

## CORS·SCRO

Canadian Operational Research Society Société canadienne de recherche opérationnelle

# The Bulletin

VOLUME 52, NUMBER 4 – NOVEMBER 2018 ISSN 0315-1417

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#### **VOLUME 52 NUMBER 4 NOVEMBER 2018**

#### IN THIS ISSUE

Dear CORS members,

In this issue, we open the call for nominations for next year's deserving CORS award winners. If you know of an individual or organization that has made a significant contribution to operational research, or an individual who has made outstanding contributions to the Canadian Operational Research Society itself, then please ensure that they get the recognition they deserve by submitting a nomination.

Secondly, the 2019 CORS conference countdown is on, and registration opens this month. Be sure to check out more details about some of the highlighted speakers, the planned program, and details on how to submit your abstracts. You will also find submission instructions for the CORS Practice Prize and Student Paper Competition, and the Health Care and Queueing student competitions.

Lastly, read all about the Southwest Ontario Chapter's workshop on smart cities analytics, and the Montreal Student Chapter's award from INFORMS and their first scientific writing activity.

As always, if you have content you would like to see in the next bulletin, please submit it to me at AndreaFriars@gmail.com.

Cheers.

Andrea Friars

**Editor** Andrea Friars

CORS/SCRO <u>Publisher</u>

PO BOX/CP 2225, STN/SUCC D

Ottawa, ON K1P 5W4

Distributor Erla Anderson

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Student Paper Nadia Lahrichi, Tamon Stephen

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Program

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operational-research-society

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#### VOLUME 52 NUMBER 4 NOVEMBER 2018

#### THE 2018–2019 COUNCIL

CORS Council consists of the officers of the society, four councillors, the immediate past president, a representative designated by each local section and chapter of the society, and the standing committee chairs. Contact information for council representatives is below. See <a href="https://www.cors.ca">www.cors.ca</a> for a complete listing.

President Mehmet Begen, Western University, mbegen@ivey.uwo.ca

Vice-President Stanko Dimitrov, University of Waterloo, sdimitro@uwaterloo.ca

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Councillor Anjali Awasthi, Concordia University, anjali.awasthi@concordia.ca

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Québec Irène Abi-Zeid, Université Laval, irene.abi-zeid@osd.ulaval.ca

Montréal Miguel Anjos, École Polytechnique de Montréal, miguel-f.anjos@polymtl.ca

Ottawa Dragos Calitoiu, Carleton University, calitoiu@math.carleton.ca

Kingston Mohan Chaudhry, Royal Military College of Canada, chaudhry-ml@rmc.ca

Toronto Vahid Sarhangian, University of Toronto, sarhangian@mie.utoronto.ca

Southwest Ontario Joe Naoum-Sawaya, Western University, jnaoum-sawaya@ivey.ca

Winnipeg Currently vacant

Saskatoon Hamed Samarghandi, University of Saskatchewan, samarghandi@edwards.usask.ca

Calgary Owen James, Associated Engineering, jameso@ae.ca

Edmonton Armann Ingolfsson, University of Alberta, armann.ingolfsson@ ualberta.ca

Vancouver Stuart Donald, University of British Columbia, stuart.donald@sauder.ubc.ca

Toronto Student Kyle Booth, University of Toronto, kyle.booth@mail.utoronto.ca

Christopher Sun, University of Toronto, christopher.sun@mail.utoronto.ca

Waterloo Student Danielle Ripsman, University of Waterloo, daripsman@uwaterloo.ca

Québec Student Currently vacant

Montréal Student Carlos Armando Zetina, Concordia University, c\_zetina@encs.concordia.ca



#### PRESIDENT'S MESSAGE

Greetings Dear Colleagues,

I cannot believe it is almost November! Time indeed flies! The fall semester is more than half-gone and beautiful trees with yellow, green and orange leaves remind us that winter is coming! I really like fall in Canada with these spectacular color changing trees!

We had our first council meeting in August and are getting prepared for our next meeting in November. These meetings are Skype meetings and we will meet face to face in Toronto in January for a full day. The council members are working on items such as a CORS privacy statement, a list of OR programs in Canada, looking for ways to increase productivity for the council, planning for future conferences, establishing the analytics SIG, daily business for CORS and more.



It is never early to plan for your next CORS conference! CORS 2019 will be in Saskatoon, Saskatchewan May 27-29 2019. I am quite excited about this conference and please do check its fantastic website for the details - https://www.cors2019.ca

We have a few announcements for CORS awards and competitions. Please refer to the bulletin for the details. We look forward to receiving your nominees for the awards and submissions for the competitions!

INFOR is our journal. Please consider being a reviewer and submitting your high quality papers to INFOR.

CORS needs you! Please get involved with CORS, CORS council, CORS SIGs (forestry, queuing, healthcare, and soon analytics), conference planning and more.

As always, we are all ears for your feedback for moving our profession and society forward. Please do let us know your suggestions and concerns.

I wish you well and high productivity with your courses, papers and other professional activities for the rest of the 2018 and beyond! Happy New Year!

Yours sincerely,

Mehmet A. Begen

Twitter: @CORS\_President Email: mbegen@ivey.uwo.ca

M. HiM Begin



# CORS



# Canadian Operational Research Society 61<sup>st</sup> Annual Conference

#### SASKATOON, SASKATCHEWAN

MAY 27-29, 2019

#### Conference Location:

Delta Hotels Bessborough 601 Spadina Crescent East, Saskatoon, SK



### **SAVE the DATE!**

On behalf of the 2019 Canadian Operational Research Society organizing committee, it is our pleasure to invite you to join us in stunning Saskatoon, Saskatchewan!

This lively urban hub is found on the banks of the South Saskatchewan River, surrounded by serene prairie grasslands and offering jaw-dropping horizons. As one of the sunniest cities in Canada, Saskatoon offers every opportunity to revel in its natural splendor, while the city's charming shops, local restaurants and public parks offer every modern amenity to the leisure seeker. Cruise the downtown and Meewasin Valley Trail on one of the complimentary hotel bicycles or explore the South Saskatchewan River via a river cruise.





www.cors2019.ca



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## **Speakers**





Michael A. Trick

Harry B. and James H. Higgins Professor of Operations Research; Dean, Carnegie Mellon University Qatar

## Impacting Business by Combining Predictive and Prescriptive Analytics

Operations Research has had tremendous impact on companies and organizations over its 70+ year history. Recent advances in algorithms, computing, and data capture have created an environment where our field can be even more influential. By combining predictive analytics, such as data mining and statistical approaches, with prescriptive analytics, such as optimization methods, our field can create systems that span multiple functions within an organization. I will discuss the key trends that are affecting the world of operational research, and illustrate the impact of those trends in my own work in sports scheduling, telecommunication design and other application areas.

#### Edward H. Kaplan

William N. and Marie A. Beach Professor of Operations Research, Professor of Public Health, and Professor of Engineering Yale School of Management

#### **Adventures in Policy Modeling!**

Policy Modeling refers to the application of operations research, statistics, and other quantitative methods to model policy problems. Recognizing that analyses of all sorts often exhibit diminishing returns in insight to effort, the hope is to capture key features of various policy issues with relatively simple "first-strike" models. Problem selection and formulation thus compete with the mathematics of solution methods in determining successful applications. I will review some personal adventures in policy modeling selected from public housing, HIV/AIDS prevention, bioterror preparedness, counterterrorism, and immigration policy.





#### CONFERENCE REGISTRATION

Registration opens November 15<sup>th</sup>, 2018. Sign-up to receive notifications!



www.cors2019.ca





# Program



#### Program-At-A-Glance

\*Subject to change

Sunday May 26, 2019	Monday May 27, 2019	Tuesday May 28, 2019	Wednesday May 29, 2019	
	Technical Sessions	Technical Sessions	Technical Sessions	
CHOW Canadian Healthcare Optimization Workshop	Harold Larnder Memorial Lecture	Plenary: Impacting Business by Combining Predictive and Prescriptive Analytics	Technical Sessions	Analytics Day (for Industry Professionals)
		Technical Sessions		
	Welcome Reception	CORS AGM	Plenary & Adventures in Pol	
	Technical Sessions	Technical Sessions	Technical Sessions	Analytics Day
	Technical Sessions	Technical Sessions	Technical Sessions	(for Industry Professionals)
	SIG Meetings	SIG Meetings		
		CORS Awards Banquet		

2019 CORS Conference Planning Committee		
General Chair	Kent Kostuk	Federated Co-operatives Limited
Program Chair	Hamed Samarghandi	Edwards School of Business, University of Saskatchewan
Council Chair	Fredrik Odegaard	Ivey Business School, Western University
Program Committee	Winfried Grassmann	University of Saskatchewan
Program Committee	Mehran Hojati	Edwards School of Business, University of Saskatchewan
Program Committee	Eman Almehadwe	University of Regina
Communications Manager	Peter Olynyk	Federated Co-operatives Limited
Conference Management Services	Events Par Excellence	

www.cors2019.ca







#### **ABSTRACT SUBMISSIONS**

Abstract submission open on November 15<sup>th</sup>, 2018. Sign-up to receive notifications!



Abstract Submission deadline: February 28, 2019
Abstract acceptance notification: March 21, 2019

Education and OR	Armann Ingolfsson	Alberta School of Business, University of Alberta
Energy, Natural Resources & the Environment	Ahmed Saif	Department of Industrial Engineering, Dalhousie University
Forestry and OR	Tasseda Boukherroub	Département de Génie Production Automatisée, Université du Québec
Healthcare Operations	Majid Taghavi	Department of Industrial Engineering, Dalhousie University
Business & Data Analytics	Gregory Paradis	Faculty of Forestry, University of British Columbia
Military, Defense & Security Applications	Rene Seguin	Center for Operational Research and Analysis, Defence Research and Development Canada / Government of Canada
Optimization and Network Analysis	Bernard Gendron Margarida Da Silva Carvalho	Département d'Informatique et de Recherche Opérationnelle, Université de Montréal
Scheduling and Constraint Programming	<u>Daria Terekhov</u> <u>Hossein Hashemi</u> <u>Doulabi</u>	Department of Mechanical, Industrial and Aerospace Engineering, Concordia University
Finance and Fintech	Roy Kwon	Department of Mechanical and Industrial Engineering, University of Toronto
Queuing Theory	Armann Ingolfsson Daniel Ding	Alberta School of Business, University of Alberta Sauder School of Business, University of British Columbia
Revenue Management - in honor of Prof. Jeff McGill	Mikhail Nediak Jue Wang	Smith School of Business, Queen's University
Stochastic Models and Simulation	Douglas Woolford	Statistical and Actuarial Sciences, Western University
Sports & Entertainment Analytics	Keith Willoughby	Edwards School of Business, University of Saskatchewan
Operations & Service Management	Xuan Zhao	Lazsridis School of Business and Economics, Wilfrid Laurier University
Transportation and Logistics	Manish Verma	DeGroote School of Business, McMaster University
Other Topics	Hamed Samarghandi	Edwards School of Business, University of Saskatchewan
Practice Prize Competition	Mikael Ronnqvist	Département de Génie Mécanique, Université Laval
Student Paper Competition - Open & Undergraduate Category	Anjali Awasthi	Faculty of Engineering and Computer Sciences, Concordia University

www.cors2019.ca





#### **CALL FOR NOMINATIONS**

#### HAROLD LARNDER PRIZE

The Harold Larnder Prize is awarded annually to an individual who has achieved international distinction in operational research. The prize winner delivers the Harold Larnder Memorial Lecture, on a topic of general interest to operational researchers, at the CORS Annual Conference. Harold Larnder was a well-known Canadian in wartime OR. He played a major part in the development of an effective, radar-based, air defense system during the Battle of Britain. He returned to Canada in 1951 to join the Canadian Defence Research Board and was President of CORS in 1966–67.

Please submit nominations by January 14, 2019 to:

Stanko Dimitrov, CORS Awards Committee Chair (sdimitro@uwaterloo.ca)

#### **OMOND SOLANDT AWARD**

The Omond Solandt Award is awarded to an organization, private or governmental, that is deemed to have made an outstanding contribution to operational research in Canada. Dr. Solandt was the founder and first chairman of the Defence Research Board (DRB). At various times in his life he headed the Science Council of Canada was a vice-chairman of Canadian National Railways (CNR), and Chancellor of the University of Toronto.

Please submit nominations by January 14, 2019 to:

Stanko Dimitrov, CORS Awards Committee Chair (sdimitro@uwaterloo.ca)

#### **CORS AWARD OF MERIT**

The Award of Merit acknowledges significant contributions of a current or past member of CORS to the profession of operational research. Significant contributions can include:

- being specially recognized as an operational research practitioner;
- the development of a methodology relevant to the use of operational research;
- the supervision and development of operational research competence in others;
- the promotion of operational research in Canada through talks, presentations, articles, books, or by other means;
- service to CORS at either the national or local level.

Please submit nominations by March 4, 2019 to:

Dionne Aleman, CORS Award of Merit Committee Chair (aleman@mie.utoronto.ca)



#### **ELDON GUNN SERVICE AWARD**

The Eldon Gunn Service Award is presented to Members of the Society who have made outstanding contributions of time and service to the Society, at the national or local level, as conference organisers or as editors of CORS publications. Eldon Gunn was a major contributor to the Society since the early 1980s and to operational research in Canada since the 1970s. He was one of the first recipients of the service award in 1987 after serving in Council and acting as conference chair for the 27<sup>th</sup> CORS Annual Conference in Halifax in 1985. He went on to serve as president of the Society in 1991, and continued his service with passion up until his passing in 2016.

If you know of anyone who has dedicated their time to CORS and who has a longstanding service record, please consider nominating him or her for the Eldon Gunn Service Award. CORS Council urges all local sections to consider and nominate their best candidates. Nominations should include the candidate's name, activities, positions and corresponding years of service. The Awards Committee will evaluate the submissions and bring forward potential recipients to Council for approval. Nominees will be evaluated based on a point system. As a guideline, winners should have 2000 or more points. Previous winners are not eligible for additional service awards. A list of past recipients can be found at https://www.cors.ca/?q=content/eldon-gunn-service-award-0

Please submit nominations by **March 4, 2019** to: **Stanko Dimitrov**, CORS Awards Committee Chair (sdimitro@uwaterloo.ca)

#### **POINT SYSTEM**

Responsibility	Points	Responsibility	Points
CORS Council		Publications	
President	500	Bulletin Editor	350
Vice-President	350	INFOR Editor	350
Secretary	300	Special Editions	150
Treasurer	300	Others	200
Councillor	250		
Appointed Member	200	Local Council	
Past-President	150	President	350
		Vice-President	250
International Conference		Secretary	200
Conference Chair	350	Treasurer	200
Committee Chair	300	Others	150
Committee Member	200	Past-President	100
National Conference		Miscellaneous	
Conference Chair	300	IFORS Executive	250
Committee Chair	250		
Committee Member	200		



#### **CORS PRIZES**

#### **CORS PRACTICE PRIZE**

The Practice Prize Competition recognizes the outstanding application of OR by practitioners in Canada and it attracts quality papers to the CORS Annual Conference.

**Award:** The Prize Committee will determine, at its discretion, First, Second and Honourable Mention awards and the distribution of up to \$1800 in prize money according to the extent to which the finalists have reported on a completed, practical application with results that had a significant, verifiable and (preferably) quantifiable impact on the performance of the client organization. Every member of the winning teams receives a certificate.

**Eligibility:** The applicant must be a resident of Canada. The submission must include work completed over the last two years, but the entire project may have taken place over a longer period. The project may include published work, but it cannot have been previously submitted to this competition.

#### **Application Instructions:**

## By March 8, 2019 submit e-copies of the following to Mikael Rönnqvist, Chair (mikael.ronnqvist@gmc.ulaval.ca):

- 1. An abstract, not exceeding 500 words, outlining the successful application of OR;
- 2. A letter from an executive of the client organization attesting that the application had an impact and giving permission for the project to be presented at the CORS Annual Conference:
- 3. The names, titles, phone numbers and email addresses of all authors and of at least one executive of the client organization.

## By March 29, 2019 the judging committee will select up to four finalists according to these criteria:

- 1. The challenge of the application of OR and the significance of the problem.
- 2. The quality of the analysis and modeling, and implementation of the results.
- 3. The impact on the client organization.

#### By May 10, 2019 the finalists must:

- 1. Submit a detailed written report, not exceeding 25 pages in the body, presenting a "case history" of the project describing its development from start to finish and focussing on the challenges and results.
- 2. Submit a one-page project summary, suitable for publication in the CORS Bulletin and on the CORS website.
- 3. Present the project at the Practice Prize Sessions at the CORS Annual Conference. On the basis of the written report and the oral presentation, the judges will determine the prizes to be awarded and announced at the banquet. The committee reserves the right not to award any prize.



#### CORS STUDENT PAPER COMPETITION

Each year CORS conducts a student paper competition to recognize the contribution of a paper either directly to the field of operational research through the development of methodology or to another field through the application of operational research. The competition serves to showcase the high quality of OR education in Canada as well as the excellence of the new generation of operational researchers. Prizes are awarded in two categories: Undergraduate and Open. MBA students (and other specialized master students) are encouraged to participate in the competition in the open category with their applied projects.

#### Requirements:

The applicant must be enrolled as a full-time student in a Canadian institution, in an undergraduate, masters, or PhD program during the school year 2018–2019. Canadians who are studying outside of Canada are also eligible. Applicants in undergraduate programs are eligible to apply in both categories: Open and Undergraduate.

#### **Application Instructions:**

#### **Open Category**

Chair: Nadia Lahrichi (nadia.lahrichi@polymtl.ca)

Application deadline: April 1, 2019

Fill out the online application form (http://cors.ca/?q=content/student-paper-competition). The form is automatically submitted to the Chair of the competition.

#### **Undergraduate Category**

Chair: Tamon Stephen (tamon@sfu.ca)

Deadline to indicate your intent to participate: March 1, 2019

Deadline to submit your full paper: April 1, 2019

Submit your intent to participate by sending an email with the title and abstract to spc@cors.ca



#### CORS STUDENT PAPER COMPETITION

#### The entry includes:

- 1. Abstract of 200 words or less. Author's name, address, phone number, and email address. Make sure the abstract clearly highlights the motivation, contribution, and potential impact of the paper.
- 2. Academic institution and supervisor's name, if applicable.
- 3. Indication of whether the author is planning to attend the CORS Annual Conference regardless of the outcome. Note that papers selected as Finalists must be presented at the conference in order to further be considered for First Prize or Honourable Mention.
- 4. Indication of whether the paper is submitted to a journal.
- 5. A PDF copy of the paper:
  - No longer than 35 pages (with minimum 1-inch margins, maximum 34 lines per page and minimum font size of Times 11) including all figures, tables, appendices, and references.
  - With separate title page containing the name of the authors, their coordinates and affiliations. Please ensure there are no identifiers on the other pages;
- 6. An email from the supervisor indicating that the participant is the first author of the paper should be sent to the Competition Chair.

#### **Selection Criteria:**

- Contribution of the paper either directly to the field of operational research through the development of methodology or to another field through the application of operational research
- Originality
- Writing style, clarity, organization and conciseness of the paper

#### Awards:

- Open Category: First Prize \$500, Honorable Mention \$100
- Undergraduate Category: First Prize \$200, Honorable Mention \$50
- All papers selected as Finalists receive a certificate.
- If an undergraduate wins the open competition, no undergraduate prize will be awarded. In the case of close competition, papers not winning an award may receive honourable mention.
- Finalists selected for the undergraduate category will be eligible to apply for partial funding to attend the CORS Annual Conference. The Education Chair will contact finalists with details.



#### CORS FUNDING OPPORTUNITIES

#### **GRADUATE STUDENT FUNDING**

CORS funds graduate students attending the CORS Annual Conference, using funds from SSHRC, when available. This funding is subject to availability and the following eligibility criteria:

- Student is a member of CORS, enrolled in a graduate program in a field related to operational research, studying at a Canadian university, or student is a Canadian citizen or permanent resident studying abroad
- Student must attend the CORS Annual Conference and present their registration receipt to receive any funding

The following criteria will be used to determine the amount awarded to each eligible applicant:

- If the applicant is presenting a paper at the conference.
- Travel cost from student's home city to the conference.

The application deadline is March 31, 2019

Anjali Awasthi, CORS Education Chair (anjali.awasthi@concordia.ca)

## TRAVELING SPEAKERS PROGRAM (TSP)

The TSP enables local sections to bring Canadian OR practitioners / researchers as speakers to their local events. In order to keep costs in line while maximizing the CORS national profile, CORS sponsorship will be limited to 50% of the total expenses, up to a maximum of \$500 per speaker or \$1000 for a single event (conference, workshop). Other expenses can be covered by the local section. The program of the event must acknowledge the contribution of CORS.

Each local section must contact the TSP coordinator to obtain approval for funding preferably at least one month in advance of the event date. Payment will be made by the CORS Treasurer upon receipt of the expense form (http://www.cors.ca/?q=content/traveling-speakers-program).

Dionne Aleman, TSP Coordinator (aleman@mie.utoronto.ca)



#### CORS SPECIAL INTEREST GROUPS

CORS Council approved a policy on Special Interest Groups (SIGs). A SIG provides a mechanism to promote CORS, the SIG area and the SIG members, as well as the opportunity for CORS members with common interests to interact and network.

#### SIGs formed so far include:

#### **CORS FORESTRY SIG**

Tasseda Boukherroub (tasseda.boukherroub@cirrelt.ca) École de technologie supérieure www.cors.ca/SIG/Forestry

#### CORS HEALTH CARE OPERATIONAL RESEARCH SIG

Sonia Vanderby (sonia.vanderby@usask.ca)
University of Saskatchewan
www.cors.ca/SIG/HCOR

#### **CORS QUEUEING THEORY SIG**

Qi-Ming He (q7he@uwaterloo.ca)
University of Waterloo
www.cors.ca/SIG/Queueing

If you would like to join a SIG, contact the people listed above, or indicate that you would like to join when you renew your CORS membership.

CORS encourages members with common interest in an area within or related to operational research to form additional SIGs. More information about SIGs can be found online at www.cors.ca/?q=content/communities

If you are interested in forming a SIG in a particular area, contact:

**Stanko Dimitrov**, SIG Committee chair (sdimitro@uwaterloo.ca)

Marco Bijvank, SIG Committee chair (marco.bijvank@haskayne.ucalgary.ca)



#### **SIG NEWS**

#### HEALTH CARE OPERATIONAL RESEARCH

#### **Student Presentation Prize**

The CORS Health Care Operational Research SIG oral presentation competition for graduate students emphasizes the importance of presentation skills and provides an opportunity for students to receive formal feedback, learn best practices from their peers, and be recognized for excellence in this area.

The goal is to have students demonstrate mastery of coherent and engaging presentations describing a completed research project on a significant healthcare topic within a five-minute time limit. The competition will involve structured abstract submissions judged on the quality of the research and its practical relevance. Judge-chosen finalists will be invited to present their five-minute presentation at the CORS Annual Conference.

The deadline for abstract submission is **April 1, 2019** with the announcement of finalists expected by **April 30, 2019**. Further information will be available on the website at <a href="http://www.cors.ca/SIG/HCOR">http://www.cors.ca/SIG/HCOR</a>

#### Canadian Healthcare Optimization Workshop (CHOW) 2019

CORS Health Care Operational Research SIG is proud to host the 3<sup>rd</sup> annual Canadian Healthcare Optimization Workshop in Saskatoon, SK on **May 26, 2019**. The one-day workshop will be followed by the CORS Annual Conference (May 27–29, 2019). The goals of the workshop are to provide a forum for researchers with a common interest in healthcare optimization and to promote the research of young scholars, with the aim of networking and sharing the latest advances with other researchers and practitioners in the field.

#### Healthcare Operational Research Sessions at the CORS Annual Conference

If you are interested in organizing a session on Healthcare Operational Research for the CORS Annual Conference, please contact the Healthcare SIG track organizer, Majid Taghavi at taghavi@dal.ca



#### VOLUME 52 NUMBER 4 NOVEMBER 2018

#### **QUEUEING THEORY**

#### 1. The seventh annual student prize competition

The submission deadline for this year's competition is **January 31, 2019**. Please send your submission to selection committee chair Dr. Gennady Shaikhet (gennady@math.carleton.ca).

The CORS Queueing Special Interest Group (SIG) is pleased to announce the seventh annual student prize competition, to be awarded at the CORS Annual Conference.

**Instructions**: Students should submit a copy of their paper, plus a letter from their supervisor attesting to their pivotal role and contributions to the results.

**Requirements**: The competition is for the best student-led paper submitted to a refereed publication, either a journal or the proceedings of a conference. Papers entered in the competition must have already been submitted by **December 31, 2018**. Papers do not need to be published at the time of submission; however, a letter indicating acceptance or soliciting a revision may be submitted along with the paper, as supplementary evidence of its merit. Papers that have appeared in print prior to 2018 will not be considered. A student may submit only one paper for consideration in any year.

**Eligibility**: Eligibility is restricted to: (i) full-time students (either at a Canadian institution or a Canadian studying outside of Canada) in good standing who do not yet hold their degree on the application deadline and (ii) students who are not previous recipients of a CORS Queueing SIG student prize.

Application deadline: January 31, 2019

**Judging**: Work will be judged by a three-member committee chaired by Dr. Gennady Shaikhet. All applications and questions should be sent to gennady@math.carleton.ca

#### 2. CanQueue 2018

CanQueue 2018 was held successfully in Edmonton, Alberta, from August 17 to 18, 2018. There were more than 21 participants from universities in Canada and the USA. A special session was held to honor Dr. Winfried Grassmann for his outstanding contributions in applied probability and numerical computation. Thanks go to conference chair Dr. Armann Ingolfsson and his organizing team.

#### 3. CanQueue 2019

We are pleased to announce that CanQueue 2019 will be held in Toronto in August 2019 and will be organized by Dr. Yiqiang Zhao. Conference information will be available soon.

#### 4. CORS Annual Conference

Queueing theory and applied probability stream. To propose sessions or submit your works to the conference, please contact cluster co-chairs: Dr. Armann Ingolfsson (armann.ingolfsson@ualberta.ca) and Dr. Yichuan Ding (daniel.ding@sauder.ubc.ca).



# SECTION AND CHAPTER NEWS SOUTHWEST ONTARIO SECTION

#### **Workshop on Smart Cities Analytics**

A workshop on Smart Cities Analytics was held at Ivey Business School on October 12, 2018 and was organized by Dr. Bissan Ghaddar and Dr. Joe Naoum-Sawaya. This event was sponsored by Western University, Ivey Business School, the Social Sciences and Humanities Research Council of Canada, and the Southwest Ontario Section of CORS.

The audience included faculty members and students from Western University, University of Waterloo, McMaster University, University of Toronto, Wilfred Laurier University, and Queens University.

After the welcome note of Associate Dean Prof. Robert Klassen, Prof. Anna Nagurney presented a talk on "Sustainable Supply Chain Networks for Sustainable Cities". Prof. Ivana Ljubic presented a talk entitled "Very Large Scale Covering Location Problems in the Design of Advanced Metering Infrastructure" followed by Prof. Pierre Pinson who presented a talk on "Community-Based and Peer-to-Peer Electricity Markets".

After the lunch break, Prof. Hani Mahmassani discussed the state-of-art research on future transportation systems in a talk entitled "Predictive Analytics for Real-time Urban Mobility: Autonomous, Connected, Electric, Shared" followed by Prof. Chaithanya Bandi who presented a talk on "Data Driven Analytics for Government".

The day was concluded by a session on disruptive technologies with a talk by Prof. Xianbin Wang entitled "Technical Challenges and Business Opportunities of Ubiquitously Connected Society" and a talk by Prof. Robert Shorten entitled "Distributed Ledger Technology, Cyber-Physical Systems, and Social Compliance".

Presentation slides may be downloaded at http://www.iveysmartcities.tk



## Speakers



Anna Nagurney
University of Massachusetts
Amherst



Ivana Ljubic ESSEC Business School



Pierre Pinson
Technical University of
Denmark



Chaithanya Bandi Kellogg School of Management



Hani Mahmassanni Northwestern University



Xianbin Wang University of Western Ontario



Robert Shorten
University College Dublin

## **Sponsors**



Conseil de recherches en sciences humaines du Canada









#### MONTREAL STUDENT CHAPTER

# Montreal Student Chapter receives an award from INFORMS and organizes the first scientific writing activity

The Montreal Operational Research Student Chapter has been awarded a Magna Cum Laude award by INFORMS, the Institute for Operational Research (OR) and the Management Sciences (M.S.), for their work in 2017.

The chapter gratefully acknowledges the financial support of CORS (http://www.cors.ca) and INFORMS (https://www.informs.org/) and its local collaborators GERAD (www.gerad.ca), CIRRELT (www.cirrelt.ca), the Canada Research Excellence Chair in Data Science for Real-time Decision Making (http://cerc-datascience.polymtl.ca/), the Mechanical, Industrial and Aerospace Engineering Graduate Student Committee (https://www.miaegsc-concordia.com/), and Concordia University (http://www.concordia.ca/).

During the 2017–2018 academic year, the Montreal Student Chapter held its first ever year-long OR / M.S. writing activity for graduate students. The activity was organized by Prof. Marilène Cherkesly and Carlos A. Zetina with the support of the Montreal OR Student Chapter (www.mtl-students.com), GERAD (www.gerad.ca), CIRRELT (www.cirrelt.ca), and the Canada Research Excellence Chair in Data Science for Real-time Decision Making (http://cerc-datascience.polymtl.ca/).

The activity served as a guided first experience for students through the peer-review process of scientific publishing. It consisted of several sessions held throughout the year, culminating in the submission of an extended abstract, which was judged by a panel of professors and a special session within the annual Journées de l'optimisation, in which four of the students presented the results of their research.



# OR/MS Scientific Writing Activity Activité de rédaction scientifique en sciences de la décision

#### Overview

This activity includes **two workshops** and a **competition** where students will learn about and experience the peer-reviewed publishing process guided by experienced faculty members. During the course of this activity, students will have to write a 4 to 6 page extended abstract on one of their research projects. The best extended abstracts will receive an award.

#### Important dates

October 27<sup>th</sup>, 2017 - Deadline for registration and submission of a 500-word abstract.

November 10<sup>th</sup>, 2017 - Workshop I by Prof. Gilbert Laporte "Writing a scientific paper" (First draft required).

February 16<sup>th</sup>, 2018 – Workshop II "Effectively responding to reviewers' comments".

March 2018 - Final submission.



The first session of the activity was a talk given by one of the most prolific scientists in our field, Prof. Gilbert Laporte, titled "Some Advice on Scientific Publishing". Prof. Laporte discussed important aspects of scientific writing, including organization of the paper, notational convention, and the general peer review process.

After this activity, participants had a month to prepare a 6–10 page extended abstract and submit it through our ad hoc submission system. The received abstracts were then distributed for peer review amongst the participants and organizers, with each paper being revised by at least two participants and one organizer. The reviews were then returned to the authors, and a special session was held in February for them to work on their final extended abstract considering the suggestions of the reviewers.



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The final part of the year-long activity consisted of the submission of the final extended abstracts, which were then reviewed by a panel of senior professors consisting of professors Marie-Ève Rancourt, Daria Terekhov, Sanjay Jena, Janosch Ortmann, and Ivan Contreras who ranked the best submissions. The final results were:

**1st place**: "Logic-based benders decomposition approach to two-stage flexible flow shop scheduling problem with unrelated parallel machines"— Yingcong Tan

**2nd place**: "A set partitioning for the home health care routing and scheduling problem" – Florian Grenouilleau

**3rd place**: "Stochastic lot-sizing problem with joint service level constraints" – Narges Sereshti

**Honorable Mention**: "A heuristic algorithm to solve the one-warehouse multi-retailer problem with an emission constraint"— Matthieu Gruson

**Honorable Mention:** "Optimizing the food distribution chain in Niger: A case study of the World Food Programme"– Élizabeth Gauthier

The presentations given at the annual Journées de l'optimisation were ranked by the attendees of the session. The two best presentations were:

**1st place** "A mathematical model for mobile clinic site evaluation in war zones" – Rosemarie Santa González.

**Honorable Mention:** "A robust optimization model for tactical capacity planning in an outpatient setting" – Nazanin Aslani

Students participating in the activity found it to be very fruitful, leading to the organization of the second year-long OR / M.S. scientific writing activity for the 2018–2019 academic year. This time, the event is also in collaboration with the local Montreal Section of CORS. Some modifications to the general scheme have been made, considering last year's feedback. The organizers and collaborators look forward to making it just as – or even more – beneficial for the participants.









## **OR/MS Scientific Writing Activity**

## Activité de rédaction scientifique en sciences de la décision

#### Overview

After a successful first year, the year-long writing activity is back...

The writing activity is a great opportunity to learn and experience the peer-reviewed publishing process guided by experienced peers. It includes a presentation by Prof. Laporte on writing scientific papers and includes two group meetings with peers and a faculty member to share ideas and guide the writing process.

#### Important dates

Sept 21st, 2018 - Presentation I "Writing a scientific paper" by Prof. Gilbert Laporte. RSVP @ https://tinyurl.com/y87uau4u

Oct 12th, 2018- Registration deadline. Sign up @ https://tinyurl.com/y9v2f6ko

Nov 2<sup>nd</sup>, 2018 - First writing group session. (Literature review, paper positioning, and contribution discussion)

Dec 14th, 2018- Extended abstract submission deadline and reviewer assignments.

Feb 1st, 2018- Second group meeting. (Reviewer feedback)

Mar 29th, 2018 - Final submission and JOPT registrations.

Organizers: Marilène Cherkesly Carlos A. Zetina



The Montreal student section also held other seminars, workshops, and tutorials in collaboration with local research centers and student groups, maintaining its collaborative spirit within the Montreal OR / M.S. ecosystem.

For further information contact us at or.students.montreal@gmail.com and stay tuned to our website (www.mtl-students.com) for details on the exciting events we have planned.

Don't forget to follow us on Facebook (https://www.facebook.com/ORMTLchapter/) and Twitter (https://twitter.com/OR\_MTLchapter) and if you are interested in volunteering, please sign up at the following form (https://goo.gl/forms/dHe8B79dfHAmELji2).



#### **MEETINGS AND CONFERENCES**

#### **CORS BUSINESS MEETINGS**

June 6, 2018	CORS Council Meeting, Halifax, N.S.
August 10, 2018	CORS Council Meeting, Teleconference
November 2, 2018	CORS Council Meeting, Teleconference
January 18, 2019	CORS Council Meeting, Toronto, Ont.
March 8, 2019	CORS Council Meeting, Teleconference
April 12, 2019	CORS Financial Planning Committee Meeting
May 10, 2019	CORS Council Meeting, Teleconference
May 26, 2019	CORS Council Meeting, Saskatoon, Sask.
May 27, 2019	CORS Council Meeting, Saskatoon, Sask.
May 28, 2019	CORS Annual General Meeting, Saskatoon, Sask.

#### **CORS ANNUAL CONFERENCES**

May 27, 20, 2010 CORS Annual Conference, Saskatoon, Sask.

May 27–29, 2019 https://www.cors2019.ca/

2020 CORS Annual Conference, Toronto, Ont.

2021 CORS Annual Conference, TBA

2022 CORS Annual Conference joint with INFORMS International, TBA

## WWW CONFERENCE LISTINGS

CORS: www.cors.ca/?q=content/cors-annual-conferences

INFORMS: www.informs.org/attend-a-conference

IFORS: www.ifors.org/web

Netlib Conference Database: ftp://ftp.cc.ac.cn/netlib/confdb/Conferences.html

SIAM: www.siam.org/meetings/calendar.php

POMS: www.poms.org/conferences

EURO: www.euro-online.org/web/pages/460/calendar



#### THE NEXT ISSUE

The next issue of the Bulletin is scheduled to appear in **February**. Along with the regular features and news from the local sections, it will include more information about the next CORS Annual Conference. Contributions to this issue, especially news on the activities of local sections or CORS members, should be submitted by **January 18, 2019** to:

Andrea Friars
Editor, CORS Bulletin
11 Sawgrass Drive
Oakfield, NS B2T 0G1
Phone: 902-895-8430 ext. 3236

Email: AndreaFriars@gmail.com

The preferred method of submission is by an MS Word attachment to an email.

#### CORS BULLETIN TRANSLATION POLICY

Items that are CORS business will be translated into English and French. All other items will be published in the language they are submitted in.

#### CORS BULLETIN ADVERTISING POLICY

Ads cost \$120 per page, proportional for fractional pages. Logos and prepared layouts can be accommodated. This fee also includes distribution of the advertisement on the CORS ListServ. Direct inquiries to the Editor.

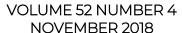
#### **CORS LISTSERV**

As a benefit of membership, members may use the CORS ListServ to transmit messages, announcements, and job postings to the entire membership or to a targeted subgroup such as a local section. For example, you can send

- messages regarding the activities and business of the society;
- announcements about conferences, conference sessions, special journal issues, seminars or other activities provided that these are related to operational research in its broadest sense;
- job postings of general interest to CORS members.

The ListServ is not used for commercial purposes, and all messages are vetted before they are sent out. To submit items to the ListServ, email CORS Membership Services at members@cors.ca

For non-members, a fee of \$60 is charged for the distribution of job postings and other announcements or messages of interest to the CORS membership.



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The **Canadian Operational Research Society** was founded in 1958. Its goal is to advance the theory and practice of OR and to stimulate and promote contacts between people interested in the subject.

Publications: A quarterly scientific journal called INFOR and a news Bulletin.

**Meetings**: An annual national conference with an award ceremony, occasionally organized jointly with an international society (IFORS, INFORMS), and numerous local events organized by local sections.

**Local Sections & Chapters**: CORS has twelve local sections located throughout Canada and four student chapters.

Awards and Prizes: CORS presents the following annual awards and prizes at its conference:

**Award of Merit** for significant contributions of a present or past member of CORS to the profession of OR.

Harold Larnder Award to an individual who has achieved international distinction in OR.

**Omond Solandt Award** to an organization, private or governmental, that is deemed to have made an outstanding contribution to OR in Canada.

**Practice Prize** for the challenging application of the OR approach to the solution of applied problems.

**Eldon Gunn Service Award** for outstanding contributions of time and service to the society.

**Student Paper Competition** to recognize the contribution of a paper either directly to the field of OR through the development of methodology or to another field through the application of OR.

**Graduate Student Funding**: CORS encourages attendance of graduate students at its conference by providing partial funding. Visit CORS website for details.

**CORS Diploma**: This diploma is awarded to students graduating from a university curriculum comprising several OR courses. Criteria may be found on the CORS website.

**Membership Directory**: An online directory of CORS members is available as a membership benefit.

**To join CORS**: Go to the CORS website and join online by credit card using the form found under membership or complete the PDF application form found on the CORS website and mail it with payment to the address below.

**Fees**: Member \$110; Retired Member \$55; Student Member \$45 (including post-doctoral fellows)

Website: www.cors.ca

INFOR: www.tandfonline.com/loi/tinf20

LinkedIn: www.linkedin.com/company/canadian-operational-research-society

Twitter: @CORS President