# CORS·SCRO

Canadian Operational Research Society
Société canadienne de recherche opérationnelle

# The Bulletin

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Dear CORS members,

Firstly, it's the last bulletin before the conference, and it's full of exciting details about what to expect in Saskatoon this year. The program is now live on the website, where you can read more about the CHOW and Analytics workshops, the guest speakers, and the accommodation options.

The councillor positions were determined by acclamation this year, and you can learn about the newest council members (including yours truly) in this issue. I look forward to delving into a new role with CORS this year!

Finally, we have some great updates on what the CORS sections have been up to this quarter. Get inspired by their great ideas!

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

# 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 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 | Jules Comeau, Université de Moncton, jules.comeau@umoncton.ca |
| Councillor | Anjali Awasthi, Concordia University, anjali.awasthi@concordia.ca |
| Councillor | Marco Bijvank, University of Calgary, marco.bijvank@haskayne.ucalgary.ca |
| Atlantic | Claver Diallo, Dalhousie University, claver.diallo@dal.ca |
| 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<br>Christopher Sun, University of Toronto, christopher.sun@mail.utoronto.ca |
| Waterloo Student | Danielle Ripsman, University of Waterloo, daripsman@uwaterloo.ca |
| Québec Student | Irène Abi-Zeid, Université Laval, irene.abi-zeid@osd.ulaval.ca |
| Montréal Student | Carlos Armando Zetina, Concordia University, c_zetina@encs.concordia.ca |

**CORS ANNUAL CONFERENCE**
May 27–29, 2019, Saskatoon, Sask.

# PRESIDENT'S MESSAGE

Greetings Dear Colleagues, Happy Spring!

I said Happy Spring, but it is chilly and windy in London, Ontario as I write this post. However, I do feel that things have turned, and the weather is about to change from winter to spring any moment.

I am very excited about our CORS annual meeting which will take place in a few weeks in Saskatoon, Saskatchewan. The preparations are in full swing and the organizing committee is working around the clock to make sure everything runs smoothly, and we have a great conference. Besides the fantastic program and the plenary speakers, we have a great program, many competitions, events, the Canadian Healthcare Optimization Workshop (CHOW) and the Analytics Day. As announced earlier, Professor Terry Rockafellar will be giving the Harold Larnder Memorial Lecture this year. You can find all the details at https://www.cors2019.ca and of course do not forget to register if you have not done so. There are many activities happening behind the scenes for the conference as well as CORS in general, e.g., budget preparation, future conference planning, student funding allocations, paper competition reviews, awards selection, membership renewals, SIG activities, section/chapter activities, INFOR operations, CORS bulleting editorship, CORS admin tasks, conference program scheduling, and more. I am grateful to CORS Council members, competition chairs and judges, conferences organizers, SIGs/sections/chapters, INFOR editors/reviewers, volunteers, and anyone else who has been involved in the many CORS activities, for their dedication, hard work, and making it all happen. Thank you all.

CORS needs you! Please get involved with CORS, CORS Council, CORS SIGs (Forestry, Queuing Theory, Healthcare, and 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 look forward to catching up with you at the CORS 2019 in Saskatoon, Saskatchewan in a few weeks.

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 interest that have been passed.

- The deadline for nominations for CORS Council positions was March 11, 2019. We have had one nominee per council position; hence, there will not be an election this year, and the candidates will be elected by acclamation.

# ANNOUNCEMENTS

### Don't forget 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. CORS members receive a registration discount for the CORS Conference (https://www.cors2019.ca/) Renew your membership at this link: http://www.cors.ca/sites/cors_php/en/membership/renewal.php

If you have any questions, contact Membership Services at 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

# CORS FUNDING OPPORTUNITIES

### TRAVELING SPEAKERS PROGRAM (TSP)

The TSP enables local sections to bring Canadian OR practitioners / researchers as speakers to their local events. 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)

# CORS

## Canadian Operational Research Society
## 61st Annual Conference

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

### R+

**CONFERENCE REGISTRATION**

Register TODAY!

www.cors2019.ca

### P+

**CONFERENCE PROGRAM is now LIVE**

Visit https://www.cors2019.ca/program-at-a-glance
to view the full conference program.

www.cors2019.ca

**Stay Connected**
**Join our mailing list**

# CORS 2019 - Program Highlights

## Canadian Healthcare Optimization Workshop

**CHOW**

Sunday, May 26

www.CORS2019.ca/chow

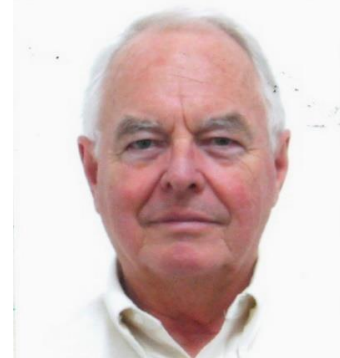## Risk and Reliability in Optimization Under Uncertainty

presented by Terry Rockafellar

**Harold Larnder Memorial Lecture**

Monday, May 27

www.CORS2019.ca/speakers

## Impacting Business by Combining Predictive and Prescriptive Analytics

presented by Michael Trick

**Plenary Speaker**

Tuesday, May 28

www.CORS2019.ca/speakers
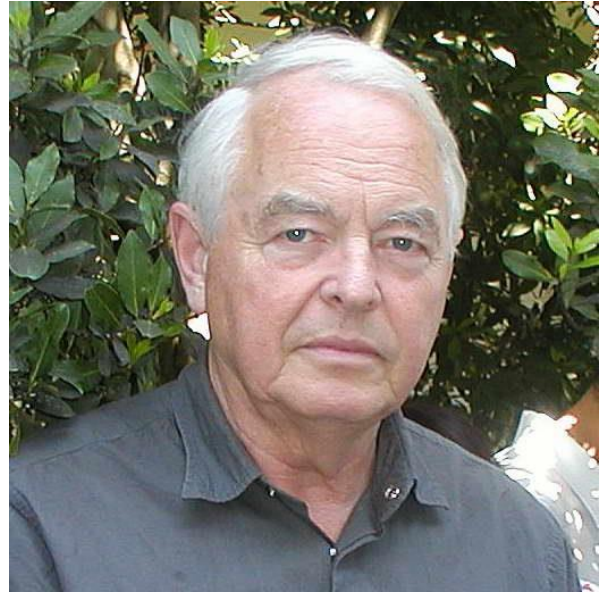
# HAROLD LARNDER AWARD WINNER
## R. Tyrrell Rockafellar

Ralph Tyrrell (Terry) Rockafellar has long been associated with the University of Washington, Seattle, where he is Professor Emeritus of Mathematics. He contributed in recent years as Adjunct Research Professor of Systems and Industrial Engineering at the University of Florida, Gainesville and as Honorary Professor of Applied Mathematics at Hong Kong Polytechnic University. His interests span from convex and variational analysis to problems of optimization and equilibrium, particularly applications in finance, engineering, and economics involving risk and reliability, along with schemes of problem decomposition in convex and nonconvex programming. In addition to winning the Dantzig Prize given jointly by SIAM and the Mathematical Programming Society (1983), Prof. Rockafellar has gained international recognition for his work through honorary doctorates bestowed by universities in several countries. INFORMS awarded him and Roger Wets the 1997 Lancaster Prize for their book *Variational Analysis*, and in 1999 he was further honored by INFORMS with the John von Neumann Theory Prize for his fundamental contributions to the methodology of optimization. He has authored over 250 publications, including one of the most highly cited books in mathematics, *Convex Analysis*.

### Risk and Reliability in Optimization Under Uncertainty

Problems of optimization are concerned with making decisions "optimally". In many situations in management, finance and engineering, however, the decisions must be made without knowing fully how they will play out in the future. When the future is modeled probabilistically, this leads to stochastic optimization, but the formulation of objectives and constraints can be far from obvious. A future cost or hazard indicator may be a random variable which a present decision can influence only in shaping its distribution in a limited way. For instance, it may be desirable to keep a hazard below a particular threshold, like building a bridge to resist earthquakes and floods, and yet it may be impossible or too expensive to guarantee that the threshold will never be breached. There needs to be a framework according to which the probability distribution a cost or hazard can be deemed "adequately" below the desired threshold. That is the role for so-called "measures of risk," which started to be developed for purposes like assessing the solvency of banks but now are being utilized much more widely. Measures of risk also offer fresh ways of dealing with reliability constraints, such as have traditionally been imposed in engineering in terms of bounds on the probability of failure of various manufactured components. Probability of failure has troublesome mathematical behavior in an optimization environment. Now, though, there is a substitute, called buffered probability of failure, which makes better sense and is much easier to work with computationally.

# NOMINEES FOR 2019–2020 CORS COUNCIL

## President by acclamation
## Stanko Dimitrov
Associate Professor
University of Waterloo



Stanko Dimitrov is an associate professor in the Department of Management Sciences at the University of Waterloo. His research lies in applying and developing optimization methods for problems in decision analysis, operations management, and production analysis. He holds a BSE in Computer Science and an MSE and PhD in Industrial and Operations Engineering, all from the University of Michigan-Ann Arbor. His research has been funded by NSERC, Mitacs, and NSF. He has been involved in various CORS student competitions since 2014. Most recently, he organized the open category competition in 2016 and the undergraduate competition in 2017 and 2018. He is currently finishing his second year as a CORS member of council. You can learn about Stanko by visiting his professional webpage: http://sd-research.uwaterloo.ca

## Vice-President by acclamation
## Michael Pavlin
Assistant Professor
Wilfrid Laurier University



Michael Pavlin is an assistant professor in the School of Business and Economics at Wilfrid Laurier University. He received his Ph.D. in Operations Management and M.Sc. in Computer Science from the University of Toronto. He also holds a B.Sc. from the University of British Columbia. Prior to joining Wilfrid Laurier University, he was a postdoctoral researcher at the University of Chicago. Michael's research uses game theory and structural econometrics to study applications in services, supply chains and energy markets. His work has been published or accepted at M&SOM, Financial Management and Management Science and has been funded by SSHRC and MITACS. His teaching focuses on business analytics.

## Secretary by acclamation
## Marko Bijvank
Assistant Professor
University of Calgary

Marco Bijvank is an assistant professor of Operations and Supply Chain Management at the Haskayne School of Business, University of Calgary. He holds an M.Sc. in Business Mathematics and Informatics (graduated Cum Laude) and a Ph.D. from the VU University Amsterdam. He has been a visiting scholar at Aarhus University, Denmark, post-doctoral researcher at the University of Montreal, and Assistant Professor at the Rotterdam School of Management, Netherlands. The two main research interests of Marco are supply chain management (in particular, inventory management and retail operations) and healthcare operations (in particular, emergency department operations). However, he also has an interest in pricing and revenue management. His research is supported by various grants from the University of Calgary and NSERC. He has served the CORS Calgary Chapter as secretary since 2016 and as vice-president since 2017. He was program co-chair for CORS 2016 in Banff.

## Councillor by acclamation (2019–2020)
## Andrea Friars
Operational Improvement Manager
Agropur

Andrea Friars is an operational improvement manager for the Agropur Dairy Cooperative. She first joined CORS as a student, while completing her MSc in Industrial Engineering from Dalhousie University. Her work developing a production and inventory planning model for an ice cream plant won the CORS practice prize. After entering the workforce, she took over the role of CORS Bulletin editor in 2014 and has been on top of the latest news with the society ever since. Her experience with the society and its members, as well as her position working in industry, will be a welcome addition to council.

## Councillor by acclamation (2019–2021)
## Jules Comeau
Professor
University of Moncton

Jules Comeau is an assistant professor of operations management in the Faculty of business at Université de Moncton. He received his Ph.D. in industrial engineering from Dalhousie University. His research involves the use of approximate optimization and machine learning techniques to solve stochastic problems in forestry and finance. His peer-reviewed publications include international conferences and journals. He is currently the CORS diploma coordinator for Université de Moncton and has been a long time CORS member, first as a student and subsequently as a professor. Fluently bilingual, his experience as a board member of several non-profit organisations and on CORS Council will help him continue to contribute positively to CORS.

## Councillor by acclamation (2019–2021)
## Mehmet Erdem Coskun
Senior Data Scientist
Operations Optimization & Decision Analytics
Manulife / John Hancock

Mehmet Erdem Coskun is a PHD candidate in Computational Engineering and Science at McMaster University. He holds a Master of Applied Science in Computational Engineering and Science from McMaster and a Bachelor of Engineering in Industrial Engineering from Yildiz Technical University, Istanbul, Turkey.

# 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

Timothy Chan (tcychan@mie.utoronto.ca)
University of Toronto
www.cors.ca/SIG/HCOR

### CORS QUEUEING THEORY SIG

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

### CORS ANALYTICS SIG

Gregory Paradis
University of British Columbia
www.cors.ca/SIG/Analytics

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)

CORS
Bulletin

# SIG NEWS

# HEALTH CARE OPERATIONAL RESEARCH

**Canadian Healthcare Optimization Workshop (CHOW) – May 26, 2019**

The Health Care Operational Research Special Interest Group of CORS is pleased to offer the 3rd annual Canadian Healthcare Optimization Workshop in Saskatoon on May 26, 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 consists of presentations by young scholars, a keynote presentation, and roundtable discussions. This workshop is sponsored by the Haskayne School of Business at the University of Calgary, and the Centre for Healthcare Engineering at the University of Toronto.

## Schedule

| | |
|---|---|
| **8:20 – 8:30** | **Welcome!** |
| 8:30 – 9:15 | **Technical Session**<br>**Model Fitting in Generalized Inverse Linear Optimization: Applications in Radiation Therapy,** Rafid Mahmood, University of Toronto |
| 9:15 – 10:00 | **Technical Session**<br>**New Decomposition Methods for Home Care Scheduling with Predefined Visits,** Florian Grenouilleau, École Polytechnique de Montréal |
| **10:00 – 10:30** | **Health Break** |
| 10:30 – 11:15 | **Technical Session**<br>**Dynamic Multi-Assessment Scheduling for Patient-Centered Care Plans,** Adam Diamant, York University |
| 11:15 – 12:00 | **Technical Session**<br>**Robust Direct Aperture Optimization for Radiation Therapy Treatment Planning,** Danielle A. Ripsman, University of Waterloo |
| **12:00 – 13:00** | **Lunch** |
| 13:00 – 14:00 | **Keynote**<br>**Top five challenges of modelling in healthcare**, Michael Cater, University of Toronto |
| 14:00 – 14:45 | **Technical Session**<br>**Scheduling of Physicians with Time-Varying Productivity Levels in Emergency Departments,** Marco Bijvank, University of Calgary |
| **14:45 – 15:15** | **Health Break** |
| 15:15 – 16:00 | **Technical Session**<br>**The Trade Off between Forecast Accuracy and Spatiotemporal Resolution for EMS Call Volumes,** Mostafa Rezaei, University of Alberta |
| 16:00 – 16:45 | **Technical Session**<br>**Resource Planning for Chemotherapy Service Delivery under Uncertain Patient Mix and Rising Volume,** Sudipendra Nath Roy, Western University |
| **16:45 – 17:30** | **Roundtable Discussion** |
| 18:00 – 19:30 | **Reception** |

# FORESTRY

We have a new FSIG president who will start in June 2019. We will organize the David Martell Student Paper Prize in Forestry at the 60th CORS annual conference.

# QUEUEING THEORY

The winner of the seventh CORS Queueing Theory SIG Annual Student Paper Prize is Eugene Furman from York University, supervised by Adam Diamant, with the winning paper titled "Customer Acquisition and Retention: A Fluid Approach for Staffing" submitted to Management Science in 2018. This paper is chosen for the prize for effectively combining ODE and integer programming to determine optimal staffing levels for multi class queueing networks in a time-varying environment.

The selection committee members are Drs. Gennady Shaikhet (Chair), Opher Baron, and Daniel Ding.

CORS Bulletin

# SECTION AND CHAPTER NEWS

## SASKATOON



## Travelling Salesman Problem with a Truck and a Drone

Presentation on March 7
Dr. Mehdi Behroozi
Assistant Professor, Dept. of Mechanical and Industrial Engineering
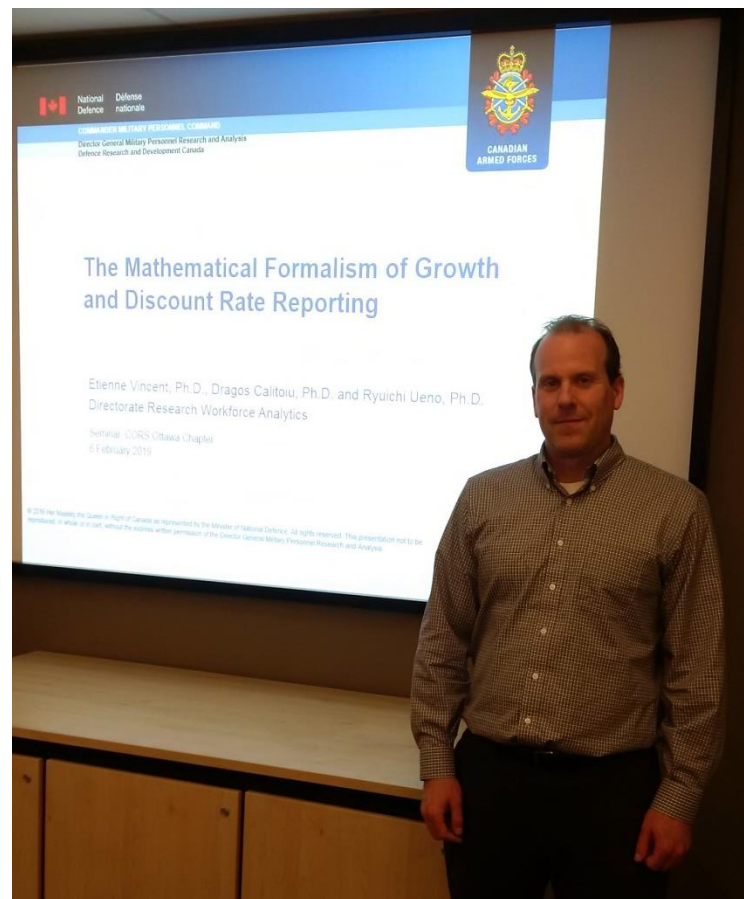Northeastern University, Boston

### Abstract

Unmanned Aerial Vehicles (UAVs), commonly known as drones, have opened up their way into the massive industry of parcel delivery. The contest on boosting the efficiency of delivery systems has been expanded in many different aspects. One of these recent aspects is to utilize unmanned ground vehicles or robots and unmanned aerial vehicles or drones in delivery of packages. The goal is to design efficient hybrid systems consisting of trucks, drones, robots, and humans for a faster, cheaper, and more reliable delivery service. The most attractive and applicable type of such hybrid systems is the combination of a truck and one or multiple drones. In this setting the truck, in addition to delivering packages itself, serves as a mobile launching base for the drones. Due to the technological complexity of such systems the current focus of the industry is on the combination of a truck and only one drone. In this talk, we study a travelling salesman problem with a drone in which a drone is dispatched from a delivery truck and while the truck is delivering the packages, the drone can also deliver a package and return to the truck after each delivery to pick up the next package. We present optimization models and heuristics to solve this problem. We show that the combination of a truck and a drone provides a much more efficient last-mile delivery service when compared to the truck-only delivery option under reasonable assumptions for the ratio of the speeds of the drone and the truck.

**Biography**

Mehdi Behroozi is an assistant professor in the Department of Mechanical and Industrial Engineering at Northeastern University. His primary research focuses on finding robust solutions and developing efficient algorithms for problems in geographic resource allocation, logistics, and transportation. The theoretical basis of his research relies on techniques from mathematical optimization, data analytics, computational geometry, and geometric probability theory. He is the recipient of the 2017 INFORMS Transportation Science & Logistics (TSL) Society Dissertation Prize, the 2016 INFORMS Energy, Natural Resources, and the Environment (ENRE) Section Student Paper Award, the third place in the 2017 IISE Pritsker Doctoral Dissertation Award, the second-place award in the 2016 INFORMS George Nicholson Best Student Paper Competition, and an honorable mention in the 2017 INFORMS George Dantzig Dissertation Award. He is an associate editor of the Journal of Industrial and Production Engineering (JIPE) and serves on different societies and committees at INFORMS.

# OTTAWA

On February 6, the CORS local section of Ottawa organized at University of Ottawa a seminar entitled "The mathematical Formalism of Growth and Discount Rate Reporting". The seminar was given by Dr. Etienne Vincent, Defence Scientist with Director General Military Personnel Research and Analysis, DND. In front of an audience composed by professors, students and defense experts, Dr. Vincent presented a few ideas derived for use in Workforce Analytics. In the analysis of Personnel Systems, discount rates are pervasive: attrition rates, promotion rates, transfer rates. However, these rates are defined differently by different authors. Without firm theoretical grounding, different formulas are commonly used to compute reported rates, or have been used within different mathematical models. Dr. Vincent introduced the weaknesses of some formulas that are used to compute discount rates (personnel attrition rates in particular) and showed why the choice of formula matters. Dr.



Vincent presented a survey of related fields for potential alternatives and then derived a general formula for growth and discount rates reporting. Finally, he briefly explored how the rates can be computed in practice and approximated in the absence of complete data.

# MONTREAL

Nadia Lahrichi is the new president of the Montreal Section.

+ We have now a new website for the Montreal section, not completed but up and running
http://www.cors.ca/Section/Montreal

+ We are organizing a new activity called Cocktail & discovery to be held in Montreal on May 14. All CORS members are invited. It's planned at 5:30pm at HEC Montreal. The flyer should be available very soon.

+ The section decided to support two student activities: Finance mathématique et computationnelle and AIROYoung.

AIROYoung is the youth chapter of AIRO, the Italian OR society. The third edition of the yearly AIROYoung workshop, held at Sapienza University in Rome in March 26 to 29, 2019, also featured a PhD School with four invited tutorials. Mathieu Tanneau from Polytechnique Montreal had the great opportunity to present his tutorial "From Math to code: workflow and implementation tips » to an international audience of PhD students, post-docs and young professionals.

The networking event for Finance mathématique et computationnelle was held in March 13, 2019 in Montreal. Panelists (also CORS members) were invited to speak on the industry of quantitative finance in Montreal.

# 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. 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 **August**. With regular features and news from the local sections, it will include information about the 2019 winners of CORS Awards and announce the 2019–2020 CORS Council. Contributions, especially news on the activities of local sections or CORS members, should be submitted by **July 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

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.

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