All this was perfectly illustrated with examples from her own experience in OR analyses for hepatitis and HIV control, as well as public health preparedness. She made us laugh with the Tough Cookie story and its conclusion: "You don't learn fast, but you do learn"!

Oganizing Committee Chair E. Fernandez thanks IFORS President Maculan for the IFORS token.

For the Tuesday feature, Jaume Barceló, dealt with *Analytics And The Art Of Modeling*. He established the connection between Analytics and OR, as derived from the methodological chain linking facts, laws and theories, together with the association of facts to data, laws to structures, and theories to models. An example of one of his projects with the off-shore oil platform operations in the Nord Sea was perfect to illustrate how the above ideas can be brought to practice with OR.

The Thursday plenary was an informative look into how OR helps an industry giant. Robert Blackburn's plenary talk on *Operations Research in BASF's Supply Chain Operations* gave an insight into how the Center for Information Services & Supply Chain Operations as the business solutions provider for BASF, is able through OR, to link organizational units on conceptual process engineering, supply chain strategy, supply chain operational design, and scientific computing, among others. Examples of applications from strategic, tactical and operational perspectives were ideal to appreciate the relevance of OR within BASF.

Researchers had a lot of recent findings coming their way with the plenary given on Friday by Kate Smith-Miles. In her talk *Understanding Strengths And Weaknesses Of Optimization Algorithms: New Visualization Tools And Methodologies*, she addressed relevant algorithmic issues ranging from the importance of test instances to the relevance of objective assessment of algorithmic power or the algorithm selection problem. Examples she shared were extremely useful to grasp the variety of tools, which are required to fulfil the aims of her proposed methodology.

Indeed the Program Committee, chaired by Stefan Nickel, was able to showcase through a proper selection of plenary topics and speakers, how multi-faceted our discipline is! All four speakers made excellent presentations, which the audience really enjoyed. For those interested, the slides of their talks have been posted at the conference website http://ifors2014.upc.edu/content/slides-plenaries.

IFORS 2014 Social Calendar

Sunday, July 13: 20:30-23:00
Welcome Reception

2307 guests

Museu Nacional d'Art de Catalunya (MNAC) at Parc de Montjuïc, Barcelona

Palau Nacional, the emblematic building of the 1929 International Exhibition, home of the Museu Nacional d'Art de Catalunya situated on the mountain of Montjuïc, a privileged site with a magnificent and unique view of the city of Barcelona

Wednesday, July 16
Excursions

680 guests

Barcelona City Tour

Covers the most important sites of the city: the Historical Gothic Quarter; façades of the beautiful modernist buildings at the elegant Passeig de Gracia; lunch at the Spanish Village; the interior of the Sagrada Familia; and a guided tour around Park Guell, made by Gaudí

252 guests

Codorniu Cellars and Sitges

A visit to the Codorniu winery, a huge centre for the production of cava following the traditional methods of fermentation and storage of the sparkling wine in quiet cold caves excavated in limestone followed by a visit to Sitges, a fashionable beach resort with one of the highest densities of artists per square meter of the Mediterranean Coast; includes the Cau Ferrat Museum, former residence of Rusiñol, and also the Maricel Museum displaying beautiful samples of the Catalan modern arts; lunch in Sitges

400 guests

Costa Brava

Discover two beautiful villages: Tossa de Mar 95 km from Barcelona, with its "Vila Vella" (old city) with narrow, winding streets of medieval design surrounded by a curtain wall; the first village of the Costa Brava, Blanes, with its Botanical Garden; lunch with a stroll down the streets enjoying the sea.

237 guests

Dali Museum

A short panoramic tour followed by lunch in Roses then a drive to Figueres where Salvador Dalí was born; A visit to the Theatre Museum Dalí, containing paintings, sculptures, drawings and sketches by the famous surrealist painter

Montserrat Tour

Visit a guided tour of the Monastery of Santa María de Montserrat, 45 km. from Barcelona; free time to visit the "Moreneta" (the Black Madonna statue of Montserrat and patron saint of Catalonia) and ride the St. Joan Cable Car

360 guests

871 guests

Thursday, July 17
Conference Dinner

Centre de Convencions Internacional de Barcelona - CCIB

IFORS AC Presents Achievements and Plans to the Board of Representatives

As called for by the IFORS By Laws, the Board, composed of member society representatives, met on July 17 at the Convention Center International of Barcelona (CCIB) during the IFORS 2014.

President Nelson Maculan welcomed everyone as he expressed gratitude to the conference organizers. He proceeded to touch on IFORS history and structure then described the Distinguished and Tutorial lectures program for 2014 and 2015. He also informed the Board of two new member societies who have applied for IFORS membership, namely Tunisia and Mexico and reminded the body to cast their votes.

Treasurer Peter Bell showed the 23-year trend of IFORS core revenues and expenses, drawing the conclusion that IFORS finances continue to be strong in the face of budgeted deficit for 2013. This being his last term as Treasurer per the IFORS bylaws, Bell introduced his successor, Richard Hartl from Austria, who will take over for the 2015-2017 term.

Chair of Publications Committee Graham Rand reported the status of the two IFORS Journals, International Abstracts in Operations Research (IAOR) edited by K. Preston White, Jr and the International Transactions in Operations Research (ITOR) edited by Celso Ribeiro. He invited member societies to subscribe to IAOR Online, which will give their members unlimited access to the resource. He mentioned the steady progress that ITOR is achieving in terms of submissions, after the release of its impact factor.

Elise del Rosario, Chair of the IFORS News and website, reminded the members about additional sections of the IFORS News and additional features of the website since they were first launched during her term as IFORS President. She invited the member society representatives present to assign their IFORS News Correspondent and contribute to the Educational and Developing Country Resources in the website.

IFORS VP and Chair of the Developing Countries Committee Sue Merchant started with the key objectives of the Committee and detailed the activities taken during the year, which included the ICORDs, the IFORS Prize, support of speakers, free access to the IAOR, and a possible Teachers' Workshop. She exhorted the audience to make use of and suggest improvements to the Developing Countries On line Resources available at the IFORS website. She also called for volunteers to be a part of a consultative group.

All the regional VPs began their reports by introducing their member societies and Executive Committees. Lorena Pradenas, VP for ALIO and Chair of Education Resources, described the ALIO activities, which include: the 2013 2014 and 2015 ELAVIOs, the 2014 CLAIO, and the ALIO EURO Workshop on Applied Combinatorial Optimization. Following ALIO presentation was that for APORS, given by IFORS VP Ya-xiang Yuan. Its 12 members were introduced, along with its officers, meetings and Journal. He invited everyone to the APORS meeting which will happen next year.

Newly appointed IFORS VP for EURO, Jacek Blazewicz, who takes over Elena Fernandez, enumerated the conferences, workshops, working groups, Summer and Winter Institutes as well as the recipients of the major awards it bestows, i.e., The Gold Medal, the Distinguished Service Medal, the Excellence in Practice Award, and the Doctoral Dissertation Award. VP for NORAM Michel Gendreau enumerated the numerous activities of the two societies that make up the NORAM: INFORMS and CORS. For each one, he cited all the meetings, awards, Publications , Committees for the past year.

Immediate Past President Dominique de Werra was then tasked with presenting the AC nominees to the post of President and Vice President for 2016-2018. As called for the By-laws, the most recent three presidents (calling them the TOP -Three Old Presidents- Club) lead the search for the AC nominees. The Nominees were presented as given below.

IFORS President Maculan opened the floor to questions and when there were none, declared the meeting adjourned. The members partook of the snacks and wine prepared for them.

IFORS Nominees for President and VP for 2015-2017

Mike Trick Nominee for President, 2016-2018

Mike Trick is faculty member at Carnegie Mellon's Tepper School of Business in Pittsburgh, where he also serves as Senior Associate Dean for Faculty and Research. His involvement with OR societies began when he became founding editor of INFORMS Online in 1995. After this, he served as President of INFORMS in 2002. He then served as NORAM Vice President from 2004-2009, generally taking a role in helping select conference locations and aiding local organizers in putting together the IFORS Triennial conferences. Notably, it was during these years that IFORS reached out and held its Triennial conferences in South Africa and in Australia. He believes that IFORS will be successful when all the national societies are healthy, active and engaged and there is much IFORS can do to ensure this. You can also follow him on twitter @miketrick and his blog at http://mat.tepper.cmu.edu/blog

Luciana Buriol Nominee for Vice President, 2016-2018

Luciana Buriol first attended the Brazilian Symposium in Operations Research in 1994. She has achieved a lot since then, and since 2006 had been Associate Professor of Computer Science at the Federal University of Rio Grande do Sul (UFRGS), Porto Alegre, Brazil. In the last few years, she has taken a lot of responsibilities organizing ALIO events, including the ELAVIO 2012. As President of ALIO for the period 2012-2014, she has obtained a lot of experience in coordinating efforts across OR societies. She has seriously taken the program of getting more Latin American countries to join ALIO. Her main research interests are in optimization (problem solving by exact and heuristic methods) and algorithms (algorithm design for mining massive data). Buriol is currently a CNPq (Brazilian National Research Council) Advanced Fellow.

IFORS By-Laws provide that: Additional nominations, each supported by at least three Members, may be made, provided they are received by the IFORS Secretary before January 1, 2015.

Trick and Buriol, above, chat after the announcement of their nominations.

A Pleasant Blast from the Past: Helle Welling

President N. Maculan (on the lectern) presents past IFORS Presidents (l to r) D.de Werra, P. Bell, E.del Rosario, A.Weintraub, and P.Toth and calls on Helle (inset) to speak.

During the dinner given by IFORS President Nelson Maculan in appreciation of the time people have put in the service of IFORS, one of the special guests was an IFORS institution - Helle Welling, who took over the IFORS Secretariat on April 1, 1976 and stayed on until December 31,1997. She was with IFORS for more than these 21 years, having worked for IFORS President, Arne Jensen from The Technical Univ. of Denmark since 1971. It was during this time that Helle got to know the first IFORS secretary, Margaret Kinnaird, who was based in London. Thus the Secretariat moved from London to Lyngby, Denmark. Of this, Helle remembers having been 'grilled' by the British during the 1975 Board of Representatives meeting. Since then, she had been called the "Mother of IFORS" – like a mother, she took care of IFORS in her firm but kind, patient and efficient, nurturing ways, always managing to know everything and most of all, making all the people she deals with feel important!

IFORS
International Federation of Operational Research Societies

CALL FOR PROPOSALS FOR NATIONAL OR SOCIETIES TO HOST THE 2020 IFORS TRIENNIAL CONFERENCE

IFORS is pleased to announce that it is accepting intent to host the 2020 IFORS Triennial Conference The expression of intent to host is meant to better understand the requirements and obtain more detailed information related to prior successful meeting proposals. These expressions of intent must be communicated to the IFORS Secretary Mary Magrogan (secretary@ifors.org) not later than November 30, 2014.

Formal proposals are due on January 1, 2015. All IFORS member societies of good standing as of June 30, 2014 are qualified to bid for this conference.

Background

IFORS has grown rapidly worldwide in terms of total membership, number of member national societies and the profession and practice of Operational Research. The Triennial Conference has been a key factor in this growth and is IFORS' most important single event.

The purpose of the Triennial Conference is to:

- provide a means for exchange of information on Operational Research between nations;
- encourage the establishment of national Operational Research societies;
- provide exposure to IFORS on a rotating basis among the major geographic regions where IFORS has member societies; and
- promote the development of specific parts of Operational Research, for example, to ensure a balance or to open up new fields

Preparing a Proposal

Written proposals for undertaking a Triennial Conference must be received by the IFORS Secretariat approximately 5½ years before the actual Conference:, Extensions of proposal submission deadlines will not be allowed other than for a brief period of less than four months for the proposing Society to furnish any additional clarification required by IFORS. No proposal will be accepted from a Society whose annual membership fees for any of the current and prior two years are unpaid.

Only proposals containing the following information will be considered:

a) Alternative sites for the meeting in the host country, the respective advantages, facilities, and accommodations at these sites, including meeting rooms and living quarters, typical room rates at the conference hotel, and availability of nearby low-cost housing for student attendees;

b) Proposed approximate date for the conference;

c) Names and backgrounds of members of the Local Organizing Committee who will have responsibility for planning and managing the conference;

d) Adequate assurances that IFORS will not be subject to any financial losses because of selection of a particular host country;

e) Agreement that IFORS will be able to achieve an appropriate financial return from the conference. This agreement takes the form that the Host Society agrees to pay to IFORS a Management Fee in return for IFORS providing a scientific Program Committee and administrative advice from the IFORS Secretariat. Potential Host Societies should inquire with the IFORS Secretariat or IFORS Treasurer to determine details of this Management Fee prior to submitting a proposal.

f) A rough draft budget, identifying the proposed conference fees. Contact the IFORS Treasurer for assistance if needed.

g) Where required, a written approval from the appropriate governmental authority for any aspect of the conference, including: Management Fee payment, other payments of expense, and/or other financial and conference arrangements or attendance considerations;

h) Agreement to the stipulation that all abstract and registration fees, except local registrations and on site registrations be paid to a central point or points chosen by the IFORS Administrative Committee.

i) Reasons as may be put forward for holding an International Conference in the particular country in the light of the purpose of an IFORS Triennial Conference, specified above.

Selecting a Host Society

The IFORS Administrative Committee will review all submitted proposals and will determine which of the proposals meet the requirements set out above and also appear to have an organizational structure in place that is capable of bringing about a successful IFORS conference. The accepted proposals will be presented to the Representatives for a mail vote. Three months will be allowed for each vote but the successful society must receive at least half of the votes cast. Should this not occur on the first ballot then a second vote will be taken between the top two candidate societies. The result of the ballot will be sent to all Representatives and the selected Host Society will be informed to proceed with arrangements. At the General Meeting of the Board of Representatives, held in conjunction with a Triennial Conference, the result of the ballot will be confirmed. However, Conference preparations may start immediately after written notification of selection.

Follow-up

After the Host Society has been selected, an IFORS Site Review Committee appointed by the President visits the host country approximately 24-30 months before the Conference, views alternate conference sites and social program arrangements, and jointly with the Local Organizing Committee, selects the conference site and social events. Historically, triennial conference sites have included conference centers, conference hotels, and universities. The Site Review Committee also reviews the final draft budget, helping to set the Registration Fees and resolve budget issues. After the final budget is negotiated with the Treasurer, it is submitted to the IFORS Administrative Committee for approval, approximately 18-24 months prior to the Conference.

Chronological List of IFORS Triennial Conferences

1.	1957	Oxford, UK
2.	1960	Aix-en-Provence, France
3.	1963	Oslo, Norway
4.	1966	Boston, USA
5.	1969	Venice, Italy
6.	1972	Dublin, Ireland
7.	1975	Tokyo/Kyoto, Japan
8.	1978	Toronto, Canada
9.	1981	Hamburg, Germany
10.	1984	Washington, DC, USA
11.	1987	Buenos Aires, Argentina
12.	1990	Athens, Greece
13.	1993	Lisbon, Portugal
14.	1996	Vancouver, Canada
15.	1999	Beijing, China
16.	2002	Edinburgh, UK
17.	2005	Honolulu, USA
18.	2008	Johannesburg, South Africa
19.	2011	Melbourne, Australia
20.	2014	Barcelona, Spain
21.	2017	Quebec, Canada

CONFERENCES

ECCO XXVII - CO 2014: Combining Combinatorial Events*

* from contributed articles of: **Silvano Martello** <silvano.martello@unibo.it> and **Selin Özpeynirci** <selin.ozpeynirci@ieu.edu.tr> **Özgür Özpeynirci** <ozgur.ozpeynirci@ieu.edu.tr> **Gerhard-Wilhelm Weber** <gweber@metu.edu.tr>

More than 100 participants from Australia, Austria, Belgium, Canada, Chile, China, Czech Republic, Finland, France, Germany, Hungary, Israel, Italy, Netherlands, Poland, Qatar, Russian Federation, Spain, Turkey, United Kingdom, and USA got together for ECCO XXVII – CO 2014 (http://www.ecco2014.ma.tum.de/) from May 1 to 3, 2014 at the Garching Campus of the Technische Universität München (TUM).

This was a joint conference of the European Chapter on Combinatorial Optimization (ECCO), chaired by Silvano Martello and CO, a series of combinatorial optimization conferences that started in the UK in 1977 coordinated by Chris Potts.

The scientific program included more than 80 talks on several aspects of combinatorial optimization. The talks covered the theoretical aspects of combinatorial optimization including exact solution algorithms, approximation algorithms, heuristics, and meta-heuristics for combinatorial optimization problems, integer programming, global optimization, multi-objective programming, graph theory and network flows. Applications in the areas of logistics and supply chain optimization, manufacturing, energy production and distribution, bioinformatics, finance, discrete tomography, and discrete and hybrid dynamical systems were also presented.

Peter Gritzmann (left) introduces Martin Grötschel's lecture.

Three plenary speeches were given by Martin Grötschel (ZIB, TU Berlin and MATHEON, Berlin, Germany) on *Combinatorial Optimization in Transport and Logistics*; David S. Johnson (Columbia University, United States of America) on *Open and Closed Problems in NP-Completeness*; and Salvatore Greco (Portsmouth Business School, Operations & Systems Management, University of Portsmouth, UK and Department of Economics and Business, University of Catania, Italy on *Interactive Multiobjective Optimization using Dominance-based Rough Set Approach* (coauthored by Benedetto Matarazzo and Roman Słowiński).

In addition to listening to and giving presentations, participants had the chance to enjoy the parabola slide in the mathematics building. The organizing committee chaired by Peter Gritzmann crafted a wonderful social and academic programme. The social program included the welcome reception, a guided tour of Munich Residence and conference dinner. The welcome reception was held at the fifth floor of the main buildings of the Technische Universita"t, in the heart of the town with a spacious roof terrace allowing a spectacular view over Munich. On Friday afternoon there was a guided tour through the residence of the Bavarian emperors. Afterwards, the participants took the chance to stroll through the old part of Munich before reconvening at the Ratskeller München, all enabling participants to know Munich and each other well.

The EURO Working Group on Combinatorial Optimization, ECCO (European Chapter on Combinatorial Optimization; http://ecco.grenoble-inp.fr) was created in 1987 by C. Roucairol, D. de Werra and A. Rinnooy Kan. ECCO has since then gathered researchers working in different fields of operations management, logistics, production scheduling, location and distribution problems, resource allocation, flexible manufacturing, metaheuristics, to name a few. Since 1988, the group has been bringing researchers together each year to discuss the latest advances in combinatorial optimization.

A special issue of Discrete Applied Mathematics on "Combinatorial Optimization: Theory, Computation and Applications" (open to non- participants) was launched, with submission deadline of December 1, 2014.

The next ECCO conference, organized by Salvatore Greco and Benedetto Matarazzo, will take place in Catania (Sicily), about 50 Km from Taormina and Siracusa, from May 28 to May 30, 2015. Catania is a beatiful town at the slopes of mount Etna, the tallest active volcano on the European continent.

Historic Venue for a Young Group of an Emerging Field

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The Neo-Renaissance Biedrusko Palace in Poznan, Poland was the site of the CBBM 2014: IV EURO Working Group Conference on Operational Research in Computational Biology, Bioinformatics and Medicine held from June 26 to 28, 2014.

Participants of CBBM 2014 (photo by Szymon Wąsik)

CBBM 2014 gathered 78 participants from Poland, Italy, Turkey, Germany, Austria, Great Britain, Luxembourg, USA, India, France, Argentina and Colombia as it featured eminent scientists in the field of life sciences and OR. namely, Eric Westhof from University of Strasbourg (France) who opened the CBBM scientific program with his talk *Constraints and Limits due to Base Tautomerism in Ribosome Decoding Fidelity*. This was followed by *20 Years of Haplotyping: An Overview* given by Giuseppe Lancia from the University of Udine (Italy). Marek Figlerowicz from the Institute of Bioorganic Chemistry (Poland) explained problems of *Copy number variations in plant genomes* while Dr. Katarzyna J. Purzycka (Institute of Bioorganic Chemistry, Poland) presented *RNAComposer. Challenges in modelling three-dimensional structures of large RNAs*. Selected from submitted abstracts were 36 talks presented by PhD students and post-doctoral researchers. Of these, 15 scientists in the early stage of their careers were supported by EURO. A selection of the best conference papers will be published in the special issue of RAIRO Operations Research with guest editors Metin Turkay (Turkey), Giovanni Felici (Italy), Piotr Lukasiak (Poland) and Marta Szachniuk (Poland). Scientists in the early stage of their careers from all over the world presented their findings to highly qualified experts and benefited from constructive feedback. It is hoped that this positive experience and memorable Poznan experience will open doors to research collaborations and personal friendships.

Apart from the high professional level of the scientific program, CBBM 2014 featured social activities, which included trips to the Museum of the First Piasts in Lednica, a showcase of the origins of Poland and to a reconstruction of the typical Wielkopolska village with diverse architectural structures from the 17th to 20th centuries complemented with traditional Polish drinks and snacks. Conference dinner at Biedrusko Palace restaurant started with an energetic number from the Folk Dance Ensemble Chludowianie. This was followed by a live harp concert played by local virtuoso Mrs. Alicja Garczarek amid the Polish summer, completing an atmosphere of a palace feast.

The conference was organized and sponsored by the Institute of Computing Science, Poznan University of Technology (Poland), EURO and EURO WG CBBM. Program Committee was chaired by Jacek Blazewicz (Poznan University of Technology, Poland) and Metin Turkay (Koc University, Turkey), with Piotr Łukasiak and Marta Szachniuk (Poznan University of Technology, Poland) chairing the Organizing Committee.

Previous editions of this meeting were held in Prague (2007), Rome (2008) and Nottingham (2012). EURO WG CBBM http://euro-cbbm.ku.edu.tr/ founded during EURO Conference in Reykjavik (Iceland) in 2006, is one of the youngest working groups of EURO with about 250 members from Europe, Asia and America. Its main goal is to promote the application of OR methods to life sciences, bioinformatics and medicine and bring together researchers working in life and computing sciences from different parts of the world. Apart from CBBM conferences, the group organizes bioinformatics streams and sessions during EURO and IFORS congresses, and special issues of excellent journals related with its events.

The Conference on which the Sun Never Set

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The annual and Eighth International Conference on Game Theory and Management GTM 2014 http://www.gsom.spbu.ru/en/gtm2014/general_information/ was held on the last week of June in St. Petersburg, right in the middle of the White Nights Festival. Among those who flocked to Russia's cultural center were game theorists who gathered to discuss urgent problems and trends in modern game theory. The topics covered a wide range of problems in dynamic, cooperative, network, stochastic games, market design, negotiations and bargaining theory, and various applications of games to management, political, market, recourse models with special focus on dynamic and differential games.

Seriously learning and having fun!

Most recent results from the Russian school of differential games were presented by Leon Petrosyan while Steffen Jorgensen from Denmark gave a talk on advertising differential games. Leading world game theorist Abraham Neyman from Israel presented the latest results of continuous-time stochastic games and formulations of some open problems. From USA, Guillermo Owen gave a talk on game-theoretic approach to networks, touching on the wide range of applications including those in economics, technology, transport, and resources. The plenary talk of Fuad Aleskerov (Russia) on the political aspects of voting theory elicited interest from the participants. Interestingly, the session on gambling featured papers on bridge and backgammon.

Complementing the scientific program is the boat trip on the Neva River with wonderful views on the city accompanied by traditional songs. Indeed, St. Petersburg provided the perfect venue to reconnect with old friends and meet new ones, giving all social events the feel of warm joyful parties. The success of the various aspects of the conference owes much to the efforts of local organizers led by Nikolay Zenkevich. Towards the end, everyone welcomed the announcement of the GTM 2015 and SING11 in St. Petersburg. With such enthusiasm from all participants, the sun will indeed never set on game theory!

EUROPT 2014: Recent Advances in A Medieval Setting

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The 12th Meeting of the Continuous Optimization Working Group of EURO was held from July 10-12, 2014 (http://europt2014.univ-perp.fr/) in Perpignan, France, a perfect addition to the EUROPT Workshops first held in Budapest, Hungary in 2000. About 100 researchers from all over the world made their way to Perpignan en route to the main conference in Operational Research of the year, IFORS 2014 (http://ifors2014.org/) in Barcelona.

World-leaders in continuous optimization shared their insights and breakthrough ideas in the plenary talks. Daniel Ralph from University of Cambridge, UK delivered a talk on *Capacity Decisions İn Electricity Production Under Risk Aversion And Risk Trading*; Miguel F. Anjos from Polytechnique Montreal, Canada presented an overview on *Conic Optimization: An Exciting Present and a Promising Future*; Jean-Baptiste Hiriart-Urruty from University of Toulouse, France showed the relationshop of the geometry of triangles with convex optimization. The scientific program of Workshop EUROPT 2014 covered all major fields of modern continuous optimization, including conic, copositive and semidefinite optimization, game theory, convex programming, semi-infinite programming, data mining, equilibrium theory, nonsmooth optimization, optimal control, polynomial optimization, global optimization, and complexity of optimization algorithms. Applications presented involved modeling of various economic phenomena in finance, banking, and energy markets. Participants from nearly 20 countries from Chile to Japan enjoyed fruitful scientific exchange, made possible by the organizational efforts of Didier Aussel from University of Perpignan, who came up with a perfect balance between the scientific and social events.

The mediaeval city of Perpignan provided a wonderful backdrop for the social activities. Participants were welcomed by the General Council of the Pyrénées-Orientales with a cocktail party at Maison de la Catalanité's hall of modern and contemporary art exhibition. The second day featured a city tour through the historic site of Perpignan.

The old town hall is a reminder of the self-governing democratic town of the late 12th century. Vestiges of Perpignan's stature as capital of Kingdom Majorca, include the endless red marble floors lining the streets and a beautiful gothic stock exchange from the13th century, "La Loge de Mer". A devastating pandemic the Black death halved the population in 14th century. Louis XI of France attacked and occupied the city in 15th century.

The original 13th century defence wall "The Castillet" was used to extinguish revolts. The Catalan flags on display around the city may indicate a nostalgia for the glorious time that it was a centre of maritime industry and trade. These were all shown during the walking tour, which was capped by the conference dinner at "Clos des Lys"which served distinct Catalan-Mediterranean cuisine. The reception started at the beautiful green terrace where participants were offered wines from Languedoc-Roussillon region along with delicious appetizers. The aperitifs provided an excellent opportunity to break the ice and connect with everyone.

During the dinner, participants got another bit of history, this time, EUROPT's, (http://europt.iam.metu.edu.tr/) with its objectives, leaders, recent achievements and future plans. During the dinner, Immanuel Bomze (University of Vienna, Austria) was given the EUROPT Fellow 2014 Certificate by the EUROPT Managing Board members. Julius Zilinskas (the new chair of the board) and Oliver Stein.

Bomze started his academic career in 80s with the complete classifcation of all (more than 100 topologically different) possible flows of the generalized Lotka–Volterra Dynamics. He popularized the field of evolutionary game theory which at that time received most attention within theoretical biology.

Around the turn of the millennium, he coined, together with his co-authors, the now widely used terms "standard quadratic optimization" and "copositive optimization" or "copositive programming". While the former deals with the simplest problem class in nonlinear optimization with an NP-hard complexity, copositive optimization allows a conic reformulation of these hard problems as a linear optimization problem over a closed convex cone of symmetric matrices, a so-called conic optimization problem. In this type of problems, the full extent of complexity is put into the cone constraint, while structural constraints and the objective function are linear and therefore easy to handle.

Turkey Workshop Inspires Participants

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Workshop on Recent Advances in Stochastic Dynamics, Modeling and Optimization http://www.gilona.com/workshop.html.was held in Mimar Sinan Fine Arts University, Istanbul, Turkey, on Tuesday, May 27, 2014. In this workshop, six colleagues from five Turkish universities presented state-of-the-art talks as follows:

- Ilker Birbil and Figen Öztoprak from Sabanci University (Istanbul, Turkey), *Active Set Methods with Applications to Machine Learning*,
- Erdem Kiliç from MEF University (Istanbul, Turkey), *Recent Advances in Applications of Stochastic Hybrid Systems in Portfolio Optimization*,
- Semih Kuter from Çankiri University (Çankiri, Turkey), *Modern Applied Mathematics for the Classification of Satellite Images* (presentation given by coauthor Gerhard-Wilhelm Weber),
- Süreyya Özögür Akyüz from Bahçesehir University (Istanbul, Turkey), *Optimization in Machine Learning*,
- Gerhard-Wilhelm Weber (Willi) from METU (Ankara, Turkey), *On Varieties of Multivariate Adaptive Regression Splines and Their Recent Applications*.

Speakers shown with some participants of the Workshop.

Contributor Shahraki, a PhD student in Koç University, is working on Stochastic Nonlinear Programming for network design and optimization. The workshop was instrumental in getting her started on a methodology for her study. This prompted a comment from Weber that though a small event, such workshops must be encouraged because of the wider, global impact they would have, particularly in guiding and training young people for their future contributions to the worldwide community.

Mexico City Hosts Health and Humanitarian Logistics Conference

Meghan Smithgall <meghan.smithgall@isye.gatech.edu>

The 6th annual Health & Humanitarian Logistics (HHL) Conference was hosted June 4-5 in Mexico City by Tecnológico de Monterrey and co-organized by the Georgia Tech Center for Health & Humanitarian Systems Center (HHS), INSEAD Humanitarian Research Group, and the MIT Humanitarian Response Lab. Speakers and participants discussed successes and challenges in strengthening supply chains and operations in global health, food security, emergency response and end-to-end supply chain management, emphasizing priorities and future goals in research, policy, strategy, and investments. The agenda featured high level keynote speakers from Mexico, representing the Ministry of Health, the Institute for Transportation, and the Red Cross as well the president of the National Academy of Medicine in Mexico. This year's HHL Conference also brought together speakers and participants from 17 countries across 5 continents, from local and international NGOs, governmental organizations, private industry, universities and other research institutions. For further information about speakers, panel and workshop presentations, photos and videos, and research posters, please visit http://www.scl.gatech.edu/humlog2014 or email humlog@isye.gatech.edu.

Conference attendees listen closely to speaker.

Transport, Energy and Environment Highlighted in Hellenic Meet

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The 3rd International Symposium and 25th National Conference on Operational Research http://eeee2014.epu.ntua.gr/Home.aspx was held from June 26 to 28 at the University of Thessaly, Tsalapata complex, Volos City.

Caramanis delivers plenary talk.

A total of 74 high quality papers were presented by engineers and researches from Greece France, Turkey, United Kingdom, USA, Israel, Cyprus, Portugal, Serbia, Spain and Russia. Three prestigious speakers gave invited talks as follows: Michael Caramanis (Boston University) on *Power Market Reform for Smart Grid and Renewable Generation Adoption*; Panos M. Pardalos, (University of Florida) on *Challenges In Controlling The Dynamics Of Energy And Their Environmental Impact*; and Vangelis Th. Paschos (University Paris Dauphine and Institut Universitaire de France) on *Emergency Management and Probabilistic Combinatorial Optimization*.

During the opening session, Professor Emeritus Konstantinos Klavdios Tsouros, Faculty of Engineering, Aristotle University of Thessaloniki was bestowed the National HELORS Award. Meanwhile, the Post Graduate Thesis Awards were given to: Ifigenia Pologiorgi (1st Prize) *A Multicriteria Approach for Customer Satisfaction Analysis based on the Kano Model*; Christina Koliouska (2nd Prize) *The Evaluation of Internet-based Advertising and Promotion of National Parks of Greece*; and Aikaterini Ferentinou (3rd Prize) *The Impact OF IFRS Adoption on the Form of Earnings Management: The Case of Greece*.

Conference Proceedings will be published in November 2014 and selected papers will be considered for publication, following the usual journal review procedures in Special Issues of the following international journals: Energy Systems, Operational Research: An International Journal and the International Journal of Operations Research and Information Systems.

At the end of the conference, the presiding board of the conference composed of Georgios K.D. Saharidis, George Liberopoulos, George Kozanidis and the organizing committee thanked all the participants for their presence. Participants, on the other hand, were appreciative of the opportunity that the conference presented for them to network and increase expertise as well as interact with recognized professionals in the industry.

OR: Sowing the Seeds for Better Agriculture and Forest Management

Lluis Miquel Pla Aragones <lmpla@matematica.udl.cat>

Hosted by the University of Lleida, Spain, a Workshop on OR in Agriculture and Forest Management was held in Lleida from July 20 to 23 right after IFORS 2014. The Workshop was organized by the EURO Working group on OR in Agriculture and Forest Management (ORAFM) to bring together researchers in the areas of Stochastic Programming, Game Theory, Decision Graphs, Simulation, Production Planning and Software and their applications in Agriculture, Forestry, Food Industry, Fisheries, Water and Land management. It was also the ORAFM annual meeting.

The Scientific Program included four invited talks: *Simulation Optimization In Agriculture: Methodology And Case Studies* by Ilan Halachmi (ISR), *Sustainable Food Logistics Management* by Jacqueline Bloemhof (NL), *Expert Probabilities In Bayesian Networks For Early Warning* by Linda C. van der Gaag (NL) and *Markov Decision Processes For Sequential Decision Problems* by Anders R. Kristensen (DK).

Limiting attendance to encourage discussion among participants, the workshop had ten contributed talks from different parts of the world, namely, Poland, Mexico, Czech Republic, Denmark, Iran, Israel, Mexico, and Australia. All presentations were interesting projects within the scope of the Workshop. The Workshop overlapped with another event held at the same place but lasting longer, namely the EURO Summer Institute 2014, which had as its theme, OR in Agriculture and Agrifood Industry (July 20-31). Participants from both events benefited from the interaction and enriched discussion of the contributed talks.

Participants in the Workshop and ESI pose in front of the Lion Gate in the old cathedral of Lleida.

The social program included a guided visit to the city center including the city Hall and the old cathedral of Lleida. The farewell banquet featured typical Spanish dishes which delighted the participants.

The conference concluded with a discussion about the mission of the ORAFM group where it was emphasized that membership is free and open to researchers working on or interested in the group topics. The next meeting was scheduled to be held around the time of the next EURO Conference in Glasgow from the 12-15 July 2015.

An International Scientific Committee organized the Workshop with the local Organizing Committee chaired by Lluis M. Plà, assisted by Sara V. Rodriguez as Workshop secretary.

Healthy Interactions Dominate 31st Summer Institute

Sheetal Silal <Sheetal.Silal@uct.ac.za>

The Euro Summer Institute XXXI on Operational Research applied to Health in a modern world took place at the breathtakingly beautiful Forti di Bard in Valle d'Aosta, Italy from 11 to 20 June 2014. I was fortunate enough to be selected as one of two IFORS representatives to attend this meeting.

The daily programme comprised a series of presentations, discussions and tutorials. Each participant had the opportunity to present an unpublished application of Operational Research to a health care problem. Covering a wide range of topics, presentations ranged from appointment scheduling, workforce scheduling, resource allocation and national and regional strategic planning, to my own paper, *Sensitivity to Model Structure: A Comparison of Compartment Models in Epidemiology* which seeks to compare differential equation models of infectious diseases to assess the sensitivity of model predictions to changes in model structure. Each participant had the opportunity to discuss before the group and gather inputs both from participants and senior experts on how to improve the paper for publication. The senior experts also presented tutorials on a range of methods commonly used in OR applications in health care including queueing theory, decision trees and system dynamics. The practical tutorials were very useful as the participants were exposed to new software.

The highlight of the social programme for me was the Operational Research for Health Care Treasure Hunt, an "Amazing Race" of problems to be solved using OR techniques.

The social was equally beneficial as the scientific programme. The activities enabled participants to get to know each other against the backdrop of scenic Valle d'Aosta. It included a tour of Forti di Bard, Fenis Castle, Gran Paradiso National Park and a visit to the Adriano Olivetti Foundation in Ivrea, as well as an evening of local wine and food tasting at the hotel. The highlight of the social programme for me was the Operational Research for Health Care Treasure Hunt, an "Amazing Race" of problems to be solved using OR techniques. Participants, randomly assigned into groups of four, were given photographs of a mural to be located, where an OR problem was waiting to be solved. There were five such problems to be solved sequentially. Problems required knowledge of network theory, queueing theory, scheduling and linear and quadratic programming. Though scheduled for three hours, the treasure hunt was extended, even as all five groups grappled with the last optimization problem on the fourth hour. The excitement peaked as the last 25 seconds of the hunt approached, when the group of Melanie Reuter from Germany, Mário Lopes from Portugal, Paulo Tubertini from Italy and myself from South Africa, solved the last problem using a "rough and ready" quadratic program to win the treasure hunt. The winners went home with t-shirts from Forti di Bard.

Amazing Race winners Melanie (middle) and Sheetal (seated) explain their solution to the other participants.

My sincerest thanks must go to Prof Roberto Aringhieri and the organising committee for the flawless organization of ESI XXXI. The scientific and social programmes, the location, accommodation and food were all fantastic. I am also very grateful to IFORS for sponsoring my travel to ESI XXXI. I walk away from ESI XXXI with a rejuvenated approach to OR in health care and a network of friends and colleagues that will last for many years to come.

Call for Applications for IFORS-EURO Scholar to the EURO Summer Institute in Hungary

The office of the IFORS Vice President for EURO is pleased to announce the sponsorship of a participant to join the EURO Summer Institute (ESIXXXII) on Online Optimization to be held in Szeged, Hungary, June 15 – 27, 2015. The Euro Summer and Winter Institutes (ESWI) are organized to encourage good social and working relationships among promising young OR scientists.

The selected IFORS- EURO scholar will receive joint sponsorship from IFORS and EURO. IFORS will sponsor the travel costs of the delegate coming from non-EURO member society. EURO will shoulder expenses related to the registration, accommodation, meals, and social activities to the IFORS fellow. Applicants from developing countries will be given preferential treatment for the slot. Those who have joined EURO Institutes in the past need not apply.

The ESIs and EWIs aim to facilitate the establishment of a network of promising early stage researchers (with less than 10 years experience in OR), thereby encouraging future collaborative work. ESIXXXI seeks to involve about 20 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. The applications should be sent by email to:

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IFORS Vice President for EURO
Poznan University of Technology
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Applications should include: (1) a complete CV with a list of papers and (2) a paper proposal (complete text or 3-5 pages long extended abstract).

Important dates
Deadline for applications: November 30, 2014
Notification of acceptance: December 15, 2014

About ESIXXXII
Theme. In online optimization, algorithms reach decisions based only on past events. These so-called online algorithms based on partial information, cannot be expected to yield the optimal solution derived from the use of all the necessary information.

Thus, the output of online algorithms should be compared with those produced by optimal offline algorithms.

Contributions on closely related areas like semi-online optimization and online aspects of algorithmic game theory are also welcome. Senior keynote speakers will cover recent results and solution techniques of some special topics (bin packing, scheduling, clustering, generalizations of competitive analysis) and discuss open problems of the area.

Location. The Summer Institute will be held in Szeged the seat of Csongrád County and the Dél-Alföld region and one of Hungary's economic, educational and cultural centers. The city is in South-East Hungary about 170 km far from Budapest, close to the Serbian and Romanian borders. Hosting the Institute is one of Hungary's most distinguished universities, the University of Szeged, located in the center of the city with many faculties housed in old historical buildings.

Background. EURO Summer and Winter Institutes (ESWI, http://www.euroonline.org/web/pages/458/summerwinter-institutes) provide an excellent forum for PhD students and early career researchers to discuss their research at length with experts in the field, as well as to form links with other early stage researchers.

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Format. Around twenty early stage researchers (PhD students and/or those who have less than two years research experience post PhD) from EURO member societies will be invited to participate at the ESWI. Each participant is expected present an unpublished work and discuss it with colleagues and invited senior experts in the field. The ESI will also present a series of lectures by the invited senior experts. After the ESI, the papers can be submitted to a special issue of an OR publication to be announced later.

With the main objective of providing a limited number of carefully selected representatives the unique opportunity of establishing a personal network, addressing an international audience, and eventually creating new research groups around the chosen topic, the ESWI accepts only those who have not participated in any ESWI in the past

Homepage http://www.eswi.u-szeged.hu.

Call for Applications for IFORS- ALIO Scholar to the ELAVIO in Quito, Ecuador

The Latin American Association of Operations Research Societies (ALIO) and IFORS are pleased to announce the sponsorship of a participant to the Summer School in Operations Research for Young Scholars (ELAVIO). The XIX ELAVIO will be held in Quito, Ecuador from February 23 to 27, 2015.

The school will take place at the Escuela Politécnica Nacional (EPN) campus and will include mini-courses, invited talks, discussion panels, and talks contributed by the participants. Topics to be covered at the school include, but are not limited to: Combinatorial Optimization and Polyhedral Theory; Nonlinear Optimization; Modeling with Linear and Nonlinear Integer Programs; applications to problem solving in the areas of sustainability, environmental care, logistics, fishery, agricultures, engineering and production, among others. Most of the courses and talks will be in Spanish (with English slides). Additional information may be found at: http://www.math.epn.edu.ec/elavio2015/index.php/en.

For the selected participant, IFORS will cover airfare from his/her country (subject to a maximum limit) while ELAVIO organizers will provide living expenses during the school.

Applicants for this slot should:

- have done work in the fields of Optimization, Multiobjective and Multicriteria, Heuristics and Metaheuristics, Mathematical Programming, Fuzzy Logic, Decision Support Systems, Artificial Intelligence, Simulation, Networks, Logistics;
- be at the early stage of her/his career;
- be able to present unpublished work and answer questions in English;
- be highly recommended by the adviser/supervisor of her/his work; and
- file a report on the outcome of the activity.

Those satisfying the above requirements are encouraged to submit their curriculum vitae, a two-page abstract of the work to be presented, and a recommendation letter by the adviser.

Applications must be submitted to IFORS Vice President for ALIO Lorena Pradenas, lpradena@udec.cl. by November 30, 2014.

The selected applicant will be notified by January 18, 2015. Candidates from developing countries will have an advantage in the selection.

The event is jointly organized by the Ecuadorian Research Center on Mathematical Modeling (ModeMat), the Ecuadorian Mathematical Society (SEdeM), the Escuela Polit_ecnica Nacional (EPN), and the Yachay Public Company. It is sponsored by ALIO and IFORS (International Federation of Operations Research Societies).

OR for Development Section

ICORD 2014: Intimate Meeting with Wide Ranging Coverage and Representation

OR for Development Section Editor
Arabinda Tripathy <tripathy44@rediffmail.com>

Preceding the Triennial IFORS Conference (Barcelona, July 13 to 18) was the International Conference on Operational Research for Development (ICORD 2014) held at the University of Lleida, Catalonia from July 10 to 11. Just an hour away from Barcelona, Lleida was an ideal venue for a pre-IFORS2014 meeting.

The conference started with a guided tour of Lleida on 9th of July. Lluis Miguel Pla Aragones, apart from being the ICORD Organizing Chair was the perfect tour guide with his in-depth knowledge of the history of Lleida and details of sights along the way. The city tour was done aboard the Hop-on Hop off bus, >>

>> with a visit to Castell del Rei -Suda (constructed between the late 13th and 14th centuries, a palace where the king resided during his stay in Lleida and holds a castle of Muslim origin dating from 882) and the city's most emblematic monument, the Seu vella. "High point" of the tour was climbing up the 238 steps of its bell tower by all participants whose ages ranged from 70 to over 20. This time gave everyone a chance to unwind, get to know each other and prepare for the sessions the next day.

The group poses for a photo before the lunch break.

The technical sessions started with the registration in the morning of July 10. Participants travelled from all the continents, with 25 participants representing 17 countries. The papers represented developmental issues in India, China, Thailand, the Philippines, New Zealand, Australia, Tanzania, Turkey, Slovakia, Peru, Mexico, Argentina, Chile, Brazil, Spain and the USA. Keynote speech was delivered by Panos Pardalos on *Optimization and Economic Modeling of Energy Systems Centering CO2 Issues.*

The two-day conference featured a presentation of 18 papers as well as a workshop on *Facilitated Decision Analysis for Policy Making in Developing Countries* conducted by Gilberto Montibeller of the London School of Economics. Participants were divided into groups to discuss topics assigned to them, followed by a presentation of group output. The session was very lively and generated substantial discussions.

Workshop discussions had everyone contributing.

The papers covered a wide variety of development areas which were addressed through a variety of techniques. These areas can be grouped as follows: Health (4), Disaster Planning (1), Legal System (1), Heritage Conservation (1), City Transport Planning (1), Risk Modelling (1), Rural & Local Area Planning (3), Agriculture (1), Power & Energy Sector (3), Water (1) and General (1).

In terms of techniques used, the papers can be broadly classified as: Problem Structuring Methods & Soft OR (4), Information System (4), Modelling Approaches (4), Scheduling & Routing (3), Simulation (2), and Efficient Frontier (1)

In general, Health, Rural & Local Area Planning, and Power & Energy Sector accounted for more than half of the papers. Amongst the techniques/ approaches used, Problem Structuring Methods, Various Modelling approaches and Information Systems accounted for two thirds of the papers. A notable development has been the use Problem Structuring Methods in many situations. On the other hand, a major area of development, Education,was not covered in any paper.

Sue Merchant, in her capacity as IFORS VP and Developing Countries Chair, addressed the audience and on behalf of the Operational Research Society, extended assistance to selected participants of the conference. ICORD has traditionally been organized by IFORS, and in the past Tunisian, Rome and this conference, had also been co-sponsored by the EURO Working Group on OR for Development, chaired by Elise del Rosario.

The organisers allotted adequate time for presentations and additionally planned for two other participants to formally react on the papers apart from open discussions. This format used for the ICORD 2013 workshop in Rome had gotten good feedback as it proved to be beneficial to both authors and reviewers. For ICORD 2014, all participants played a constructive role and were all present for the whole conference duration. Overall, paper quality was very high and the sessions were very effective in communicating the aim and methodology of each paper.

The conference which started with a Lleida tour ended with a banquet at the Punto Estrella Dalmau, where a complete sampling of Catalonian typical dishes, tapas and wines were laid out before the participants. Joyful goodbyes were exchanged, with a promise to reconnect at IFORS 2014. Local organiser Lluis Pla looked after all aspects of ICORD 2014 above and beyond the call of duty, not to mention the untiring efforts of Elise del Rosario, as overall in-charge of the ICORD2014.

Part of the contingent who captured the 238 steps!

EURO WG-ORD
EURO Working Group on OR for Development

2014 IFORS Prize for OR in Development

Competition Winners Minimize Response Times

Subhash Datta <subhash.datta@gmail.com>

The IFORS Prize for OR in Development continues to be a proof of IFORS' consistent commitment to the promotion of OR in developing countries. Its continuous coverage of the Prize in the IFORS News and website has generated enough enthusiasm among OR workers throughout the world. For the 2014 competition, 26 entries were received, of which 4 were declared not qualified. The process of selection was very rigorous and the ten-member jury, after a lot of iterations and discussions, finally agreed on the 8 finalists who will go to the final round.

All paper submissions were routed through the IFORS journal, International Transactions in Operational Research (ITOR) which will publish the two prized papers contingent upon the usual refereeing process.

The eight finalists presentations on the first day were judged on the basis of the criteria in Table 1. Evaluation led to a decision, which interestingly had both winners working on minimizing response times. They were announced during the conference banquet of July 17.

Judges (Clockwise from center) G. Duran, A.Weintraub, T.Oyama, S.Datta, J.van Vuuren, K.Liu, M.Ronnqvist,S. Merchant, L. White, and E.del Rosario deliberate right after the presentations.

First prize certificate and the prize money of USD 4,000 were presented to Luiz Augusto Canito Gallego de Andrade and Claudio Barbieri da Cunha for their paper *Optimizing Ambulance Moveable Station Location* and *Vehicle Repositioning to Reduce Response Times for the City of Sao Paulo*. The paper proposes an Optimization based Decision Support System for the Mobile Emergency Care Service of Sao Paulo (SAMU-SP) in Brazil. The model was applied to analyse different scenarios (including one that was successfully implemented in the short term and yielded an improvement in the expected coverage of over 40%). The paper addressed the problem of determining the optimal number and location of ambulance stations as well as the vehicle allocation and repositioning for SAMU-SP. The model aimed to bring down the expected ambulance response times, which was 27 minutes for 98% of the requests in Sao Paulo, to internationally acceptable standards.

Runner-up prize certificate and USD 2,000 prize money were presented to Zheng Yu-Jun, Ling Hai-Feng, Xu Xin-Li and Chen Sheng-Yong for their paper *Emergency Engineering Rescue Scheduling and its Application in Disaster Relief Operations in China*. The paper establishes a model of emergency engineering rescue scheduling (which involves multiple rescue teams and tasks, fuzzy processing times and different importance weights of the tasks). The solution method is based on biogeography based optimization (BBO) and multi-objective optimization (MOO). The proposed model and method were successfully applied to the 2013 Dixi Earthquake in China. It must be pointed out that the authors donated their prize money to the victims of the recent Ludian earthquake in Yunnan Province, China.

Contestants with President N. Maculan (left) and Chair A. Weintraub (right) present all the finalists (top photo) and award winners Andrade and Cunha (bottom left) and runner up Zheng Yu-Jun (bottom right).

The jury had a difficult time picking out the winners and came up with the selection only after a long deliberation. The other six finalists who were presented the finalist certificates and their papers were:

1. Juan Perez and Sebastian Maldonado *A Multi-Period Fleet Allocation Model for the Santiago Fire Department*;
2. Yingdon Shen *Public Transit Planning and Scheduling Based on AVL Data in China*;
3. Lixin Tang, Gongshu Wang, Ying Meng, Jiyin Liu and Yuan *Modelling and Solutions of Slab Allocation and Reallocation Problems in Chinese Steel Industry*;

Definition of Problem	5%
Creativity / Appropriateness of Approach	5%
MS/OR Content	10%
Paper Organisation and Structure	5%
Participation of Local Researchers	20%
Technical Aspect Total	**45%**
Impact of the Study (actual and potential)	**20%**
Stress on Developmental Issues	**15%**
Application Area Total	**35%**
Clarity and organisation	**10%**
Handling of Questions	**5%**
Assessment of Study Impact	**5%**
Presentation Aspect Total	**20%**
TOTAL WEIGHT	**100%**

Table 1. IFORS Prize for OR in Development Competition Criteria

4. Jiuping Xu, Zheng Hu, Hong Yan, Liming Yao, Ziqiang Zeng and Mengxiang Zhang *Water Allocation Modelling and Policy Simulation for the Min River Basin of China under Changing Climatic Conditions*;
5. B K Mangaraj and Upali Aparajita *Measuring the Effectiveness of Development Programmes for Vulnerable Indigenous People in India*; and
6. Leorey Marquez, Sarah Redoblado, Maria Cheryl Prudente, Nicasio De Rosas, Myrna Llanes, Bernard Apuli, Ernesto Serote, Jenifer Belarmino and Evelyn Sierra *Disaster Risk-Sensitive Shelter Plans from Community-Based Risk Analysis for Legazpi City, Philippines*.

IFORS Prize Chair Andres Weintraub was pleased with the response to and the outcome of the Competition. As Chair of the past competition and member of the jury this year, I agree that we continue to get good quality submissions, but I look forward to more people sharing their work with the world through this competition. Hopefully, waiting for a response to this call from researchers in the field will be minimal!

Reflections on IFORS 2014, and IFORS Initiatives on OR for Development

Laura Lotero <llotero0@unal.edu.co>

The IFORS Conference in Barcelona (http://ifors2014.org/) turned out to be a huge reunion of the OR community from all around the globe. With inspiring plenary talks and 45 parallel sessions in the four slots of the conference days, it was hard to choose the sessions to attend. I attended the sessions in OR for Development and Developing Countries. This main area featured presentations in the following streams: Educational Planning and Development (three presentations), Healthcare Management (three), Infrastructure Development and Environment (eight), and Sustainable Development (three). Furthermore, there were also three sessions for the eight IFORS Prize for OR in Development papers. Presenters from Africa, Asia and Latin America shared their experiences on the application of OR which spanned soft and hard; linear, nonlinear, mixed-integer and other methodologies; and the stage of completion- from work in progress to on-going implementations.

Based on these sessions, I realized the great challenge we face as scholars, academicians and practitioners of OR in tackling the development issues in our localities. The situation may greatly vary but they have many similarities in the difficulty of getting to the right statement of the problem, the main application targets which may include healthcare, education, infrastructure, energy, water management and environment.

While the best way to learn is by doing, we can certainly learn from the experiences of others. It is therefore equally important for us to share our knowledge and the approaches we had taken that may be different from what others have done, as we adjust to the context of our own situation.

G. Weber (right) and L.Lotero (second from right) at one of the DC sessions at IFORS 2014.

Indeed, this exchange is important. It is also important for those who have mastered their problems in the development context to share and teach others. I am glad that IFORS is presenting an excellent opportunity to do that through the streams in the Conference and through the ICORD. But this effort does not have to wait for the conferences, as IFORS is also maintaining an online resources page ***IFORS Developing Countries OR Resources Website*** http://ifors.org/developing_countries/. So, if you have open information on the practice of OR in Development and Developing Countries that you can share with others, it could turn into gold in the right hands. Please visit the site as it always welcomes your contributions.

A response from the Editor of the IFORS Developing Countries OR Resources Website

Gerhard-Wilhelm Weber <gweber@metu.edu.tr>

I could not agree more with you, Laura on the importance of sharing our work and providing the platform for making this possible. I am encouraging those who have something to contribute to share your work now in the area and be a part of this growing network.

I take this opportunity to thank the board members of the IFORS DC Resources Website, especially, Sue Merchant, Elise del Rosario and Ruel Tan, and all contributors. Moreveor, I have been very happy to observe the friendship, enthusiasm and willingness to collaborate at all levels among the attendees of OR for Development and Developing Countries area which was comprehensively organized by Subhash Datta (India). It is worth mentioning that activities on OR for development had been opened by The International Conference on OR for Development (ICORD 2014, http://ifors.org/icord2014/) in the lovely city of Lleida. The success of this event came from the efforts put in by. Lluís Miquel Pla Aragonés, Youssef Masmoudi, and Elise del Rosario currently the Chair of the co-organizing EURO Working Group on "OR for Development" (EURO ORD) (http://www.euro-online.org/web/ewg/29/or-for-development-ewg-ord). All the important services of the board members, advisers and friends of EURO ORD are very sincerely recognized; a special gratitude to the working group's past chairs Leroy White and Honora Smith. Indeed, the collaboration of IFORS and EURO in this area is moving forward the initiative and hopefully, the practice of OR for Development.

ORMS Today:
Keeping Yesterday and Tomorrow in Sight

The Institute for Operations Research and the Management Sciences (INFORMS) based in the US, provides among its many benefits to members, thirteen journals, of which the bi-monthly membership magazine ORMS Today (http://www.informs.org/ORMS-Today) is consistently ranked by its members at or near the top.

Members of other professional operations research and management science societies worldwide (and indeed, societies of other disciplines as well) would benefit greatly from learning about how ORMS Today has evolved over the past three decades, continuously delivering value to its members.


Jim Cochran

For IFORS News readers, Jim Cochran (JC) sat down with John Llewellyn (JL), who recently celebrated his 27th year with ORMS Today, and Pete Horner (PH), who has been with the publication for nearly 25 years.

JC: John, let's start with the day you became the editor of ORMS Today back in 1988. What did the publication look like, and what were your immediate goals?


John Llewellyn

JL: It was a two-color newsletter. I still have the December 1987 issue that was the last one published by my predecessor. My immediate goals for the publication were to:

1. develop contacts within the community in order to expand the editorial content of the magazine;
2. reach out to companies to build a marketing database for ad sales;
3. reach out to universities to build a marketing database for classified ad sales;
4. develop and maintain good working relationships with the ORSA and TIMS business offices;
5. produce a four-color magazine with a greater variety of content; and
6. implement the business plan so that the magazine would be self-supporting and profitable.

JC: Pete, what were your thoughts when you were offered a position with ORMS Today?

PH: I was offered the position of editor of ORMS Today in late 1990, and the first issue under my editorship was the February 1991 issue. The cover image was a striking photo of the "Chunnel" then under construction connecting the U.K. and France. The headline: "Tunnel Vision."

I'm a journalist, not an operations researcher. Having edited several publications, I already knew how to interview a subject, how to write an article, how to edit an article, how to report and gather information. I had covered everything from cops and politics to sports and travel for newspapers and magazines. Most of all, I knew how to do all of these things and pull a publication together under deadline pressure. I was confident I could handle this assignment. There was only problem: I had no knowledge of "operations research" or "management science." Therefore, my first order of business was to find people who "knew the business" and to pick their brains.


Pete Horner

Fortunately, I quickly developed several terrific sources and trusted advisors in the O.R. community, people such as Saul Gass, Dick Larson, Gene Woolsey, Bob Machol, Andres Weintraub, Art Geoffrion, and many others, and they pointed me in the right direction and kept me out of trouble (for the most part).

JC: John and Peter, what changes have you implemented in ORMS Today (online, regular columns, special issues, Analytics, etc.)?

JL: The biggest change was the first issue we published in February 1988 – a four-color glossy paper magazine with a variety of features and columns. In addition, we have implemented a sales and marketing effort that significantly increased revenues. We have also implemented and maintained a mission over the past 28 years that was encapsulated in a paper written by Pete in 1995:

- To publish an informative, attractive, high-quality magazine that covers the broad field of quantitative decision-making (i.e., operations research, management science and related disciplines) in a readable, non-technical fashion. Quality will be determined by the clarity of the writing as well as the knowledge of the subject matter.
- To establish a consistent and credible voice that fosters greater recognition of INFORMS and the ORMS profession, its practitioners, its achievements and its potential.
- To provide a forum for the discussion of issues that affect INFORMS members and other readers in their professional activities.
- To provide the membership and other readers with timely, insightful and accurate information regarding the ORMS profession and the Institute.

Other important changes include the launch the ORMS Today web site in 1994 and the conception and launch of Analytics magazine in 2008.

PH: We've implemented numerous changes associated with ORMS Today since that 1991 issue. As John notes, introducing the ORMS Today website and going digital were important moves.

In terms of ORMS Today columns, we've launched many new ones, but notables would include "Inside Story" (from the editor), "Issues in Education" (various contributors), "Was It Something I Said?" by Vijay Mehrotra (that provided a platform for commentary on current events of interest to the O.R. community),

"O.R. in the News" (excerpts from the mainstream media, compiled by Barry List), "PuzzlOR" (O.R. problems/puzzles for a change of editorial pace – by John Toczek) and "Roundtable Profiles" (profiles of Roundtable member organizations). For many years, Mohan Sodhi wrote columns on the intersection of INFORMS, O.R. and the Internet. In addition, we've created opportunities for contributed commentary via columns and departments such as "Viewpoint," "Forum" and "Letters to the Editor."

We've also published more than 15 years of annual special issues on the topics of "International O.R.," which is the April issue, and "Innovative Education," which is the August issue.

Finally, the launching of Analytics magazine in the spring of 2008 helped establish INFORMS as a key player early on in the worldwide corporate analytics movement and opened our editorial efforts to a whole new world of readers.

JC: Pete, you have seen a lot of ORMS Today articles! Which articles have been the most memorable for you? And why?

PH: There have been many wonderful, memorable articles, and I'm grateful for all of the contributing authors over the past 25 years who have contributed their time, expertise, and writing ability to ORMS Today (and now Analytics magazine). From a very personal perspective, the interview I did with George Dantzig upon his 85th birthday (October 1999) and the article I wrote for the 50th anniversary of the Operations Research Society of America (October 2002) stand out, as was the opportunity (joined by Barry List of INFORMS) to interview Adm. Mike Mullen, Chairman of the Joint Chiefs of Staff, at the Joint Staff Flag Room adjacent to the Chairman's Office at the Pentagon (August 2010 issue).

JC: John, what opportunities and challenges do you see for ORMS Today in the future?

JL: I have no doubt about the continued ability of the magazine to be a high quality publication with a broad appeal to the membership of INFORMS. The biggest challenge is advertising. There are only a small group of companies that operate in the OR world and are therefore likely to advertise in ORMS Today. We need to build a stronger online presence for ORMS Today.

JC: Pete, same question.

PH: From an editorial perspective, the challenge never changes: to constantly present informative, insightful, well-written, topical content to an incredibly diverse audience of operations researchers, academics, analysts, managers and, in some cases, C-level execs around the world.

JC: Here is a question for both of you. What aspects of producing ORMS Today are most gratifying for you?

JL: First is the pleasure of putting out a well-designed magazine with content people want to read. Having members rate the magazine as the number one benefit of membership in surveys conducted since the 1990's is also extremely gratifying, as is the opportunity to interact with a fascinating community. I am also proud that we have produced a high quality magazine that from 1988 to 2012 (with the exception of 2009) was completely supported by its own revenues. And of course, working with a dedicated team of professionals in Lionheart.

PH: I would just second John's answer, with an emphasis on the positive feedback we receive and the chance to interact with this fascinating community.

JC: What would either of you suggest for an operations research/management science society in another country that is attempting to establish its own member magazine?

JL: Ensure that there is a business case to be made that will support it. Funds will have to come from members or advertisers or both. Ensure that there will be sufficient funds to cover the costs. Use a professional staff; volunteers are great but they have their own priorities and pressures. Putting out a magazine is about deadlines and for that you need to have a focused team.

In the past the only option was paper, but as we have shown with Analytics it is possible to establish a profitable digital only magazine. The Operational Research Society in the UK has its own magazine, OR Insight, but following a strategic review the Society has decided to cease publication of OR Insight with the completion of Volume 26. It is being replaced by an online only publication, Inside OR.

PH: Self-serving reply: Leave the journals to the academics and find an editor with a strong journalistic background to oversee your membership or outreach magazines.

JC: Thank you both for a very interesting discussion!

INFORMS Launches Strategy Science Journal

Kate Luckey <kathleen.luckey@informs.org>

INFORMS has long played an important role in publishing significant work in the strategy field with Management Science publishing early work by Ansoff, Mitroff, Barney, Dierickx and Cool and others. In 1999, Management Science started a new "department" on Business Strategy. Organization Science, itself a successful "spinoff" of Management Science, has also published work of significance for the strategy field. A new journal dedicated to the field of Strategy pulls together INFORMS existing presence in this domain and provides the Society a platform from which to contribute to the field of Strategy.

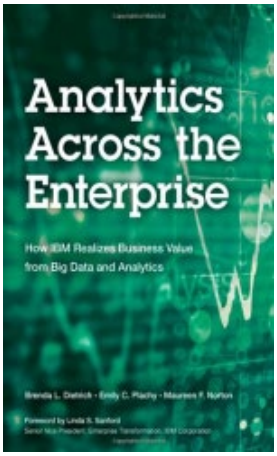
Strategy Science is a quarterly journal that seeks to publish outstanding research directed to the challenges of strategic management in both business and nonbusiness organizations. The journal is open to formal modeling, large-sample empirics, qualitative research and to a variety of underlying disciplinary approaches of economics, operations research, political science, psychology, and sociology. Research topics will include central questions of strategic management such as industry dynamics, competitive positioning, corporate strategy, scope of the firm, organizational change and adaptation. The journal has enlisted an outstanding team of highly recognized scholars to serve as Senior Editors and Editorial Board Members.

Manuscripts are now accepted with the initial issue scheduled for 2015. For additional information, contact the author.

Book Review
Big Blue Uses Big Data

Hans Ittmann <hittmann01@gmail.com>

Analytics Across the Enterprise: How IBM Realizes Business Value from Big Data and Analytics by Brenda L. Dietrich, Emily C. Plachy and Maureen F. Noton, 2014. IBM Press. Pearson Education, Boston, MA, USA. pp 192, ISBN-13: 978-0-13-383303-4 and ISBN-10: 0-13-383303-8, 23.68 US Dollars (Hardcopy), 17.66 (Kindle).



A Triennial meeting ago, during IFORS 2011, Brenda Dietrich in her plenary session on Smarter Planet Analytics desribed corporate initiatives to show how the use of analytics could lead business, government and civil society to reach new heights in decision making. It was, therefore, with great anticipation that I read Analytics Across the Enterprise. It is a story of how a company like IBM has remained competitive by making decisions differently, creating and delivering value differently, all through the extensive use of analytics. The 31 case studies show that in virtually all spheres of the organisation, smarter, more informed decisions can be made by embedding analytics – a never-ending journey of transformation.

The book starts by outlining this analytics journey for IBM, at the same time demistifying big data and analytics by defining such terms as: descriptive and prescriptive analytics, social media analytics (to access public opinion), entity analytics (sorting and grouping data that belongs to the same entity), cognitive computing (computing that interacts with people to provide insight and advice) and big data itself. The four dimensions of big data namely volume, variety, velocity and veracity are referred to throughout the various chapters. "People respond to facts. Rational people will make rational decisions if you present them with right data," is used to introduce a section on why analytics matters. Corporate governance within IBM which include such proven approaches as staying focused on solving business problems and giving high-level executive support, are briefly discussed.

Nine levers are suggested to measure and gauge progress in the analytics journey, as given below:

Enable Basis for Big Data and Analytics	Source of Value	Measurement	Platform
	Actions and Decisions That Generate Value	Evaluating Impact on Business Outcomes	Integrated Capabilities Delivered by Hardware and Software
Drive Needed to Realize Value	Culture	Data	Trust
	Availability and Use of Data and Analytics	Data Management Practices	Organizational Confidence
Amplify Boosts Value Creation	Sponsorship	Funding	Expertise
	Executive Support and Involvement	Financial Rigor in Analytics Funding Process	Development and Access to Skills and Capabilities

Some common emerging themes from the various journeys were identified:

- Relationships inferred from data today may not be present in data collected tomorrow;
- You don't have to understand analytics technology to derive value from it;
- Fast, cheap processors and cheap storage make analysis on big data possible;
- Doing things fast is almost always better than doing things perfectly; and
- Using analytics leads to better auditability and accountability.

The next nine chapters cover different organisational functions within IBM, as follows:

- Creating a smarter workforce through big data and analytics;
- More effectively optimizing supply chain processes;
- Systematically improving financial forecasting though anticipating financial future while managing financial risk, increasing operational efficiency, and creating business value;
- Transforming IT to enable wider use of analytics;
- Reaching more B2B or B2C customers and deepening their engagement;
- "Measuring the immeasurable" and filling gaps in imperfect data (where many thought this was an impossible task);
- Optimizing manufacturing and product management processes;
- Deploying your sales organization to increase revenue, effectiveness and performance; and
- Delivering services with excellence.

Each case describes the problem, outlines the challenges associated with the problem and discusses the outcomes. The discussion includes the enabling levers used in addressing the problem as well as the analytics tools used. The outcome of the case studies is dealt with in a fair bit of detail. The analytic way of thinking, the ability to pull in the best brains in the company from various groups and the consistent, visible executive support comes through strongly in each of the stories.

The final chapter provides food for thought on this continuing journey: the use of transactional data as a huge source of raw data for analytics; the use of simulation together with transactional data and the almost real-time use of predictive analytics through alerts; the various and diverse areas that require forecasting; further growth of unstructured data, and the use of cognitive computing.

A number of strong messages that comes through throughout the book are:

- Analytics is not just a technology, but also a cultural transformation;
- Human judgment is powerfully augmented in more ways than you'd imagine with data-driven insight;
- Decision-making is not only enhanced but also sparks greater innovation and stronger creativity in support of organizational strategy;
- Analytics is not just a technology; it is a better way to do business.

Summing up, I'd like to quote former IFORS President Peter Bell's assessment of the book:

Glimpses of the IBM vision of the future for analytics have regularly appeared in the literature, and now for the first time we have a comprehensive inside account of how IBM uses advanced analytics to compete globally. Using examples from many functions (HR, marketing, finance, supply chain), this book provides a fascinating view of IBM as an intensively data-driven corporation. Senior executives familiar with analytics and data applications will find many ideas in this book on how they can harness analytics to improve their corporation's performance. Executives less familiar with analytics may experience some "shock and awe" in reading how far data- and analytics-driven corporations have progressed and what formidable competitors they have become.

Executives less familiar with analytics may experience some "shock and awe" in reading how far data- and analytics-driven corporations have progressed and what formidable competitors they have become.

OR IMPACT

Articles demonstrating direct benefits from implementing OR studies

Section Editors: Sue Merchant <suemerchant@hotmail.com>, **John Ranyard** <jranyard@cix.co.uk>

Disaster Risk-Sensitive Shelter Planning: An Application of Participatory Risk Assessment and Decision Support in Legazpi City, Philippines

Sarah Redoblado (www.alterplan.org.ph) and **Leorey Marquez** (www.csiro.au)

Research has consistently shown that poor and vulnerable populations are more exposed to the impact of disasters. Once affected, this sector also faces constraints in its ability to quickly recover livelihoods owing to limited assets and financial resources as well as lack of access to financial services and appropriate disaster finance products (e.g., insurance, affordable loans), aggravated by the absence of formal or informal social safety nets and social protection mechanisms.

This highlights the need to strengthen social protection mechanisms to reduce the socio-economic impacts of disasters on the most vulnerable segments of society. Linking these mechanisms to disaster risk management (DRM) increases the effectiveness of DRM programs in contributing to poverty alleviation and sustainable development. This article describes a community-driven development (CDD) project, to mitigate disaster risk whilst supporting sustainable development in several barangays (a barangay is the smallest administrative unit) in the Philippines, where from 2000 to 2012 alone, natural disasters (volcanic eruptions, floods, earthquakes, storms, drought etc) caused the death of almost 13,000 people and resulted in injury to 138,000 persons. These disasters also affected more than 71 million individuals and rendered almost 375,000 persons homeless.

▲ : Participants discuss composite mapping of hazard and vulnerabilities data.

From 2009 to 2013, a series of community-led planning exercises was piloted at the purok (residential zone) levels in 10 high-risk barangays of Legazpi City in the Province of Albay, Philippines. The ten barangays account for more than half of the poor and informal settler families in the entire city (nearly 1500 families). The pilot project was implemented by local civil society organizations: COPE Foundation, Legazpi City Slumdwellers' Federation, Inc (LCSFI), in partnership with the Legazpi City government and barangay local government units (LGUs), through technical assistance from Alternative Planning Initiatives Inc.(ALTERPLAN) and the Danish International Human Settlement Service (DIB). Called the Disaster Risk-Sensitive Shelter Planning (DR-SSP) Project, it had a parallel objective with that of the HUDCC (Housing and Urban Development Coordinating Council) and UN-Habitat, namely, to mainstream disaster risk reduction while aiming for sustainable development.

Several agencies were involved but the development of analytical methods and systematic procedures was central to the success of the project. The exercises applied a number of statistical and operational research methodologies to obtain a set of barangay shelter plans containing disaster mitigation strategies. The major tool used was participatory collection and analysis of data and information by the community, its representative people's organizations (POs) and participating non-government organizations.

The principal data gathering, information processing and decision-support activities employed in the DR-SSP process include:

- **Participatory Socio-Economic Survey.** LCSFI leaders were the local enumerators for a one-page survey, which the Bicol University Extension Services Center helped design.
- **Physical Data Gathering with Global Positioning System (GPS).** LCSFI leaders and COPE staff used GPS equipment to gather geographical data of urban poor households, dwelling conditions, landmarks and hazards.

- **Creation of Community Resource and Barangay Profiles.** Household data from the socio-economic survey, and housing structure and land tenure data from the structural data survey were then aggregated and combined with demographic and geographical information to build a socio-economic profile for the barangay and its puroks.
- **Composite Mapping of Hazards and Interventions.** Composite maps were developed to interpret the data collected, visualize the characteristics of risk (i.e., hazard, exposure, vulnerability) and the degree that they come together in geographical terms to determine the level of risk (ALTERPLAN, 2010). LCSFI leaders and COPE representatives participated in transferring the socio-economic and structural data collected into maps, which were then overlaid onto the hazard maps provided by the Mines and Geosciences Bureau (MGB), Manila Observatory (MO) and the city government. (ALTERPLAN et. al, 2013). From these map overlays, LCSFI members developed a clearer picture of vulnerable areas where interventions should be prioritized.
- **Structural Analysis and Risk Assessment.** The risk assessment table summarizes land tenure, dwelling structure rating and susceptibility to hazards in order to assign a risk category and a corresponding household strategy for each dwelling. The individual strategies for all surveyed households are then clustered to form the general strategies for the different puroks and the entire barangay.
- **Strategy Formulation and Advocacy Matrix.** The results of the map and table overlays are plotted in a matrix that was developed to guide decision-making on appropriate programs and courses of action for communities and barangays, given their particular contexts. At this point, the DR-SSP proponents may conduct community-based forums and discussion groups to validate the hazard risks and their causes; to identify projects to mitigate risks and generate simple, feasible and swift solutions; to explore efficiencies in time and resources by clustering areas and applying similar solutions to similar problems; and to identify which projects should be prioritized.

The Legazpi City Comprehensive Land Use Plan, as well as its Flood Control and Drainage System plan included three policy recommendations from the DR-SSP Project, namely:

- relocating families in high disaster risk areas to safer communities with climate-resilient houses, adequate services and livelihood opportunities;
- requiring operational community-based disaster management plan from settlements in environmentally–critical areas that cannot be relocated; and
- speeding up the provision of security of tenure to families occupying public lands.

By June 2013, seven of the DR-SSP infrastructure projects had been implemented, four projects were ongoing and 14 projects were waiting to be budgeted. Among these 14 projects were three projects involving relocation, three projects involving the construction of evacuation centers, and two projects aimed at developing pumping stations and constructing major drainage canals (Rebullida and Jensen, 2013).

For 2014, ALTERPLAN and DIB are in discussion with the HUDCC and UN Habitat on making DR-SSP available to more local government units nationwide, in conjunction with their promotion of local shelter planning. The Legazpi experience has been proposed as a featured case study in the Local Shelter Planning manual that HUDCC will release.

ALTERPLAN and DIB are replicating the DR-SSP process in other selected cities. Two cities in Mindanao, two municipalities in the Visayas, and one city in the National Capital Region have expressed interest in partnering for DR-SSP. The CSIRO (the Commonwealth Scientific and Industrial Research organisation), along with the HUDCC and UN-Habitat, is now part of the effort to bring the DR-SSP methodology to priority barangays in the Philippines.

The community and barangay-level exercises in Legazpi City highlighted the participatory aspect of local shelter planning by guiding grassroots organizations in generating their input to the City Shelter Plan. (Following boxed text shows how the exercise has helped one community.) In other cases where a shelter framework for the city or municipality has been developed, barangay-level planning can be used to articulate the courses of action for identified "hotspot" or high-risk barangays.

Our barangay is a coastal community. It is flood-prone and sits on a wetland. As a barangay leader, it is my responsibility to secure the safety of our residents during calamities. During my first term as Barangay Head, I learned that I have to be development-oriented and welcome opportunities that will benefit our residents. It is a blessing that we were chosen to be one of the pilot barangays. The following were the things that we learned after the Disaster Risk-Sensitive Shelter Planning was done.

1. We were taught how to come up with projects and strategies for the benefit of our residents.
2. We learned the different ways of gathering different types of data from the community.
3. We were guided on how to plot information on table formats. From the tables of information, we used various tools to allow us to analyze their relationships and come up with strategies.
4. From the strategies, we were able to identify projects, policies, and services that we need to be able to address the problems in our communities.

Another important skill that we learned is the plotting and interpretation of the DRSSP elements and strategies on the barangay maps. This is where we realized that a map could contain many layers of information that can guide us in our planning and which we could also update if there are changes in our barangay.

We were taught how to prepare Project Briefs, which contain the summary of the important details of our proposed projects. We were also provided with the necessary skills on how we could present our projects and shelter plans to the Barangay Development Council and the Local Housing Board.

Barangay Head Joie Bahoy
Bgy. 27 Victory Village South, Legazpi City

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Tutorial

OR for Remote Sensing

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Since the 1960's, geographical information systems (GIS), and remote sensing (RS) technologies have offered unique capabilities for editing, managing, analyzing and automating different kinds of spatial data that provides valuable information required for decision making in diverse areas (Jankowski, 1995).

Remotely sensed image data have been used as a primary information source in spatial technologies. However, a fundamental problem in RS is the perturbation on surface reflectance data due to absorption and scattering by atmospheric gases and molecules. In order to make correct analysis and interpretation of remotely sensed images, the reflectance values of the image pixels must accurately represent the ground surface reflectance values (Kuter, 2014; Kuter et al., 2014a; Kuter et al., 2014b). Failure to correct for the atmospheric effects will definitely have a significant effect on any conclusions drawn from such data.

This tutorial illustrates the effectiveness of the new regression and classification tool of data mining, conic multivariate adaptive regression splines (CMARS) (G.-W. Weber et al., 2011) for remote sensing.

Developed as an alternative approach to multivariate adaptive regression splines (MARS) (Friedman, 1991), CMARS converts the second stage of the MARS algorithm (i.e., backward step) into a Tikhonov regularization (TR) problem based on penalized residual sum of squares (PRSS) approach and solves the problem through conic quadratic programming (CQP). As a form of nonparametric regression analysis, MARS is widely used in data mining and estimation theory in order to build flexible regression models for high-dimensional nonlinear data. In MARS model building, piecewise linear basis functions (BFs) are fitted in such a way that additive and interactive effects of the predictors are taken into account to determine the response variable.

MARS uses expansions of the truncated piecewise linear basis functions of the form $(\pm(x_j - \tau))_+$, where x_j is the jth component of *p*-dimensional variable X, τ is the associated knot location of . The '±' symbol indicates that only the positive or the negative parts are used, respectively, and X , $\tau \in \mathbf{R}$. In order to reach spline fitting in higher dimensions, the tensor products of univariate spline functions are employed, leading to multivariate spline BFs in the following form:

$$B_m\left(\boldsymbol{x}^m\right) := \prod_{j=1}^{K_m}\left[s_{\kappa_j^m}\cdot\left(x_{\kappa_j^m} - \tau_{\kappa_j^m}\right)\right]_+, \qquad (1)$$

where K_m is the interaction degree of the *m*th BF and x^m denotes the vector of independent variables contributing to the mth BF. is the corresponding input variable of the kth truncated linear function in the *m*th BF, the corresponding knot value for the variable $x_{\kappa_j^m}$ is given by $\tau_{\kappa_j^m}$, and finally $s_{\kappa_j^m} \in \{\pm 1\}$.

The *forward* and the *backward step* algorithms of MARS are used for the estimation of model function $f(\boldsymbol{x}) = \beta_0 + \sum_{m=1}^{M}\beta_m B_m\left(\boldsymbol{x}^m\right)$, where B_m is either a function or product of two or more functions, the number of BFs in the current model is indicated by *M*, and β_0 is the intercept.

In the *forward step*, MARS adds BFs and products of the BFs, which represent *interaction* among predictor variables. At the end of *forward step*, algorithm generates a maximal model that overfits the data. Then, the *backward step* is applied in order to prevent the model obtained in the forward step from over-fitting by decreasing the complexity of the model without degrading the fit to the data. It removes the BFs that give the smallest increase in the residual sum of squares at each step, which means that a predictor variable can be completely excluded from the model unless any of its BFs has a meaningful contribution to the predictive performance of the model, and this iterative procedure continues until an optimal number of effective terms are represented in the final model. The optimum number of terms that gives the best predictive fit is chosen through a *lack-of-fit* (LOF) criteria defined by *generalized cross validation* (GCV).

In CMARS, backward step of MARS is not employed; instead, PRSS with maximum number of BFs (M_{max}) is collected during forward step, and penalty terms are added to the least squares estimation in order to control the LOF, introducing an alternative point of view to the trade-off between the *complexity (accuracy)* and the *stability* of the estimation.

The trade-off between accuracy and complexity in this optimization problem is established through the penalties φ_m, and PRSS can be approximated as

$$\mathrm{PRSS} \approx \left\|\boldsymbol{y} - \boldsymbol{B}\left(\tilde{\boldsymbol{g}}\right)\lambda\right\|_2^2 + \sum_{m=1}^{M_{\max}}\varphi_m \sum_{l=1}^{(N+1)^{K_m}} L_{lm}^2\lambda_m^2. \qquad (2)$$

Here $\boldsymbol{y} := \left(y_1, y_2, \ldots, y_n\right)^T$, is the vector of responses, $\boldsymbol{B}\left(\tilde{\boldsymbol{g}}\right) = \left(\boldsymbol{B}\left(\tilde{\boldsymbol{g}}_1\right), \boldsymbol{B}\left(\tilde{\boldsymbol{g}}_2\right), \ldots, \boldsymbol{B}\left(\tilde{\boldsymbol{g}}_N\right)\right)^T$ is an $\left(N \times \left(M_{\max}+1\right)\right)$-matrix, and is the Euclidian norm. Rather than using distinct penalty parameters for each derivative in (2), only one penalty parameter $\left(\varphi = \varphi_m := \phi^2\right)$ can be employed, and then the new form of PRSS is expressed as

$$\mathrm{PRSS} \approx \left\|\boldsymbol{y} - \boldsymbol{B}\left(\tilde{\boldsymbol{g}}\right)\lambda\right\|_2^2 + \varphi\left\|\boldsymbol{L}\lambda\right\|_2^2, \qquad (3)$$

where $\boldsymbol{L}$ is a diagonal $\left(\left(M_{\max}+1\right)\times\left(M_{\max}+1\right)\right)$-matrix and λ denotes an $\left(\left(M_{\max}+1\right)\times 1\right)$ -parameter vector estimated through the data points. The PRSS problem turns into a classical TR problem with $\varphi > 0$, $\varphi = \phi^2$ for some $\phi \in \mathbf{R}$.

The TR problem in (3) can be treated by CQP with a convenient choice of bound $\tilde{Z} \in \mathbf{R}$:

$$\begin{aligned} &\underset{h,\lambda}{\text{minimize to}} \quad h, \\ &\text{subject to } \left\|\boldsymbol{y} - \boldsymbol{B}\left(\tilde{\boldsymbol{g}}\right)\lambda\right\|_2 \le h, \ \left\|\boldsymbol{L}\lambda\right\|_2 \le \sqrt{\tilde{Z}}. \end{aligned} \qquad (4)$$

At this point, a careful learning process must be followed in order to obtain the values of bound $\tilde{Z}$. By applying the modern methods of continuous optimization, the CQP can be written in the following basic notation:

$$\begin{aligned} &\underset{\boldsymbol{x}}{\text{minimize}} \quad \boldsymbol{c}^T\boldsymbol{x}, \\ &\text{subject to } \left\|\boldsymbol{G}_i\boldsymbol{x} - \boldsymbol{g}_i\right\|_2 \le \boldsymbol{p}_i^T\boldsymbol{x} - q_i \ \ (1, 2, \ldots, k). \end{aligned} \qquad (5)$$

CMARS has compared favorably with MARS for data sets in such applied contexts as industrial engineering (e.g., quality management and control in manufacturing) (Batmaz et al.; G. W. Weber et al., 2011; Yerlikaya-Özkurt et al., 2014b), financial mathematics (e.g., prediction of credit default, and identification of stochastic differential equations in finance) (Alp et al., 2011; Taylan et al., 2007; Taylan & Weber, 2008; Taylan et al., 2008; Weber et al., 2012; G. W. Weber et al., 2011), and Earth sciences (e.g., prediction of ground motion, related to tectonics and earthquakes) (Yerlikaya-Özkurt et al., 2014a).

Moderate-resolution imaging spectroradiometer (MODIS) (Qu et al., 2006) refers to the two scientific instruments operated by NASA: one has been on board Terra satellite (cf. Figure 1) since 1999, and the other, on Aqua satellite since 2002. The MODIS captures daily data in 36 spectral bands ranging in wavelength from 0.4 µm to 14.4 µm at varying spatial resolutions (bands 1 and 2: 250 m, bands 3-7: 500 m, bands 8-36: 1000m) in order to investigate earth's global dynamics such as radiation budget, cloud cover and atmosphere. Figure 2 shows the hurricane Katrina, covering much of the Gulf of Mexico, taken by MODIS on board NASA's Terra satellite on August 28, 2005.

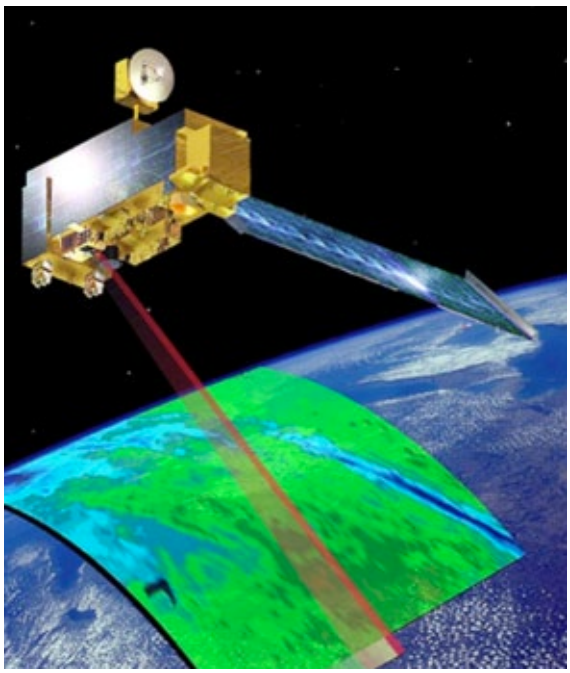

Figure 1. Terra satellite launched in a sun-synchronous orbit on December18, 1999 (Retrieved, 28 August, 2014, from http://podaac.jpl.nasa.gov/Terra)

Figure 2. Hurricane Katrina at the Gulf of Mexico, captured by MODIS on 28 August 2005, (Retrieved, 28 August, 2014, from http://earthobservatory.nasa.gov/NaturalHazards/ view.php?id=15395)

Instead of applying the classical atmospheric correction methods based on rigorous treatment of radiative transfer (RT) modeling (Kuter et al., 2014b), the adaptive and nonparametric tool of regression, CMARS was used on a series of MODIS image data taken over Alps (cf. Figure 3). All calculations are performed on the MODIS 4th reflective solar band (0.545 – 0.565 µm).

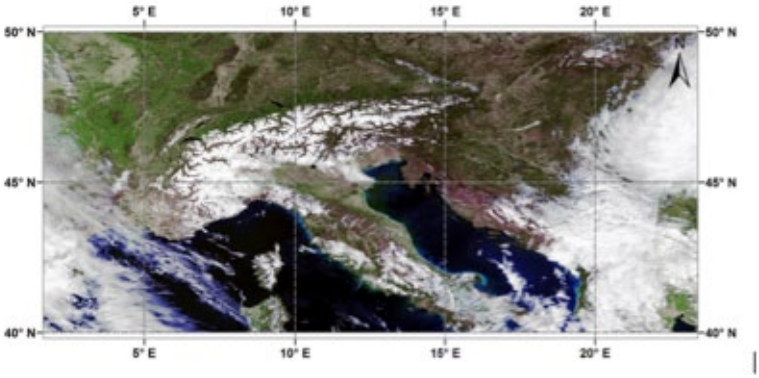

Figure 3. MODIS RGB color composite image of the study area (S11: 06.11.2002)

The alternative CMARS approach of learning and modeling is based on both the empirical data and the mathematics of applied probability and, especially, optimization theory, whereby accuracy becomes compromised with stability.

We also use a classical RT-based atmospheric correction scheme, i.e., simplified model for atmospheric correction (SMAC) (Rahman & Dedeiu, 1994), to obtain the atmospherically corrected surface reflectance values for the same areas, and compare the performance of CMARS with SMAC in terms of root-mean-square error (RMSE) values. The results are represented in Table 1.

Table 1. Comparison of the results (in RMSE)

Data Set	Date	CMARS	SMAC
S1	13.01.2006	0.0998	0.1868
S2	03.02.2005	0.0494	0.1182
S3	10.03.2002	0.0411	0.1183
S4	22.04.2005	0.0945	0.0864
S5	03.05.2003	0.0774	0.0433
S6	04.06.2007	0.0793	0.0801
S7	01.07.2007	0.0827	0.0887
S8	06.08.2008	0.0649	0.0699
S9	03.09.2001	0.0613	0.0691
S10	11.10.2001	0.0421	0.0715
S11	06.11.2002	0.1037	0.1942
S12	06.12.2003	0.1360	0.2755

The RMSE values given in Table 1, show that CMARS performs better than the traditional RT-based method SMAC.

CMARS proposes a "model-based" approach for controlling complexity through state-of-the-art continuous optimization theory. Compared with traditional formulas from physics and natural sciences, where functional relationships between variables are assumed, CMARS can learn under different forms of uncertainty.

Spatial technologies are powerful tools with data management, geo-processing, modeling and visualization capabilities. Rapid advances in these technologies give us the opportunity to look for alternatives to traditional methods, thus helping the decision-maker plan more effectively.

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OR Society in Focus

HELORS: Serving Greece for 50 years

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Ten years after a civil war when Greece was struggling financially and administratively, "scientific management" was unknown to many in the country.

This was in 1963 when Greek leading scientists, with a firm belief that the tools and methodologies of OR and Scientific Management can aid decision making in the public and private sectors to ultimately benefit economy and society, founded the Hellenic Operational Research Society (HELORS).

HELORS pioneers meet in the 60's.

HELORS efforts from 1963 to 1980 centered on disseminating OR methods and techniques to relevant organizations and staff within the private and public sectors. This involved organizing OR seminars, lectures and conferences on such topics as business strategy, political organization and managerial control.

In 1984 the Macedonia-Thrace annex was founded, to help grow OR in the greater area of Balkans and to better serve the needs of the members from northern Greece.

A second creative and fruitful period followed, which paralleled the socio-economic, technological, and political changes in Europe and the world. These changes significantly enhanced productivity and competitiveness of the Hellenic economy.

Over 50 years, HELORS has conducted 25 national conferences, all attracting large participation from both the scientific and business communities. These conferences have traditionally linked OR solutions to current economic and social issues faced by the country. HELORS conferences have consistently attracted more than 5000 participants whose works are categorized into applied and basic research. These conferences have seen business executives, professors, public sector decision makers presenting on such topics as business strategy, organization, technology, management and control.

HELORS celebrates 30 years in 1993.

HELORS has also organized 3 International and 4 Balkan Conferences, among which were the:

- 12th IFORS Conference (Athens, June 25-29, 1990). Up till then, recognized as the best IFORS conference in quality and content bringing together 700 scientists from around the globe.
- 20th European Operational Research Societies (EURO) conference: "OR and the Management of Electronic Services" (Rhodes, July 4-7, 2004).

The scientific journal of HELORS, published by Springer is called "Operational Research: An International Journal" (ORIJ). From 2001, a total number of 321 articles in 14 volumes and 40 issues have been published. ORIJ has been recently accepted by Thomson Reuters for coverage in "Science Citation Index Expanded", "Journal Citation Reports/ Science Edition" and "Current Contents" http://www.springer.com/ business&management/ operations+research/journal/12351).

The National Award and OR Gold Medal is awarded annually by HELORS to distinguished Greek researchers with outstanding contribution to the OR field.

National Award and OR Gold Medal Winners

1999	Gen. Rodamanthis Spanogiannakis
2000	Prof. Dimitri Bertsekas, MIT, USA
2002	Prof. Spyros Makridakis, INSEAD, France
2003	Prod. Dimitris Xirokostas, NTUA
2004	Prof. Dimitris Bertsimas, MIT USA
2005	Prof. Yannis Siskos, Univ. of Piraeus
2006	Prof. Viron Papathanasiou, Aristotle Univ. of Thessaloniki
2007	Prof. Vangelis Paschos, University Paris-Dauphine, France
2008	Prof. Aris Sissouras, Univ. of Patras
2009	Prof. Constantin Zopounidis, Technical University of Crete
2012	Prof Konstantinos Paparizos, University of Macedonia
2013	Prof. Christodoulos Floudas, Princeton University, USA

A great number of the Society's members are professors of higher education in both Greece and abroad while others have served as senior executives in private businesses and organizations.

Within HELORS are Working Groups (WGs) that operate according to the standards of its corresponding International Federations. Most active among these is led by Yannis Siskos, the Multicriteria Decision Analysis (MCDA) WG, which has organized 9 meetings in Multicriteria Analysis and one seminar on Multiple Criteria Decision Aid.

The current economic and financial crisis in the country again poses a challenge for HELORS to substantially contribute to the creation of a new vision for the modernization and development of the Greek private and public sectors.

HELORS continuously strives to establish robust bonds with businesses and organizations by educating senior executives and disseminating the experience and knowledge gained in its conferences, workshops, and its membership in the international OR community of EURO and IFORS. It is therefore, but a fitting 50th HELORS anniversary celebration to organize a series of lectures on OR and the current issues of the Greek economy and society.

Multicriteria Decision Analysis Working Group takes a break.

EURO 2015 12-15 JULY 2015 GLASGOW

EUROXXVII Annual Conference

12-15 July 2015

University of Strathclyde

EURO The Association of European Operational Research Societies

THE OR SOCIETY

Welcome to the **27th EURO Annual Conference (EURO 2015).**

EURO 2015 is the premier European conference for Operational Research and Management Science (ORMS), organised by the European Association of Operational Research Societies in conjunction with the UK OR Society.

EURO2015 will host streams from all branches of ORMS, alongside keynotes and plenaries from leading international thinkers and tutorials on up and coming areas of interest. The conference will include presentations and discussions that will have a particular focus on the practice of O.R. These sessions will be of relevance to Consultants, Analysts and Decision Makers – in fact, anyone with a passion for making the 'real-world' more effective.

EURO2015 will be hosted at the University of Strathclyde in Glasgow, which is quickly gaining recognition as a leading international technological university, reflected in the recent awards of the Times Higher Education (THE) University of the Year award in 2012 and Entrepreneurial University of the Year in 2013. Strathclyde was founded during the Scottish Enlightenment as a "place of useful learning" and remains true to that initial vision, with a strong commitment to applied research. It is leading the way in the UK in building translational research centres linking industry and academic research. EURO2015 will be the first major conference to be based at the new Technology and Innovation Centre at Strathclyde.

We will open the booking and abstract submission in November 2014. In the meantime, we call on the OR community to save these important dates in your diary.

For latest information of the conference, please visit our official website at: www.euro2015.org. If you have any queries, please do not hesitate to contact euro2015@mci-group.com.

See you in Glasgow!

Save the Date - Registration Opens November 2014

Selamat Datang! Welcome to the **10th Triennial Conference of the Association of Asia-Pacific Operational Research Societies (APORS 2015).**

Management Science/Operations Research Society of Malaysia (MSORSM) is delighted to announce that the 10th Triennial Conference of the Association of Asia-Pacific Operational Research Societies (APORS 2015) will be held from 02 - 06 August 2015 in Kuching, in the state of Sarawak, Malaysia. The Organising Committee is looking forward to welcoming the delegates in the state known as The Land of Hornbills. We are working towards preparing an attractive scientific programme with diverse topics to create a conducive environment suitable for encouraging and facilitating sharing of knowledge and experience in OR. The conference aims to bring together members of the international OR community to discuss various aspects of OR with particular emphasis on the theme - OR and the Environment.

Kuching is the perfect setting for the conference theme. Sarawak is the largest state of Malaysia with a land mass of almost 125,000 square kilometres and home to one of the oldest rainforests in the world, an epicentre of biodiversity. It houses some of the rarest flora and fauna ever discovered and sustains communities of indigenous people that still live in harmony with the land; preserving the practices of their forefathers which allow them to live off the land without destroying the ecosystem that sustains it. These two facets of Kuching and her ways of balancing its promising economy and her environmental treasure trove is an example of how OR has helped bring about economic prosperity while preserving and protecting the Environment.

The Organising Committee calls on the OR community to organise a session, give a talk and experience this great city. Be a part of a great learning experience that is the APORS 2015 Conference.

For latest information of the conference, please visit our official website at: http://msorsm.org/apors2015/.
We are also on Facebook (APORS 2015 Conference)!

If you have any queries, please do not hesitate to contact apor2015@gmail.com.

See you in Kuching, Sarawak, MALAYSIA for APORS 2015!

ALIO Meeting Slated for October, 2014

The XVII Latin-Iberian-American Conference on Operations Research (CLAIO), the biannual conference organized by the Latin-American Association of Operations Research Societies (ALIO), will be held in Monterrey, Mexico, October 6-10, 2014, together with the 3rd CSMIO, the annual conference organized by the Mexican Society of Operations Research (SMIO). The VII Meeting of the Iberian-American Network on Multi-Criteria Decision Analysis (Red-M) will also take place within CLAIO.

The academic program will consist of five plenary talks, five tutorials, four mini courses and technical and special sessions, covering the diverse aspects of OR.

The CLAIO meeting will be held at the Sheraton Ambassador Monterrey, right in the heart of downtown Monterrey, with easy access and walking distance to the city´s commercial and cultural areas. The Sheraton is just about 30 minutes away from the Monterrey International Airport.

For the latest information on the conference, please visit the conference official website at: http://pisis.fime.uanl.mx/claio2014.

Georgia Tech Offers Certificate Program In Supply Chain Management For Health And Humanitarian Operations

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On May 11-16, 2015, the Georgia Tech Center for Health & Humanitarian Systems (HHS) will again host the professional certificate program in supply chain management for health and humanitarian operations. The program is designed for practitioners working for non-governmental organizations (NGOs), government, industry, and military, who are active or interested in public health and humanitarian operations (including disaster relief, long term development). The 3 courses focus on the following topics in the fields of public health and humanitarian response: Pre-Planning Strategy (May 11-12), Tactical Decision Making (May 13-14), and Systems Operations (May 15-16). Participants who complete all three courses receive an official certificate from Georgia Tech in Health & Humanitarian Supply Chain Management.

The May 2014 class of graduates included participants from the American Red Cross, Partners in Health, Task Force for Global Health and USAID/PEPFAR the Task Force for Global Health among many other organizations from the private and public sectors around the world. Programs to date have included participants from 11 different countries, who have lived and worked in the sector in over 57 different countries. For a summary of the May 2014 certificate course with reviews from past graduates, please visit: http://humanitarian.scl.gatech.edu/node/52/306291. Interested readers may apply online at http://humanitarian.scl.gatech.edu/professional-education.

Cuba Gets Set for 2015 OR Workshop

Carlos Bouza <bouza@matcom.uh.cu>

The development of operations research in Cuba began in the 1970's when mathematics students were given the option to specialize in operations research or statistics. Since the 1990's the Cuban operations research community has regularly organized two series of international scientific meetings: the Conferences on Operations Research and the Workshops in Operations Research.

The conferences include the broad areas of operations research covering aspects of optimization, operations research, statistics, mathematical and economic modeling, and related themes. They are attended by around 200 participants from all around the world.

Each workshop, on the other hand, is devoted to a specific application area. Some themes of past workshops include transportation, the environment, and aspects of medicine. The workshops are usually attended by 50 to 75 participants and feature some specialized courses and panels.

These events are organized regularly by Universidad de La Habana and SAMM-Universitè Paris 1 Pantheon Sorbonne and sometimes co-sponsored by other institutions. Plenary talks are delivered by well known specialists, such as Fields medalists Steve Smale and Pierre-Louis Lions as well as other well-known researchers including David R Brillinger, Klaus Krickeberg, Rüdiger Schultz, Ralph Steuer, Boris Murdokovitch and Bernard Cornet. In the last conference the main speaker was Hans-Jakob Lûthi.

The Eleventh Workshop will be conducted from March 10-13, 2015. It will take place in Old Havana (Habana Vieja), a well-maintained cluster of buildings constructed around the bay in the sixteenth century. Universidad de La Habana was inaugurated here in 1728. Habana Vieja is one of the most important cultural centers of the city, with dozens of museums and historical places. Over fifty restaurants, cafes, and bars are scattered in the area. Music ranging from ancient music to salsa to jazz to classical pervades the ambiance, and concerts are abundant.

For 2015, the Workshop will focus on OR & Human Welfare: Health, Environment, and Education. The workshop is co-sponsored by Asociación Latinoamericana de Investigación Operativa (ALIO, a member of IFORS), Benemérita Universidad Autónoma de Puebla, Sociedad Cubana de Matemática y Computación (SC Investigación Operacional), and Oficina del Historiador de La Habana. Confirmed plenary speakers are Professor James J. Cochran of The University of Alabama and Professor Michael Alheim of Universität Hohenheim. As is customary, selected papers from the workshop will be published in a special issue of the journal Revista Investigaciòn Operacional, published since 1966.

The venue is spectacular and conference promises to be intellectually rewarding. For more information please contact the author.

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