

# THE BRIEFING

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The Newsletter of the INFORMS Section on Public Sector Operations Research (PSOR)  
Volume 6 • Fall 2017

## Welcome from the President

*Words from Burcu Balçık, President of Public Sector OR*

The INFORMS Section on Public Sector Operations Research (PSOR), previously named as the Section on Public Programs, Services and Needs (SSPSN), is now in its *ninth year* of existence. PSOR's mission is to apply operations research and management science to questions of public policy and the management of public resources in support of decision making and the management of operations in the public sector. All of our members have in common a passion to do research and practice that improves the quality of life for individuals and communities through provision of goods and services by government, non-governmental organizations and public-private partnerships.

I hope you enjoyed the PSOR cluster of 24 sessions at the 2017 INFORMS Annual Meeting in Houston. We had a business meeting over breakfast on October 23, which offered an opportunity for PSOR members and non-members to network and contribute ideas for the future growth of the section. Due to high costs of lunch/business meetings, it is challenging to continue organizing these meeting over breakfast/lunch without support from sponsors. I would like to thank our 2017 sponsors, ***Northwestern University Center for Engineering and Health*** and ***HEC Montreal Department of Logistics and Operations Management*** for their generous supports, which made this year's event possible.

The PSOR best paper award is intended to recognize outstanding research of diverse origins and applications, and it is open to students, academics and practitioners, as well as PSOR members and non-members. The award consists of a first prize of \$250, and a second prize of \$100. This year, Pnina Feldman chaired the paper award committee. Four finalists were recognized at the PSOR business breakfast meeting. Additional details on this award may be found below in the newsletter. I would like to congratulate all finalists and the winners, and encourage more members to consider submitting their high-quality work to the PSOR best paper award. Other initiatives, such as a student paper or dissertation award, are under consideration for implementation in the upcoming years. I encourage you to share the ideas you have to increase the reach and influence of PSOR and its members' activities.

There have been several special issue calls in the past year related to the research topics relevant to public interest. You can find the list of past and ongoing calls in the newsletter. Please continue letting us know about any news of interest to our members, such as conference announcements, calls for papers and books published.

Our section recently concluded elections for the 2018 officers, and besides the automatic movement of some officers (President-elect Vedat Verter to president; Junior VP of Programs Shengfan Zhang to Senior VP of programs), we are happy to welcome Nan Kong as President-elect, Jessica Heier-Stamm as Secretary/Treasurer, and Muer Yang as VP of Communications.

It is almost to the end of my term as President. I want to thank our officers for their service. I'd also like to thank the paper award committee for their service. Both the officers and paper award committee are listed later in this newsletter. I encourage you to contact one of the PSOR officers with any news of interest to our members and ideas for new initiatives.

Best regards,  
Burcu Balçik

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## Results of Public Sector OR Best Paper Competition

We received nine high-quality submissions for this year's paper competition. Four finalists were identified by the prize committee, and first-place and second-place prizes were awarded during the business meeting at the 2017 INFORMS Annual Meeting in Houston, Texas. Congratulations to the following finalists and winners:

- First place: "Jumping the Line, Charitably: Analysis and Remedy of Donor-Priority Rule," by **Ronghuo Zheng** (UT Austin), **Tinglong Dai** (Johns Hopkins), and **Katia Sycara** (Carnegie Mellon)
- Second place: "Data Analytics for Optimal Detection of Metastatic Prostate Cancer," by **Selin Merdan**, **Christine Barnett**, **Brian Denton**, **James Montie**, and **David Miller** (University of Michigan)
- Finalist: "Assessing the Quality of Quality Assessment: The Role of Scheduling," by **Maria Ibanez** and **Michael Toffel** (Harvard Business School)
- Finalist: "Improving U.S. Marines' Hurricane Preparation with the Hurricane Decision Simulator," by **Eva Ragnier** (Naval Postgraduate School) and **Cameron MacKenzie** (Iowa State)

The prize committee was chaired by Pnina Feldman (UC Berkeley). We would also like to acknowledge the other members who served on the judging committee:

- Karan Girotra, INSEAD
- Jonas Johansson, MIT
- Diwas KC, Emory
- Ravi Subramanian, Georgia Tech



*Left panel (from left to right): First-place winners Tinglong Dai and Ronghuo Zheng, pictured with Pnina Feldman (Prize Committee Chair) and Burcu Balçık (PSOR President)*

*Right panel (from left to right): Second-place winner Selin Merdan, pictured with Pnina Feldman and Burcu Balçık*

## Public Sector OR at the 2017 INFORMS Annual Meeting

There were 24 Public Sector OR sessions during the 2017 INFORMS Annual Meeting which took place from October 22-25 in Houston, Texas. The sessions and the session chairs are listed below (session chairs in parentheses). Details about the authors and presentations in the sessions can be found by following [this link](#).

### Sunday, October 22<sup>nd</sup>

- Public and Nonprofit Applications (Ece Zeliha Demirci)
- Urban Transportation and Logistics in Public Sector OR (Sung Hoon Chung)
- Advances in Healthcare Analytics (Van-Anh Truong)
- Facility Location in Humanitarian and Disaster Response Logistics (Felipe Aros-Vera)
- Community-based Operations Research (Michael Johnson)
- Healthcare Analytics Applications (Andres Garcia-Arce)
- Financial Incentives and Health System Performance (Dimitrios Andritsos)
- Pro Bono Analytics (Panel Session: David T. Hunt, Vineet Madasseri Payyappalli, Adam Clark, Scott Arthur, Jason Lau)

### Monday, October 23<sup>rd</sup>

- Humanitarian and Developing Country Operations (Jon M. Stauffer)
- Humanitarian and Disaster Relief Logistics (Christoffer Zobel, Andrew N. Arnette)
- Joint Session SOLA/PSOR: Public Sector Location Analysis (Kayse Lee Maass)
- Joint Session MIF/PSOR: Nonprofit Operations and Humanitarian Logistics (Irem Sengul Orgut)
- Humanitarian Logistics in Public Sector OR (Sung Hoon Chung)

### Tuesday, October 24<sup>th</sup>

- Joint Session PSOR/Natural Hazards: Humanitarian Assistance and Disaster Relief (Erica L. Gralla, Keziban Rukiye Trasci)
- Last Mile Aid Operations (Feyza Guliz Sahinyazan)
- Matching in Two-Sided Markets with Social Impact (Ozlem Ergun, Tina Rezvanian)
- Models and Algorithms for Radiation Treatment Planning (Gino J. Lim, Azin Khabazian)
- Transportation Issues in Smart Cities (Leila Hajibabai)
- Prevailing Issues in Public Sector OR (Ebru Korular Bish, Hrayer Aprahamian)
- Proactive Planning Against Natural Disasters (Ozlem Ergun, Mahsa Ghanbarpour)

### Wednesday, October 25<sup>th</sup>

- Public Sector OR Utilizing GIS (Ronald McGarvey)
- Joint session PSOR/ENRE: Models for Energy Policy 1 (Erin Baker, Zana Cranmer)
- Strategic Decisions in Humanitarian Setting: Empirical and Analytical Approaches (Mahyar Eftekhar)
- Joint Session PSOR/ENRE: Models for Energy Policy 2 (Erin Baker, Zana Cranmer)

## Calls for Papers

### *Socio-Economic Planning Sciences: Special issue titled, “Indices for the Betterment of the Public”*

#### Guest Editors:

- Vincent Charles (Director of Research (Intl. Affairs), CENTRUM Católica Graduate Business School, Peru)
- Ali Emrouznejad (Aston Business School, Aston University, Birmingham, UK)
- Michael P. Johnson (McCormack Graduate School of Policy and Global Studies, University of Massachusetts Boston, Boston, MA, USA)

Over the years, the quest for a better society has led to the birth of a variety of composite indices of development, from the gross domestic product to the happiness index. These indices usually integrate various social, cultural, psychological, and political aspects and are considered of vital importance for evaluating a country's level of development and for assessing the impact of policy specially in public sector. Overall, they consist of numerical measures that describe the well-being of both the individual and the society as a whole.

The Special Issue of Socio-Economic Planning Sciences encourages original research articles of high quality that provide innovative quantitative and qualitative methodologies based on optimization/non-optimization, statistical learning, econometrics, and heuristics.

Topics include but are not limited to:

- Big Mac Index
- Competitiveness Index
- Corruption Perception Index
- Country Risk Index
- Democracy Index
- Doing Business Index
- GINI Index
- Global Entrepreneurship Index
- Global Marketing Index
- Happiness Index
- Human Development Index
- Index of Economic Freedom
- Social Progress Index, and so on.

As such, the Special Issue focuses on the conceptualization and development of new indices for the betterment of the public and/or novel algorithms/approaches that integrate or refine the above indices and/or novel ways of using the existing indices to improve the public policies that serve the greater good. Moreover, **this special issue is intended for articles that go beyond purely suggesting a new/modern/revised index with the economics view and conceivably validating it using real life vital data sets**; hence, articles that eventually help policy-makers to not only gain an advanced understanding of the ways that would unleash greater long-term social success, but also propose strategies that would create the conditions for the betterment of the public are encouraged.

Contributions from both the academic and the practitioner communities are encouraged. Submitted articles should include a separate section on implications for public policy and, among others, the section should discuss the tie between the proposed indices and the decision strategies in view of public policy.

### **Important Dates**

31 January 2018 - Submission Deadline

30 April 2018 - Notification of first round of review results

30 September 2018 - Final acceptances after second round of review

### **Editorial Process**

Manuscripts need to be submitted via <https://www.journals.elsevier.com/socio-economic-planning-sciences> by choosing Article Type “Indices”. Early submission recommended, referee process starts once the paper received, accepted papers will be published individually online as they are accepted. Submitted papers will be peer-reviewed in the same manner as any other submission to a leading international journal. The major acceptance criterion for a submission is the quality and originality of the contribution.

## **Operations Research for Health Care: Special issue on “Multi-Criteria Decision Making in Health Care”**

### **Guest Editors:**

- Melanie Reuter-Oppermann, Karlsruhe Institute of Technology - [melanie.reuter@kit.edu](mailto:melanie.reuter@kit.edu)
- Sebastian Rachuba, University of Exeter - [sebastian@rachuba.de](mailto:sebastian@rachuba.de)
- Andrea Raith, University of Auckland - [a.raith@auckland.ac.nz](mailto:a.raith@auckland.ac.nz)

### **Context:**

The development and use of new models and concepts to support decision making in health care has constantly increased over the last decades and a variety of techniques has been applied including optimisation, simulation paradigms, and hybrid approaches. In general, quantitative decision support in health care very often needs to consider different criteria to evaluate whether a solution (e.g. a schedule or a network of locations) is good or optimal. In the assessment of solution quality, sometimes different stakeholder’s views also need to be captured.

It has been stated in the literature that decision making in health care is, in fact, a multi-criteria decision problem. However, only a few studies do explicitly reflect on this or even critically discuss why a problem is of multi-criteria nature and how it should best be approached. Also, as health care problems address real world issues, the usefulness of such multi-criteria approaches for practitioners and the way solutions are presented and used is of crucial, yet often neglected, importance.

Hence, this special issue aims to collect articles which explicitly address the mentioned issues around multi-criteria decision making in health care. We invite discussions on how multiple criteria are selected, how they are modelled and which approaches can be used to solve the problems. Submissions should also provide insights from the collaborating health practitioners’ perspective, e.g. did the model meet their requirements, and what were necessary simplifications, reductions, or extensions to the set of criteria that was used. Contributions should use dedicated



multi-criteria approaches or discuss trade-offs between performance metrics. Finally, we encourage authors to discuss how their solutions have been presented to and used by decision makers.

This special issue “Multi-Criteria Decision Making in Health Care” aims to publish recent advances in the development and use of models and approaches in health care where multiple criteria are explicitly taken into account. We would like to invite both researchers and practitioners who develop and use operations research in health care to submit their work to be published in this special issue.

Possible application areas include, but are not limited to:

- Location problems in health care
- Operating room planning and scheduling
- Physician and staff scheduling or rostering
- Appointment planning
- Emergency department modelling
- Home care and long term care
- Emergency medical service systems
- Health care logistics
- Radiation therapy
- Screening and prevention

We welcome the submission of case studies, in particular when lessons learned from using multi-criteria decision analysis are shared. We invite researchers to submit their work to this special issue as an opportunity for publishing in a high quality journal. Submitted papers should fulfil the scope of Operations Research for Health Care (ORHC) as stated on the journal's homepage (a guide for authors is available [here](#)).

Submissions:

Please submit your full papers for ORHC through <http://ees.elsevier.com/orhc/>. Select the article type option for special issue from the drop down menu “Special Issue: MCDM in Health Care”.

Submission Start Date: 1st July 2017

Last Date for Submission: 30th November 2017

### **[IISE Transactions on Healthcare Systems Engineering: Special issue titled, “Advanced Sensing, Systems Modeling, and Ergonomics for Smart and Connected Health”](#)**

*IISE Transactions on Healthcare Systems Engineering*, in collaboration with the *IISE Transactions on Occupational Ergonomics and Human Factors*, invites researchers, clinicians, scientists and engineers to submit their innovative research papers on topics related to smart and connected health. This special issue will bring together outstanding research in sensing, system modeling, ergonomics, information technology, statistics, data analytics, operations research, systems engineering, and social science to address problems such as: (1) developing new generations of health technologies, (2) identifying patient risks, (3) improving healthcare outcomes, (4) enabling better clinical processes, (5) optimizing clinical decision making, and (6) providing information to enhance patient safety and quality.

**Topics of interest include, but not limited to:**

Clinical decision modeling  
Machine learning with health-related data  
Multi-scale modeling  
Behavior and decision analysis  
Agent-based modeling  
Sensor-based modeling and analysis  
Healthcare and ergonomic improvement  
Care-delivery processes  
Medical decision making  
Protocol adherence

All papers should be submitted through the journal's ScholarOne online submission website at <https://mc.manuscriptcentral.com/uhse>. During the online submission process, please use the appropriate prompt to indicate that a submission is for this special issue.

**Timeline:**

Optional Letter of Intent	September 15, 2017
Submission of Manuscripts Due	December 31, 2017
Notification of First Review Decision	March 15, 2018
Final Revision	April 30, 2018
Final Paper Acceptance Decision	June 30, 2018
Expected Publication	Fall 2018

**Guest Editors:**

For any questions about this special issue, including questions about the relevance or suitability of a planned submission, please contact one of the Special Issue Editors below:

W. Art Chaovalitwongse, University of Arkansas, [artchao@uark.edu](mailto:artchao@uark.edu)  
Geb W. Thomas, University of Iowa, [gthomas@iowa.uiowa.edu](mailto:gthomas@iowa.uiowa.edu)  
Hui Yang, Pennsylvania State University, [huy25@psu.edu](mailto:huy25@psu.edu)  
Shengfan Zhang, University of Arkansas, [shengfan@uark.edu](mailto:shengfan@uark.edu)

## **Recent special issues related to PSOR**

The deadlines have passed for several journal issues that focus on PSOR-related topics, and these issues are briefly described below.

Gerald Midgley of the University of Hull, UK, and Michael Johnson of the University of Massachusetts Boston recently edited a forthcoming special issue of *European Journal of Operational Research* titled “Community Operational Research: Innovations, Internationalization and Agenda-Setting Applications”. According to Dr. Michael Johnson, “The issue will serve to define the state of art for community-focused and community-engaged OR that I think embodies the spirit and values of public-sector operations research.”



Another special issue of *European Journal of Operational Research*, titled “OR Applied to Humanitarian Operations,” is in the editorial process humanitarian logistics, in the editorial process. The guest editors are Luk N. Van Wassenhove of INSEAD, (deadline has ended for submissions) edited by Luk Van Wassenhove of INSEAD, Alfonso Pedraza-Martinez of Indiana University, and Maria Besiou of Kuehne Logistics University. According to the call for papers, “The objective of this special issue is to publish rigorous research that is well-grounded in practical foundation, for example by using real data, assumptions that are convincingly grounded in reality, looking for solutions to specific problems that the humanitarian system is facing, discussing how the results are validated and can be used in the field.”

A special issue of *IIE Transactions Focus Issue on Scheduling and Logistics*, with contributions to humanitarian logistics, is in the editorial process. The editors of this issue are Rajan Batta of University at Buffalo, Bahar Yetis Kara of Bilkent University, and Simin Huang of Tsinghua University. According to the call for papers, “The purpose of this special issue is to publish rigorous research around emerging themes in the area of Humanitarian logistics, such as the process of planning, implementing, and controlling the efficient, cost-effective flow and storage of goods, and materials, as well as related information, from point of origin to the point of consumption for the purpose of alleviating the suffering of vulnerable people.”

## New Officers

Congratulations to the newly elected PSOR officers for 2018:

- President: **Vedat Verter**, McGill University, [vedat.verter@mcgill.ca](mailto:vedat.verter@mcgill.ca)
- President-Elect: **Nan Kong**, Purdue University, [nkong@purdue.edu](mailto:nkong@purdue.edu)
- Senior VP Programs: **Shengfan Zhang**, University of Arkansas, [shengfan@uark.edu](mailto:shengfan@uark.edu)
- Junior VP Programs: **Jagpreet Chhatwal**, Harvard Medical School, [JagChhatwal@mgh.harvard.edu](mailto:JagChhatwal@mgh.harvard.edu)
- VP Communications: **Muer Yang**, University of St. Thomas, [yangmuer@stthomas.edu](mailto:yangmuer@stthomas.edu)
- Secretary/Treasurer: **Jessica Heier Stamm**, Kansas State University, [jlhs@k-state.edu](mailto:jlhs@k-state.edu)

## From the Editor

As we near the end of 2017, I hope it has been a good year for the PSOR members both personally and professionally. As 2018 kicks off, please consider letting the incoming VP of Communications know about your successes (e.g., awards, milestones, publications, calls for papers, etc) so that future issues of “The Briefing” can highlight your accomplishments.

Best,

Andreas Thorsen  
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