



CORS • SCRO

Canadian Operational Research Society  
Société canadienne de recherche opérationnelle

The  
Bulletin

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## TABLE OF CONTENTS

## PAGE

In This Issue	2
The 2018–2019 Council	3
President’s Message	4
Council Corner	6
Announcements	7
CORS Annual Conference in Saskatoon, Sask.	8
Call for Nominations	12
2019–2020 CORS Council	12
CORS Award of Merit	12
Eldon Gunn Service Award	13
CORS Practice Prize	14
CORS Student Paper Competition	15
CORS Funding Opportunities	17
Graduate Student Funding	17
Traveling Speakers Program	17
Special Interest Groups (SIGs)	18
SIG News	19
Forestry SIG David Martell Student Paper Prize in Forestry	19
Health Care OR SIG Student Presentation Prize	19
Section and Chapter News	21
Meetings and Conferences	24
The Next Issue	25
CORS Bulletin Translation Policy	25
CORS Bulletin Advertising Policy	25
CORS ListServ	25
About CORS	26



## IN THIS ISSUE

Dear CORS members,

In this issue, Mehmet's President's message includes an exciting update about the hard work being done to formalize the creation of our newest special interest group, the Analytics SIG. Read all about the ways in which you can get involved.

As the date for the Saskatoon CORS conference draws closer, the organizers have more details to share about the program, plenary speakers, early bird pricing, the venue, and accommodations. Check out the extensive information pages and follow the links to take advantage of super early bird pricing by February 14.

In preparation for the conference, the submission deadlines for abstracts and competitions are approaching fast. Review the detailed submission section to ensure that you don't miss an opportunity to participate at this year's conference.

We finish off with a great write up on two local chapter events that were held this past quarter in Saskatoon and Montreal.

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

Cheers,

Andrea Friars

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Membership	Bora Kolfal
Program	Stanko Dimitrov
Public Relations	Dionne Aleman
Publications	Samir Elhedhli, Elkafi Hassini, Andrea Friars
Past Presidents Advisory Board	Stanko Dimitrov, Jules Comeau, Marko Bijvank
SIG	Stanko Dimitrov, Marco Bijvank
Section Relations	Stanko Dimitrov, Bora Kolfal, Marco Bijvank, Sonia Vanderby
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Student Paper Competition	Nadia Lahrichi, Tamon Stephen
Award of Merit	Dionne Aleman, Mahmut Parlar, John Chinneck
Financial Planning	Sonia Vanderby, Dionne Aleman, Mehmet Begen, Stanko Dimitrov
Analytics	Jules Comeau
Industry	Mehmet Begen, Dionne Aleman, Hatem Ben Amor
Nominating Travelling Speakers Program	Dionne Aleman Dionne Aleman
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INFOR Bulletin Editor	<a href="http://www.tandfonline.com/loi/tinf20">www.tandfonline.com/loi/tinf20</a> Andrea Friars
IFORS Representative	Peter VanBerkel
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Web Administrator	Erla Anderson
Website	<a href="http://www.cors.ca">www.cors.ca</a>
LinkedIn	<a href="https://www.linkedin.com/company/canadian-operational-research-society">@CORS_President</a>
Twitter	<a href="https://www.linkedin.com/company/canadian-operational-research-society">@CORS_President</a>

## 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 [www.cors.ca](http://www.cors.ca) for a complete listing.

President	Mehmet Begen, Western University, <a href="mailto:mbegen@ivey.uwo.ca">mbegen@ivey.uwo.ca</a>
Vice-President	Stanko Dimitrov, University of Waterloo, <a href="mailto:sdimitro@uwaterloo.ca">sdimitro@uwaterloo.ca</a>
Secretary	Peter VanBerkel, Dalhousie University, <a href="mailto:peter.vanberkel@dal.ca">peter.vanberkel@dal.ca</a>
Treasurer	Sonia Vanderby, University of Saskatchewan, <a href="mailto:sonia.vanderby@usask.ca">sonia.vanderby@usask.ca</a>
Past-President	Dionne Aleman, University of Toronto, <a href="mailto:aleman@mie.utoronto.ca">aleman@mie.utoronto.ca</a>
Councillor	Bora Kolfal, University of Alberta, <a href="mailto:bkolfal@ualberta.ca">bkolfal@ualberta.ca</a>
Councillor	Jules Comeau, Université de Moncton, <a href="mailto:jules.comeau@umoncton.ca">jules.comeau@umoncton.ca</a>
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Montréal	Miguel Anjos, École Polytechnique de Montréal, <a href="mailto:miguel-f.anjos@polymtl.ca">miguel-f.anjos@polymtl.ca</a>
Ottawa	Dragos Calitoiu, Carleton University, <a href="mailto:calitoiu@math.carleton.ca">calitoiu@math.carleton.ca</a>
Kingston	Mohan Chaudhry, Royal Military College of Canada, <a href="mailto:chaudhry-ml@rmc.ca">chaudhry-ml@rmc.ca</a>
Toronto	Vahid Sarhangian, University of Toronto, <a href="mailto:sarhangian@mie.utoronto.ca">sarhangian@mie.utoronto.ca</a>
Southwest Ontario	Joe Naoum-Sawaya, Western University, <a href="mailto:jnaoum-sawaya@ivey.ca">jnaoum-sawaya@ivey.ca</a>
Winnipeg	Currently vacant
Saskatoon	Hamed Samarghandi, University of Saskatchewan, <a href="mailto:samarghandi@edwards.usask.ca">samarghandi@edwards.usask.ca</a>
Calgary	Owen James, Associated Engineering, <a href="mailto:jameso@ae.ca">jameso@ae.ca</a>
Edmonton	Armann Ingolfsson, University of Alberta, <a href="mailto:armann.ingolfsson@ualberta.ca">armann.ingolfsson@ualberta.ca</a>
Vancouver	Stuart Donald, University of British Columbia, <a href="mailto:stuart.donald@sauder.ubc.ca">stuart.donald@sauder.ubc.ca</a>
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## PRESIDENT'S MESSAGE

Dear Colleagues,

I am delighted to inform you about our newest CORS SIG (Special Interest Group), Analytics SIG (ASIG). ASIG was approved a week ago in Toronto during the CORS council's face-to-face meeting. I think ASIG has a great and exciting potential for OR researchers and practitioners. I would like to thank Greg Paradis (UBC), Jules Comeau (Université de Moncton) and many others who made this happen. One of the major tasks for ASIG is to plan for the Analytics Cluster at CORS 2019 in Saskatoon. Another challenge will be to recruit analytics practitioners for the group and establish connections between them and CORS. We request your help and suggestions to achieve these goals, and we are all ears. Please let us know your ideas, suggestions, and the ways you can help ASIG.



Preparations for CORS 2019 in Saskatoon, Saskatchewan are in full swing. The organizing committee has been working around the clock to put together a great program and conference experience for us. We have Professors Mike Trick (of Carnegie Mellon) and Edward Kaplan (of Yale) as the plenary speakers, and the Harold Lardner Award recipient will be announced shortly. Furthermore, we have the second Canadian Healthcare Optimization Workshop (CHOW) just before the conference and Analytics Day on the last day of the conference. As usual, our paper competitions (CORS and SIGs) are running during the conference. You can currently register with a promotion (Super Early Registration) until February 14, 2019 and submit abstracts until February 28, 2019. I am very excited about this conference and encourage you to check out its fantastic website for details <https://www.cors2019.ca>

Our journal, INFOR, is going strong under the leadership of co-Editors-in-Chief Samir Elhedhli (Waterloo) and Elkafi Hassini (McMaster). INFOR has expanded the number of pages per issue, and it is now ahead of its schedule. This is all great news, but our journal needs our help to improve its impact in the field. Please consider submitting your papers to INFOR.

We have listed OR (and OR related) programs (at undergraduate and graduate levels) in Canada on our website (<http://cors.ca/?q=content/or-programs>), as we receive this list request frequently (especially from students who are looking for a school where they can study OR). Please let us know about any omissions or errors in the list. We'll do our best to maintain it. Furthermore, now as a CORS member you can access previous ListServ messages once you log in at the CORS website [https://www.cors.ca/sites/cors\\_php/en/membership/i\\_member.php](https://www.cors.ca/sites/cors_php/en/membership/i_member.php)



The CORS Diploma is awarded by CORS to recognize CORS members who have successfully completed a program of study which has included a significant OR component. The goal of the CORS diploma is to encourage students to pursue an educational program in the field of OR. If you are a student or OR practitioner, please consider applying for the CORS diploma. And if you are a faculty member, please encourage your students to apply for the CORS diploma. For details please visit <http://cors.ca/?q=content/cors-diploma>

CORS needs you! Please get involved with the society, council, SIGs (forestry, queuing, healthcare, and ASIG), 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.

After coming to Canada (and especially after arriving in Ontario) I learned that temperature (both in the winter and summer) matters little. What matters is wind and humidity levels. It seems it is going to be pretty chilly (even with respect to only temperature levels) over the next few days (it is currently Jan 28, and perhaps these days will be over by the time you read this bulletin). Please keep warm in the remaining part of this Canadian winter, and I wish you well and high productivity with your courses, papers, and other professional activities.

Yours sincerely,

Mehmet A. Begen

Twitter: @CORS\_President



## COUNCIL CORNER

This section of the CORS Bulletin highlights recent discussions by the CORS Council and motions of particular interest that have been passed.

- Council passed a motion to found an Analytics Special Interest Group
- Council posted a listing of Canadian OR related courses and programs on [www.cors.ca](http://www.cors.ca)

## ANNOUNCEMENTS

### It's time to renew your CORS membership

The CORS website is ready to accept payment of membership fees for the upcoming year: **April 1, 2019 to March 31, 2020**. You may be able to use an NSERC grant to pay CORS membership dues.

Renew your membership at this link:

[http://www.cors.ca/sites/cors\\_php/en/membership/renewal.php](http://www.cors.ca/sites/cors_php/en/membership/renewal.php)

If you have any questions, contact Membership Services at [members@cors.ca](mailto:members@cors.ca)

### Access the journal INFOR

Current members receive an email message from Taylor and Francis with instructions to access the journal INFOR.

If you have any questions, contact Membership Services at [members@cors.ca](mailto:members@cors.ca)



# CORS



## Canadian Operational Research Society 61st Annual Conference

**SASKATOON, SASKATCHEWAN****MAY 27-29, 2019**

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 on a boat.

**280**

Presentations

**17**

Research Clusters

**70**

Sessions

**3**

Plenary Speakers

[www.cors2019.ca](http://www.cors2019.ca)**Stay Connected**  
Join our mailing list**CORS ANNUAL CONFERENCE**  
May 27-29, 2019, Saskatoon, Sask.

# Program and Speakers



*\*Subject to change*

Sunday May 26, 2019	Monday May 27, 2019	Tuesday May 28, 2019	Wednesday May 29, 2019	
CHOW Canadian Healthcare Optimization Workshop	Technical Sessions	Technical Sessions	Technical Sessions	Analytics Day (for Industry Professionals)
	Harold Larnder Memorial Lecture	Plenary	Technical Sessions	
	Welcome Reception	CORS AGM	Plenary & Lunch	
	Technical Sessions	Technical Sessions	Technical Sessions	Analytics Day (for Industry Professionals)
	Technical Sessions	Technical Sessions	Technical Sessions	Technical Sessions
	SIG Meetings	SIG Meetings		
		CORS Awards Banquet		

## Impacting Business by Combining Predictive and Prescriptive Analytics

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

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 ... [read more](#)



## Adventures in Policy Modeling!

**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

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 ... [read more](#)



[www.cors2019.ca](http://www.cors2019.ca)



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# Abstract Submissions



# A+

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

## CORS 2019 Conference Topics

- Education and OR
- Energy, Natural Resources & the Environment
- Forestry and OR
- Healthcare Operations
- Business & Data Analytics
- Military, Defense & Security Applications
- Optimization and Network Analysis
- Scheduling and Constraint Programming
- Finance and Fintech
- Queuing Theory
- Revenue Management - in honor of Prof. Jeff McGill
- Stochastic Models and Simulation
- Sports & Entertainment Analytics
- Operations & Service Management
- Transportation and Logistics

**Submit an abstract TODAY!**Visit [www.cors2019.ca/abstracts](http://www.cors2019.ca/abstracts)

### Canadian Healthcare Optimization Workshop (CHOW)

Sunday, May 26, 2019

We invite young academic scholars (doctoral students, post-doctoral researchers and non-tenured faculty) to submit working or research papers for presentation and discussion at the workshop.

Visit [www.cors2019.ca/chow](http://www.cors2019.ca/chow) for more information about CHOW and to submit a research paper.

### Analytics Day

Wednesday, May 29, 2019

Application focused presentations and discussions for Industry Professionals. CORS Conference registrations includes access to Analytics Day sessions.

[www.cors2019.ca](http://www.cors2019.ca)**Stay Connected**  
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# Conference Registration



# R+

Super Early Registration deadline:  
February 14<sup>th</sup>, 2019

## Registration dates and deadlines:

Super Early Registration - ends **February 14, 2019**

Early Registration - ends April 15, 2019

Regular Registration - ends May 25, 2019

Late Registration - May 26, 2019 to May 29, 2019

	Super Early	Early	Regular	Late
<b>CORS Student Member</b>	<b>\$200.00</b>	\$250.00	\$350.00	\$425.00
<b>CORS Member</b>	<b>\$400.00</b>	\$430.00	\$530.00	\$605.00
<b>CORS Retired Member</b>	<b>\$250.00</b>	\$300.00	\$400.00	\$475.00
<b>Non-Member Student</b>	<b>\$250.00</b>	\$300.00	\$400.00	\$475.00
<b>Non-Member</b>	<b>\$540.00</b>	\$590.00	\$690.00	\$765.00
<b>CHOW (for Conference Delegates)</b>	<b>\$75.00</b>	\$75.00	\$75.00	\$100.00
<b>CHOW (only)</b>	<b>\$100.00</b>	\$100.00	\$100.00	\$125.00
<b>Site Visit to FCFD</b>	<b>\$5.00</b>	\$5.00	\$5.00	\$5.00
<b>Analytics Day (industry professionals)</b>	<b>\$125.00</b>	\$125.00	\$125.00	\$150.00

## 2019 CORS Conference Planning Committee

<b>General Chair</b>	Kent Kostuk	Federated Co-operatives Limited
<b>Program Chair</b>	Hamed Samarghandi	Edwards School of Business, University of Saskatchewan
<b>Council Chair</b>	Fredrik Odegaard	Ivey Business School, Western University

Visit <https://www.cors2019.ca/committee> to view the entire list off the Organizing Committees and Cluster Chairs

[www.cors2019.ca](http://www.cors2019.ca)



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May 27-29, 2019, Saskatoon, Sask.



# Venue and Host Hotel



## Delta Hotels Bessborough

601 Spadina Crescent  
Saskatoon, SK



To RESERVE your room [online click here](#), or call the Delta at 1-888-890-3222 and 306-244-5521.

### IMPORTANT - Why Stay at the Official Conference Hotel?

We would like to request your assistance and support of CORS by booking your accommodations exclusively at the host hotel. Accommodations reserved outside of the CORS 2019 Annual Conference contracted conference block may seem less expensive but in reality, it jeopardizes the benefits you enjoy as an attendee: reduction in registration fees, costs for the conference, committees, and social activities as well as discounts on many of the items needed for the conference. Equally important is our ability to determine actual needs for future planning. If we don't fill our block, CORS is exposed to paying monetary penalty fees, which may jeopardize the program in future years. Your loyalty and cooperation are greatly appreciated.

If you somehow obtain a better rate than the one offered by the conference, please contact us and your stay will still be counted toward our required room count.

***Please support the conference and CORS by staying at the conference hotel.***

# See you in Saskatoon!

[www.cors2019.ca](http://www.cors2019.ca)



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CORS ANNUAL CONFERENCE  
May 27-29, 2019, Saskatoon, Sask.



## CALL FOR NOMINATIONS

### 2019–2020 CORS COUNCIL

There are four positions to fill for the 2019–2020 CORS Council. To nominate a CORS member to serve in one of these positions send his/her name and contact information **by March 11, 2019 to Dionne Aleman**, Past President ([aleman@mie.utoronto.ca](mailto:aleman@mie.utoronto.ca)); please make sure your nominee is aware of the nomination. Note that self-nominations are welcomed.

For more details regarding the various positions visit: [www.cors.ca](http://www.cors.ca); in particular see the Bylaws and Administrative Handbook online at [www.cors.ca/?q=content/library](http://www.cors.ca/?q=content/library) All nominees will be contacted and asked to provide a write-up for the May edition of the Bulletin.

#### **Vice-President (President Elect)**

The Vice President (one-year term) assists the President, participates in special projects and ad-hoc committees through the year, and takes over the role of President at the following Annual General Meeting (AGM). Only those who have served at least one year on Council shall be eligible for the office of Vice-President.

#### **Secretary**

The Secretary assists the President in organizing Council meeting agendas, taking the minutes during the Council meetings, and overall assistance with administrative duties. The position is for an unspecified term, but usually held for about 2-3 years.

#### **Two Councillors (Two-year term)**

A total of four councillors sit on council and participate in the management of the society. Often, councillors are called upon to chair or serve on ad hoc or standing committees, and work on special projects.

## 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](mailto: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](mailto:sdimitro@uwaterloo.ca))

### POINT SYSTEM

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





## 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](mailto: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 Process:**

#### **Open Category**

Chair: **Nadia Lahrichi** ([nadia.lahrichi@polymtl.ca](mailto: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](mailto: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](mailto: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.
7. Each student's advisor must participate in the paper review process for the competition. If an advisor cannot participate in the review process, the advisor is expected to find another qualified reviewer for the competition.

### 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.

Fill out the expense reimbursement form (<https://www.cors.ca/?q=content/graduate-student-funding>), and bring the form and your receipts to the 2019 CORS Conference registration desk.

The application deadline is **March 31, 2019**

Applicants who meet this deadline will be notified at least one month before the conference date whether their application was successful.

For more information, contact:

**Anjali Awasthi**, CORS Education Chair ([anjali.awasthi@concordia.ca](mailto: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 (<https://www.cors.ca/sites/default/files/documents/expenses.docx>).

Applicants fill out the application form (<https://www.cors.ca/sites/default/files/documents/tsp.docx>) and submit to:

**Dionne Aleman**, TSP Coordinator ([aleman@mie.utoronto.ca](mailto: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](mailto:tasseda.boukherroub@cirrelt.ca))  
École de technologie supérieure  
[www.cors.ca/SIG/Forestry](http://www.cors.ca/SIG/Forestry)

#### **CORS HEALTH CARE OPERATIONAL RESEARCH SIG**

Sonia Vanderby ([sonia.vanderby@usask.ca](mailto:sonia.vanderby@usask.ca))  
University of Saskatchewan  
[www.cors.ca/SIG/HCOR](http://www.cors.ca/SIG/HCOR)

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

Qi-Ming He ([q7he@uwaterloo.ca](mailto:q7he@uwaterloo.ca))  
University of Waterloo  
[www.cors.ca/SIG/Queueing](http://www.cors.ca/SIG/Queueing)

#### **CORS ANALYTICS SIG**

Gregory Paradis ([gregory.paradis@ubc.ca](mailto:gregory.paradis@ubc.ca))  
University of British Columbia

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](http://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](mailto:sdimitro@uwaterloo.ca))

**Marco Bijvank**, SIG Committee chair ([marco.bijvank@haskayne.ucalgary.ca](mailto:marco.bijvank@haskayne.ucalgary.ca))





## SIG NEWS

### FORESTRY

For information about the David Martell Student Paper Prize in Forestry, please see the website <http://www.cors.ca/SIG/Forestry/>

## HEALTH CARE OPERATIONAL RESEARCH

### Health Care Operations Research SIG Student Presentation Prize

The CORS Health Care Operations 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 quality of the research and its practical relevance. The structured abstract (no more than 300 words) should include the following subsections: problem definition, academic/practical relevance, methodology, results, and managerial implications.

Judge-chosen finalists will be invited to present a five-minute presentation at the 61<sup>st</sup> Annual CORS Conference in Saskatoon, SK (May 27 to 29).

The deadline for abstract submission is **April 1, 2019** with the announcement of finalists expected by **April 30, 2019**. Presentations should be submitted by email to [valerie.belanger@cirreil.ca](mailto:valerie.belanger@cirreil.ca)

### Canadian Healthcare Optimization Workshop (CHOW)

The Health Care Operational Research Special Interest Group (HCOR SIG) of the Canadian Operational Research Society (CORS) is proud to host the 3<sup>rd</sup> annual Canadian Healthcare Optimization Workshop in Saskatoon, Saskatchewan, on Sunday, **May 26, 2019**. This one-day workshop will be followed by the annual CORS conference, which will be held on May 27-29, 2019.

This workshop promotes the research of young scholars and provides a forum for researchers with a common interest in healthcare optimization to share the latest advances with other researchers and practitioners in the field. The workshop also connects researchers with practitioners to discuss innovative solutions and best practices that help improve the effectiveness of the healthcare system.



We invite young academic scholars (doctoral students, post-doctoral researchers, and non-tenured faculty) to submit working or research papers for presentation and discussion at the workshop. The submitted papers should not be already published or accepted for publication. The acceptance decision will be based on full paper submissions, which will undergo a review by a panel of experts. The papers can be analytical or empirical, methodological or applied.

Presentations will be scheduled in a single track. For each presentation, there will be a senior researcher who will act as a discussant and provide feedback. In addition to the presentations of young scholars, there will be a tutorial and roundtable discussions.

### **Key Deadlines**

- Full Paper Submission: **February 28, 2019**
- Notification of Acceptance: **April 15, 2019**
- Deadline to Update Accepted Papers: **April 30, 2019**
- Registration Deadline for Presenters: **April 30, 2019**

### **Submission Guidelines and Review Process**

- Submit by email to [CHOW.CORS.2019@gmail.com](mailto:CHOW.CORS.2019@gmail.com)
- Include the paper title in the subject line and attach the paper in a pdf format. Please name this file as <title\_name of presenting author>.pdf (e.g., "Optimal physician scheduling\_Smith.pdf"). The paper should include the paper title, and authors' names and contact information. The paper should not exceed 32 pages, including abstract and keywords, all references, tables, graphs, and appendices. Double-spacing (defined as at most 33 lines per page) should be used for the paper, including abstract and references.
- The paper will undergo an initial review process by an expert panel.
- The authors of papers accepted to the CHOW workshop may submit an updated paper version by **April 30, 2019** for distribution to the discussants.

### **Coordination with CORS Conference**

This is a great opportunity to give an additional presentation besides the presentation at the CORS 2019 Conference. Note that the same work may NOT be presented at both the CORS Conference and the CHOW Workshop. Authors of papers not accepted for presentation at the workshop, are given the opportunity to present their work at the CORS Conference. To this end, the authors should only make a single submission to the CHOW Workshop.

Please see the website for further details and to register: <https://www.cors2019.ca/chow> The registration fee for CHOW will be minimal to only cover additional expenses (C\$75+Sales Tax for CORS participants, and C\$100+Sales Tax for non-CORS participants).

For general inquiries and further information, please contact Alireza Sabouri at [alireza.sabouri@haskayne.ucalgary.ca](mailto:alireza.sabouri@haskayne.ucalgary.ca)



## SECTION AND CHAPTER NEWS

### Saskatoon

December 6, 2018

#### Simulation modeling unlocks value for the Jansen Potash Project

Sylvie C. Bouffard  
Marketing Manager, BHP  
Saskatoon, Saskatchewan, Canada

##### Abstract

BHP is developing the Jansen Potash Project in Saskatchewan. Jansen is being designed as an integrated production and logistics chain. Potash is intended to be mined underground, hoisted to surface, crushed, ground, floated, dried, screened, and compacted before being stored in a stockpile and later dispatched. Potash would be railed to North American markets and to an export port located on the North American West coast. Jansen is currently in the feasibility study stage and subject to approval by the BHP Board.

The project team and Wood Operations Analysis group have developed two sophisticated modeling tools to make informed decisions about the design of the mining, hoisting, processing, railing, and shipping systems. The Detailed Integrated Capacity Estimate (DICE) model is an Arena-based discrete-event simulation that estimates the production capacity of the integrated Jansen chain. The Simplified Linear Integrated Capacity Estimate (SLICE) model is an Excel-based static model of the same chain, best suited for quantifying the impact of risks and uncertainties to production. DICE and SLICE are complimentary. Through modeling, the project team justified the deferral of about \$300 million in capital expenses and estimated an increase of 15 to 20 percent of the production capacity in Jansen first stage of operations. This potential additional production added \$500 million to the net present value of Jansen Stage 1.

**Dr. Sylvie Bouffard** is currently Marketing Manager at BHP and formerly Manager of Studies Optimization. She was the owner of the DICE and SLICE models, responsible for defining the production capacity of Jansen, its future expansions, and future Greenfield potash operations. Sylvie has 20 years of experience in the mining industry, ten with BHP, in roles of increasing seniority in R&D, Projects, and Strategy and Development, and now Marketing, with the commodities of gold, nickel, copper, and potash.

She holds a doctorate in materials engineering from the University of British Columbia and a certificate in finances and economics from Ryerson University, Toronto. Sylvie is the author of more than 20 technical papers and a subject matter expert in heap leaching and ore agglomeration.

**Peter Boggis** is a Specialist, Process Engineering at BHP. Peter began his career at the Ekati Diamonds mine in the Northwest Territories, then relocated to Toronto and now lives in Saskatoon. He's worked for BHP for 6 years. Peter is the new owner of the said models, responsible for input governance, model planning, model quality assurance, and official simulations for endorsement. His mechanical engineering formation from the University of Alberta proved invaluable in defining DICE's unit operations and benchmarking maintenance inputs.



## Montreal

### Scientific activities:

The Montreal section organized two seminars in recent months, jointly with the GERAD and the CIRRELT:

1. *An MINLP and a continuous-optimization approaches for aircraft conflict avoidance via speed and heading angle deviations* given by Marcel Mongeau of the École Nationale de l'Aviation Civile (ENAC), France, on 30 October 2018:  
<https://www.gerad.ca/en/events/1637>



Dinner with the speaker on 30 October 2018.

From left to right: Miguel Anjos, Fabian Bastin, Marilène Cherkesly, Marcel Mongeau, Bernard Gendron.



2. Asymptotic optimality of order-up-to replenishment policies for serial inventory systems with lost sales given by Marco Bijvank of the University of Calgary, Canada, on 21 January 2019: <https://www.gerad.ca/en/events/1660>



Marco Bijvank in action on 21 January 2019.

**New Section President:**

Nadia Lahrichi of Polytechnique Montreal has assumed the position of President effective 1 January 2019: <https://www.polymtl.ca/expertises/en/lahrichi-nadia>

This change took place following the move of Miguel Anjos from Polytechnique Montreal to the University of Edinburgh, where he accepted the University's Chair of Operational Research. Welcome Nadia, and best wishes for a most successful presidency!





## 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 27–29, 2019	CORS Annual Conference, Saskatoon, Sask. <a href="https://www.cors2019.ca/">https://www.cors2019.ca/</a>
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](http://www.cors.ca/?q=content/cors-annual-conferences)

INFORMS: [www.informs.org/attend-a-conference](http://www.informs.org/attend-a-conference)

IFORS: [www.ifors.org/web](http://www.ifors.org/web)

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

SIAM: [www.siam.org/meetings/calendar.php](http://www.siam.org/meetings/calendar.php)

POMS: [www.poms.org/conferences](http://www.poms.org/conferences)

EURO: [www.euro-online.org/web/pages/460/calendar](http://www.euro-online.org/web/pages/460/calendar)



## THE NEXT ISSUE

The next issue of the Bulletin is scheduled to appear in **May**. 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 **April 19, 2019** to:

Andrea Friars  
Editor, CORS Bulletin  
11 Sawgrass Drive  
Oakfield, NS B2T 0G1  
Phone: 902-895-8430 ext. 3236  
Email: [AndreaFriars@gmail.com](mailto: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](mailto: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.



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](http://www.cors.ca)

**INFOR:** [www.tandfonline.com/loi/tinf20](http://www.tandfonline.com/loi/tinf20)

**LinkedIn:** [www.linkedin.com/company/canadian-operational-research-society](http://www.linkedin.com/company/canadian-operational-research-society)

**Twitter:** @CORS\_President