asor news

September 2014

Contents

ASOR Recent Advances 2014

This year the ASOR Recent Advances conference will run over two days (12 and 13 November 2014) and be teleconferenced – for presenting and attending – across multiple sites via Access Grid as well as (we hope) over more generally accessible teleconferencing systems. Presenters can travel to Melbourne or present from AGR facilities in other cities including Newcastle.

ASOR Recent Advances is a forum intended for the exchange of ideas and the promotion of growth and activity in the Australian OR community. It is a conference where presentations on completed academic research are complemented with sessions on interesting and/or novel applied work, the discussion of new research ideas and directions, and research work-in-progress.

For the first time in its history, Recent Advances will combine abstract-only presentations with peer-reviewed conference papers. The peer-reviewed papers will be published in a special Recent Advances proceedings issue of the ASOR Bulletin. The ASOR Bulletin is an indexed and quality-rated academic journal that is published by ASOR.

ASOR is in the process of inviting keynote talks and arranging focussed sessions. **Kate Smith-Miles** from Monash University has already been confirmed as one of the keynote speakers. We are actively seeking participation from OR Society New Zealand — both in NZ by teleconference and in-person via travel grants that will be funded by ASOR National.

A call for Recent Advances submissions, for the abstract-only presentations and the refereed conference papers/presentations, will be issued on 26 September.

Alysson Costa's recent ASOR seminar in Melbourne
(Kaye Marion, 17 September 2014)

Upcoming OR Seminars

ASOR Seminars

9 October 2014: Matt Herbert (Biarri), *A Multicommodity Network Flow Approach to Coal Train Crew Scheduling*. 4pm, QUT Gardens Point Brisbane, P Block Lecture Theatre 512 (see details elsewhere in this newsletter).

15 October 2014: Axel Bender (DSTO, South Australia). 5.30pm VIC / 5pm SA time. Access Grid Room at UniSA Mawson Lakes, broadcast to RMIT (Room 8.9.66) and U. Newcastle.

5 November 2014: **Giovanni Felici** (CNR, Italy, and CSIRO visitor). 5.30pm VIC / 5pm SA time, from RMIT Access Grid Room.

12-13 November 2014: **ASOR Recent Advances**, from RMIT Access Grid Room and elsewhere nationally.

NICTA-ORG Seminars

26 September 2014: Tanya Latty (U. Sydney), *Learning From Nature: Infrastructure Design Inspired by Resilience in Ant Colonies, Bee Hives and Slime Mould Amoebas*. 12pm AEST, NICTA Canberra Research Laboratory, Seminar Room (ground floor). 7 London Circuit, Canberra City, ACT. Teleconferenced to Monash Uni, NICTA Neville Roach Laboratory and NICTA Victoria Research Laboratory.

AMSI/ANZIAM AGR National Seminars

For information about these events, visit http://www.amsi.org.au/index.php/research-a-higher-education-mainmenu/access-grid/national-seminar-series.

ASOR Rising Star Award

The Australian Society for Operations Research (ASOR) has established a biannual **Rising Star Award** (RSA). The objectives of RSA are to:

- acknowledge and encourage promising early career researchers in Operations Research;
- help promote the advances to Operations Research due to early career researcher;
- improve the competitiveness of starting Operations Researchers in their career paths both in industry and academia.

Researchers may be eligible to be nominated if they have been awarded a PhD within five years or, if they have already submitted their PhD theses. Exceptions to the five year limit can be made to allow for significant interruptions to research development, for example, parental duties, illness or career change.

Nominations for the award can be made by any member of ASOR other than the nominee. Letters of nomination should not exceed two A4 pages and should be accompanied by the nominee's list of publications and a brief CV. In addition, documented contributions to the practice of OR in industry (e.g., testimonials from end users as to the nominated candidate's specific contributions, evidence of impact, etc) may also be attached.

These nomination materials should be addressed to Prof. Jerzy A. Filar, Chair, RSA selection committee, School of Computer Science, Engineering and Mathematics, Flinders University, Jerzy.Filar@flinders.edu.au. Electronic submissions are preferred.

The closing date is: September 30, 2014.

The RSA winners will be invited to present their finding at the next ASOR national biannual meeting and will receive a certificate of recognition and a cheque for $1000.

BAM Conference 2014

Biarri are once again holding their popular **Biarri Applied Mathematics (BAM) conference**, on 25-26 November 2014 at RMIT.

Biarri Applied Mathematics (BAM) is a conference centered around bridging the gap between maths in academia and practice. We bring together guest speakers that span a broad range of backgrounds and interests from University Research to Commercial Applications.

The first Biarri Applied Mathematics conference was hosted by the University of Melbourne over two days in 2012. The conference was a big success, with around 80 people attending, including industry representatives, academics and students.

For BAM registration and more information, visit http://bamconf.com/. Attendance is free, and the conference will be held at RMIT (City Campus).

People News

Mohsen Songhori, who has served for several years on the ASOR Melbourne committee (some of this time as the student representative) will be leaving Australia to start a post-doc in Asia in September 2014.

Marc Demange recently moved to Australia from France, in order to take up an Associate Professor role at RMIT School of Mathematics and Geosciences.

A Correction (from the editor). *I thought the news of James Baglin (ASOR Newletter July-August 2014) was uncannily familiar to that of the much better-known James Minas, but didn't correct Cam's text just in case we offended both of them! As it turns out, there really is only one James, James Minas, who relocated from RMIT to Canada.*

Claus Brech (TU Munich) discussed rostering algorithms for resident doctors at his ASOR Seminar in August (Kaye Marion)

Forthcoming ASOR Seminars

Thursday, 9 October 2014, 4:00pm - 5:00pm, QUT Gardens Point Brisbane, P Block Lecture Theatre 512.

Matt Herbert (Biarri), *A Multicommodity Network Flow Approach to Coal Train Crew Scheduling*.

Rail is frequently used for moving coal between mines and ports, and interactions between train and crewing requirements can create highly complex problems. Despite the complexity and importance of the crewing plans, in many locations they are still done manually. We aim to provide a scientific approach for creating them. However, in a pre-existing business environment, it is often not feasible to quickly implement a company-wide overhaul of train plans and crew rosters. This talk will focus on the problem of assigning a premade crew roster to a pre-agreed train plan, to improve utilisation. The solution presented is an Integer Programming problem, formulated using multicommodity network flow with side constraints. The network flow approach allows us to make complex rules for train changeovers implicit in our network creation, rather than representing them formally as often hard-to-understand constraints. The formulation considers many aspects of the real world problem, including restricting the number of crew changes on each service, and variable start times for crews. This method produces a crew work plan be used each week. Basic heuristic methods are included to find a balance between solution quality and run time. This approach is able to produce weekly crew assignments with high utilisation in run times of around an hour, down from existing manual methods requiring a day or more.

Matt Herbert is an Optimisation Consultant with Biarri Optimisation. He focuses on applying the principles of Operations Research to solve real-world problems for clients. Biarri's goal is to bring state-of-the-art mathematical approaches to bear in a way that is accessible yet powerful.

Optimisation Session at AustMS 2014

Via email from **Andrew Eberhard, Regina Burachik, Charl John Ras, Matthew Tam**

The 8th Australian New Zealand Mathematics Convention will take place on the campus of the University of Melbourne, from 8th–12th December, 2014 (http://www.austms2014.ms.unimelb.edu.au/). It is our great pleasure to invite you to participate in the special session "Optimisation" and hope that you will agree to present a 25-minute talk. We are pleased to announce that Professor Jong-Shi Pang from the University of Southern California has agreed to be a keynote speaker for our session. Professor Pang was a winner of the 2003 George B. Dantzig Prize awarded jointly by the Mathematical Programming Society and the Society for Industrial and Applied Mathematics for his work on finite-dimensional variational inequalities, and a co-winner of the 1994 Frederick W. Lanchester Prize awarded by the Institute for Operations Research and Management Science.

This special session will focus on developments in computational techniques, new theory and applications of both continuous and discrete optimisation/control.

Please do encourage participation of your postdocs and doctoral students at our special session. PhD students who are AustMS members, who are giving a conference talk and who are travelling to the meeting from outside Melbourne may be eligible for a travel costs subsidy. An online form for PhDs to claim this subsidy will be available soon on the conference website. Applications will close on September 26.

If you do agree to present, you will need to register before 26th of September in order to obtain the early bird registration. Registration and abstract submission closes on November the 17th so one can either submit an abstract when you register or at a later date via the conference registration web pages.

APORS 2015 and 2018

Erhan Kozan

The Asia-Pacific Operations Research Societies (APORS) 2015 Conference will be held on August 2-6 in Kuching, Sarawak, Malaysia.

APORS is a triennial conference, and 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 within the region;
- provide, on a rotating basis, exposure to APORS of the countries constituting it; and

- promote the development of specific parts of Operational Research, for example, to ensure a balance or to open up new fields

ASOR is considering making a bid for the 2018 APORS Conference. Members who might be interested in helping form this bid should contact Erhan Kozan and/or Simon Dunstall. The written proposal for undertaking the APORS Triennial Conference must be received by the APORS Secretary approximately 3½ years before the actual conference (for instance, for APORS 2018 on January 1, 2015).

Position at U. Newcastle

PROFESSOR OF OPERATIONS RESEARCH, University of Newcastle, Australia (newcastle.edu.au), School of Mathematical and Physical Sciences, Faculty of Science and Information Technology.

An opportunity exists for an outstanding individual to provide vision and leadership for the optimisation / operations research discipline. The successful candidate will promote and foster a collaborative, dynamic, productive and globally competitive research environment through research collaboration, external grant income, publication outputs, and research higher degree graduates. The promotion of excellence in teaching and learning through appropriate curriculum development and delivery is also a key requirement of this role.

The successful candidate will demonstrate leadership in operations research and its applications in any mainstream or emerging area of the field, as well as a successful track record of attracting research funding, underpinned by an understanding of the Australian research funding system and national research priorities.

This is an exciting time to be part of the Faculty of Science and Information Technology. This position offers exceptional opportunities to lead a strong team of academics in fundamental and applied research and to collaborate with supply chain and food technologies to bring together industry and academics to achieve optimal outcomes.

The Professor of Operations Research is offered as a full-time, ongoing Professorial (Academic Level E) position. An attractive remuneration package will be offered to the successful candidate.

Initial enquiries, in confidence, should be made to Dr Rosalind De Sailly, De Sailly Consulting, on +61 (0) 414 574 945 or email OperationsResearch@desailly.com.au

Applications close Friday 3 October 2014

Logistics Association of Australia Awards 2015

Significant numbers of ASOR members work in the transport, logistics and supply chain area, and may be interested in annual awards (*The LAA Leadership in Logistics Awards*) offered by the Logistics Association of Australia (LAA). Two of their annual awards are more likely to be relevant to ASOR / OR people. Nominations may be made by any individual, member or non-member or self, for many of the award categories including the two below. For more information, visit http://www.laa.asn.au/lila.htm or contact the LAA via admin@laa.asn.au. Nominations for 2015 will be sought between May and July next year.

The Larry Smith Leadership in Technology Award (IT capability across the Logistics and Supply Chain Industry) is for outstanding participation, innovation, continuous improvement or contribution to Technology or IT capability - in either hardware or software. ASOR members involved in the delivery of systems that embed optimisation and/or simulation might be well-placed for this award in 2015.

The Malcolm Priestley Leadership in Logistics Operations Environment Award. This award is for contribution, innovation, continuous improvement and participation by an individual or company in the logistics and supply chain operations environment. This may include Environmental issues, systems, processes and implementations encompassing one of the following categories, which may change annually: i.e. - OHS & Fatigue Management, Legislation, Corporate Social Responsibility and/or Sustainability.

ASOR Melbourne email List

For ASOR Melbourne members, if you need to update your details for our mailing list, melbourne-list@asor.org.au, visit the web page at http://asor.org.au/mailman/listinfo/melbourne-list_asor.org.au, where you can maintain your information, subscribe or unsubscribe.

ASOR Linked-In Group

Members who have accounts on LinkedIn should visit http://www.linkedin.com/groups/Australian-Society-Operations-Research-4473262, which covers ASOR nationally.

ASOR Website

At http://www.asor.org.au/, click through to Melbourne or Queensland chapters and see up-to-date websites for ASOR's most active chapters. The ASOR Melbourne website contains a back-catalogue or newsletters, membership forms, registration forms (from time-to-time when we have events) and other goodies.

Upcoming Australian Conferences and Events

ASOR Recent Advances 2014. 12-13 November 2014, RMIT City Campus, Melbourne.

Biarri Applied Mathematics (BAM) Conference. 24-25 November 2014, RMIT City Campus, Melbourne.

AustMS/NZMS 2014 (8th Australia – New Zealand Mathematics Convention). Melbourne, December 8-12, 2014. See http://www.austms.org.au/tiki-calendar.php?calitemId=521

NICTA Optimisation Summer School, ANU Kioloa Campus, NSW South Coast, 11-16 January 2015; http://tinyurl.com/optschool.

The next **International Symposium on Environmental Software Systems** (ISESS) conference will be held in Melbourne, 25-27 March 2015. See www.isess2015.org.

MODSIM 2015. Incorporating DORS and ASOR. 29 November – 4 December 2015.

Web Pages of Interest

ASOR National: www.asor.org.au

STA: http://scienceandtechnologyaustralia.org.au/

NZ OR Society http://www.orsnz.org.nz/

ORS (UK): http://www.orsoc.org.uk/

INFORMS (US): http://www.informs.org/

IFORS: http://www.ifors.org

Optimisation in Melbourne: http://www.or.ms.unimelb.edu.au/

For the latest international news, conference and jobs details see: http://www.ifors.org/panorama/index.html

tutOR: http://www.tutor.ms.unimelb.edu.au

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