



CORS • SCRO

Canadian Operational Research Society

Société canadienne de recherche opérationnelle

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## TABLE OF CONTENTS

## PAGE

|                                         |    |
|-----------------------------------------|----|
| In This Issue                           | 2  |
| CORS Council                            | 3  |
| SIG, Section, and Chapter Presidents    | 3  |
| President's Message                     | 4  |
| Announcements                           | 5  |
| CORS Funding Opportunities              | 5  |
| Traveling Speakers Program              | 5  |
| CORS-INFORMS International Conference   | 6  |
| Harold Larnder Prize Winner: Ravi Ahuja | 7  |
| Nominees for 2022–2023 CORS Council     | 8  |
| 2022 Practice Prize Finalist Projects   | 10 |
| Special Interest Groups (SIGs)          | 12 |
| SIG News                                | 13 |
| Section & Chapter News                  | 15 |
| Meetings and Conferences                | 16 |
| The Next Issue                          | 17 |
| CORS Bulletin Policies                  | 17 |
| About CORS                              |    |



## IN THIS ISSUE

Dear CORS members,

In this issue, please find the final details for the June CORS conference in Vancouver. The time is almost upon us!

Secondly, the bulletin features a biography and detailed write up on this year's Larnder prize winner, Ravi Ahuja, including an introduction to his conference talk topic.

Next, the faces of the CORS council will change with the 2022-2023 year, and you'll find biographies and photos for all the nominees.

Finally, there are updates from the SIGs as they prepare for the conference, as well as two student chapters that hosted events this quarter.

Cheers,

Andrea

### Bulletin Editor

Andrea Friars

### Elected Officers

|                |                        |
|----------------|------------------------|
| President      | Jules Comeau           |
| Vice President | Peter VanBerkel        |
| Past President | Michael Pavlin         |
| Secretary      | Marco Bijvank          |
| Treasurer      | Gregory Paradis        |
| Councillors    | Samira Rahimi (20–22)  |
|                | Majid Taghavi (20–22)  |
|                | Nadia Lahrichi (21–23) |
|                | Masoud Chitsaz (21–23) |

### Standing Committees

|                          |                                         |
|--------------------------|-----------------------------------------|
| Awards                   | Peter VanBerkel                         |
| Education                | Nadia Lahrichi                          |
| Membership               | Samira Rahimi                           |
| Program                  | Peter VanBerkel (chair)                 |
|                          | Fatma Gzara                             |
|                          | Taraneh Sowlati                         |
| Public Relations         | Masoud Chitsaz                          |
| Publications             | Joe Naoum-Sawaya (chair), Andrea Friars |
| SIG Relations            | Peter VanBerkel                         |
| Past Presidents Advisory | Michael Pavlin (chair)                  |
| Board                    | Jules Comeau                            |
|                          | past presidents                         |

### Ad hoc Committees

|                      |                                         |
|----------------------|-----------------------------------------|
| Practice Prize       | Antoine Legrain                         |
| Award of Merit       | Michael Pavlin (chair)                  |
|                      | Mikael Rönqvist                         |
|                      | David Stanford                          |
| Student Paper        | Nadia Lahrichi                          |
| Competition          | Tamon Stephen (Open)                    |
|                      | Andre Cire (Undergraduate)              |
| Financial Planning   | Gregory Paradis (chair), Michael Pavlin |
|                      | Jules Comeau, Peter VanBerkel           |
| Industry             | Masoud Chitsaz (Kinaxis)                |
|                      | Fredrik Odegaard (Ivey Business School) |
|                      | Olivia Sengupta (Kinaxis)               |
|                      | Jeremy Adamson (WestJet)                |
| Nominating           | Michael Pavlin                          |
| INFOR Editor         | Joe Naoum-Sawaya                        |
| Travelling Speakers  | Peter VanBerkel                         |
| Program              |                                         |
| Micro Events         | Majid Taghavi, Samira Rahimi            |
| IFORS Representative | Marco Bijvank                           |

## CORS COUNCIL

CORS Council consists of the officers of the society, four councillors, the immediate past president, 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              | Jules Comeau, Université de Moncton, <a href="mailto:president@cors.ca">president@cors.ca</a>                             |
| Vice President         | Peter VanBerkel, Dalhousie University, <a href="mailto:vicepresident@cors.ca">vicepresident@cors.ca</a>                   |
| Secretary              | Marco Bijvank, University of Calgary, <a href="mailto:secretary@cors.ca">secretary@cors.ca</a>                            |
| Treasurer              | Gregory Paradis, University of British Columbia, <a href="mailto:treasurer@cors.ca">treasurer@cors.ca</a>                 |
| Past-President         | Michael Pavlin, Wilfrid Laurier University, <a href="mailto:mpavlin@wlu.ca">mpavlin@wlu.ca</a>                            |
| Councillor (2020–2022) | Samira Rahimi, McGill University, <a href="mailto:samira.rahimi@mcgill.ca">samira.rahimi@mcgill.ca</a>                    |
| Councillor (2020–2022) | Majid Taghavi, Saint Mary's University, <a href="mailto:Majid.Taghavi@smu.ca">Majid.Taghavi@smu.ca</a>                    |
| Councillor (2021–2023) | Nadia Lahrichi, École Polytechnique de Montréal, <a href="mailto:nadia.lahrichi@polymtl.ca">nadia.lahrichi@polymtl.ca</a> |
| Councillor (2021–2023) | Masoud Chitsaz, Kinaxis, <a href="mailto:masoud.chitsaz@cirrelt.net">masoud.chitsaz@cirrelt.net</a>                       |

## SIG, SECTION, & CHAPTER PRESIDENTS

|                         |                                                                                                                               |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Analytics SIG           | Gregory Paradis, University of British Columbia, <a href="mailto:cors.analytics.sig@01101.io">cors.analytics.sig@01101.io</a> |
| Forestry SIG            | Forough Abasian, FPInnovations, <a href="mailto:forough.abasian@fpinnovations.ca">forough.abasian@fpinnovations.ca</a>        |
| Health Care OR SIG      | Nadia Lahrichi, École Polytechnique de Montréal, <a href="mailto:nadia.lahrichi@polymtl.ca">nadia.lahrichi@polymtl.ca</a>     |
| Queueing Theory SIG     | Yichuan Ding, McGill University, <a href="mailto:daniel.ding@mcgill.ca">daniel.ding@mcgill.ca</a>                             |
| Atlantic                | Claver Diallo, Dalhousie University, <a href="mailto:claver.diallo@dal.ca">claver.diallo@dal.ca</a>                           |
| Quebec & Quebec Student | Irène Abi-Zeid, Université Laval, <a href="mailto:irene.abi-zeid@osd.ulaval.ca">irene.abi-zeid@osd.ulaval.ca</a>              |
| Montreal                | Nadia Lahrichi, École Polytechnique de Montréal, <a href="mailto:nadia.lahrichi@polymtl.ca">nadia.lahrichi@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                 | Hassan Anis, University of Toronto, <a href="mailto:hassan.anis@mail.utoronto.ca">hassan.anis@mail.utoronto.ca</a>            |
| Southwest Ontario       | Joe Naoum-Sawaya, Western University, <a href="mailto:jnaoum-sawaya@ivey.ca">jnaoum-sawaya@ivey.ca</a>                        |
| 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               | Currently vacant                                                                                                              |
| Winnipeg                | Currently vacant                                                                                                              |
| Waterloo Student        | Kiefer Joe Burgess, University of Waterloo, <a href="mailto:kjburgess@uwaterloo.ca">kjburgess@uwaterloo.ca</a>                |
| Montreal Student        | Başak Tozlu, Concordia University, <a href="mailto:basaktozlu@gmail.com">basaktozlu@gmail.com</a>                             |
| Toronto Student         | Maryam Daryalal, University of Toronto, <a href="mailto:m.daryalal@mail.utoronto.ca">m.daryalal@mail.utoronto.ca</a>          |

## PRESIDENT'S MESSAGE

Dear CORS members,

Here I am at the end of my term as president, and I couldn't be happier about what we accomplished in the last year. It has been a great experience and I know CORS is being passed on to the next president in a great position for growth in the coming years. Our accounting system project is advancing very well. Once fully implemented, we will be on strong grounds for managing our finances and making well informed data-based management decisions.



Our micro-events series saw some excellent growth in the last year and should remain as a strong element for engaging our membership on a more regular basis.

I am very much looking forward to our Vancouver conference being organized jointly with INFORMS. The conference organizing team has put together an excellent schedule, and it will provide ample opportunities for everyone to meet and grow their networks. To students and young professionals attending, take every opportunity to present yourself to others and start building relationships. In the long term, it is those relationships that build a strong network and pave the way for future opportunities, both personally and professionally. To senior members attending, giving a few minutes of your time to promising talented individuals that are looking for opportunities could make a big difference in how they live the experience of attending our conferences. It could be the spark that is needed for an individual to grow to become engaged members of our society.

Sincerely,

Jules Comeau



## ANNOUNCEMENTS

### CORS Membership

It is time to renew your CORS membership for the year April 1, 2022 through March 31, 2023. Invoices were emailed to members in January. You may be able to use an NSERC grant to pay membership dues for yourself and your graduate students.

Please renew your membership at ([http://www.cors.ca/sites/cors\\_php/en/membership/renewal.php](http://www.cors.ca/sites/cors_php/en/membership/renewal.php)) For more information, please email [members@cors.ca](mailto:members@cors.ca)

## CORS FUNDING OPPORTUNITIES

### Traveling Speakers Program (TSP)

<https://cors.ca/?q=content/traveling-speakers-program>

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. The president of the local section must contact the CORS Vice President 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. The president of the local section fills out the application form and submits the form to Peter VanBerkel ([vicepresident@cors.ca](mailto:vicepresident@cors.ca))



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## **CORS – INFORMS International Conference Vancouver, BC June 5–8, 2022**

### **Website**

Dear CORS members,

We are excited to announce that the detailed program is available online now and can be accessed through [this link](#). The conference features 7 plenaries, 9 tutorials, and 170 sessions. For a complete list of plenaries and tutorials, please check the website.

The Canadian Healthcare Optimization Workshop will be held on June 4, 2022. The relevant information can be found [here](#).

For exhibits and sponsorship opportunities please check the [link](#).

The next upcoming deadlines are:

Presenters registration: **May 1**

Hotel Group Rate Cut-off: **May 12**

Early Bird Pricing: **May 13**

Please do not forget to register for the conference before the deadline and share the information about the conference with your colleagues, students, and friends.

We look forward to seeing you in Vancouver.

Best regards,

Taraneh Sowlati

Professor, University of British Columbia, Conference Chair

## HAROLD LARNDER PRIZE

### Ravi Ahuja

FOUNDER & CEO AT OPTYM  
FORMER PROFESSOR AT MIT, UNIVERSITY OF FLORIDA, & IIT KANPUR



Ravi Ahuja is the Founder & CEO of Optym, a company focused on developing decision autonomy and optimization solutions for the transportation industry. In an academic career spanning 30+ years, he has taught at MIT, Cambridge; the University of Florida, Gainesville; and IIT, Kanpur. Professor Ahuja has made significant contributions to the theory of network optimization and has published three books and 100+ research papers and book chapters. The book coauthored by him *Network Flows: Theory, Algorithms and Applications* received the prestigious Lanchester Prize in 1993 and has been the leading text and reference book worldwide in the field of network optimization for the past 30 years. Ravi Ahuja is also the winner of the 2003 Pierskalla Award, the 2006 Daniel H. Wagner Award, and the 2007 Koopman Prize given by INFORMS.

After realizing the need of optimization in the transportation industry, he founded Optym in 2000 to bring the latest R&D from the academics to solve real-world practical problems. With its headquarters based in Dallas, TX, and development centers in Eastern Europe and India, Optym now employs 200+ highly qualified team members. Optym is building SaaS solutions with a focus on automating human decision-making, and its clients include the world's largest airlines, railroads, trucking, and mining companies.

## Creating Success Stories of Operations Research

This talk will share the insights of a researcher and practitioner who in the first 20+ years of his career focused on developing models and algorithms and in the latter 20+ years focused on applying those techniques to solve real-world decision problems faced by transportation and logistics companies. The first part of the talk will describe what techniques appear to be most successful in practice — techniques that are intuitive, practical and use common sense — techniques that you can explain to your grandparents, and they will understand. The talk will give an overview of several business problems and techniques that worked very well and why. However, just developing the right models and algorithms isn't enough to make an impact. The second part of the talk will describe what additional capabilities you need to be a successful practitioner and create success stories for the OR discipline.

## NOMINEES 2022–2023 CORS COUNCIL

### President

**Peter VanBerkel**

Dalhousie University

Peter VanBerkel is an Associate Professor in the Department of Industrial Engineering at Dalhousie University and a Staff Scientist at the IWK Health Centre. His research involves improving healthcare operations using stochastic operational research methods and analytics. His work is published in leading journals including *Omega*, *Manufacturing and Service Operations Management*, *European Journal of Operational Research*, and *Queueing Systems*. Peter is active within CORS and is a member of the HCOR and Queueing SIGs. He served as Council Secretary for four years and was the co-chair of CORS 2018 in Halifax. In 2016, Peter co-founded and co-chaired the inaugural HCOR SIG oral presentation competition for graduate students. He is also a past winner of the CORS Practice Prize.



### Vice-President

**Samira Rahimi**

McGill University

Samira Rahimi is Assistant Professor in the Department of Family Medicine, Associate Academic Professor of Mila-Quebec AI Institute, Associate member of Electrical and Computer Engineering Department, and an affiliated scientist at LDI, Jewish General Hospital. She is an Associate Member of the College of Family Physicians of Canada, and Director of Artificial Intelligence in Family Medicine (AIFM). Dr. Rahimi is Fonds de Recherche du Québec-Santé (FRQS) Junior 1 Research Scholar in human-centered AI in primary health care, and with an interdisciplinary background, she is interested in the development, evaluation, and implementation of decision support tools and patient decision aids in primary health care as well as integrating human-centered AI tools in primary health care. Currently, she is leading several projects in primary health care including an international SPOR-CIHR-funded project on the use of AI for Cardiovascular disease prevention and management among women. Her work as Principal Investigator has been funded by the Fonds de recherche du Québec – Santé (FRQS), Natural Sciences and Engineering Research Council (NSERC), Roche Canada, Brocher Foundation (Switzerland), and the Strategy for Patient-Oriented Research (SPOR)-Canadian Institutes of Health Research (CIHR).





**Councillor (2022-2024)****Sibel Alumur Alev**

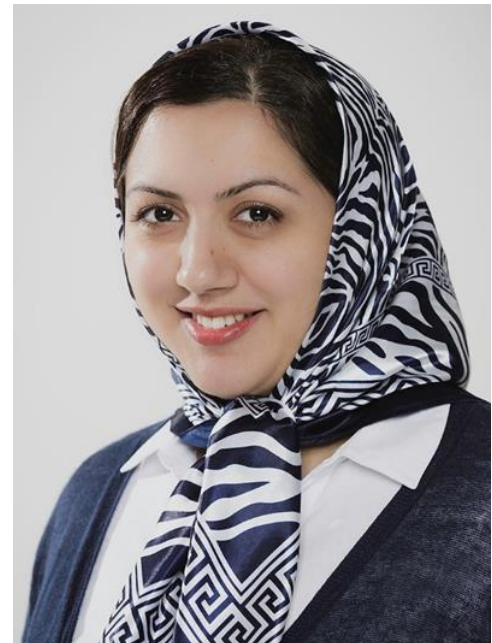
University of Waterloo

Sibel Alumur Alev is a tenured Associate Professor in the Department of Management Sciences at the University of Waterloo. She received her Ph.D. in Industrial Engineering from Bilkent University. She then worked as a Post-Doctoral Researcher in the Institute of Operations Research at Karlsruhe Institute of Technology, Germany. Prior to joining the University of Waterloo in 2014, she was an Assistant Professor at TOBB University of Economics and Technology in Ankara. In 2017, she received the Chuck ReVelle Rising Star Award from INFORMS for her research accomplishments in Location Analysis. She guest-edited two special issues in the journal *Computers & Operations Research*: “Recent Advances in Location Analysis” and “Recent Advances in Hub Location”. She served as a board member for the EURO Working Group on Locational Analysis (EWGLA) and as president of the INFORMS Section on Location Analysis (SOLA). She organized clusters, streams, and sessions at several international conferences. She currently serves as Senior Associate Editor for *Socio-Economic Planning Sciences*, Editorial Board Editor for *Transportation Research Part B*, and Editorial Board Member for *Computers & Operations Research*. Her research interests lie in optimizing facility locations and logistics operations, in particular, hub location, hub network design, supply chain and reverse logistics network design.

**Councillor (2022-2024)****Houra Mahmoudzadeh**

University of Waterloo

Houra Mahmoudzadeh is an Assistant Professor in the Department of Management Sciences at the University of Waterloo. She received her Ph.D. in Industrial Engineering from the University of Toronto and M.Sc. and B.Sc. degrees in Industrial Engineering from Sharif University of Technology. Before starting her Ph.D., Houra worked as the head of the Industrial Engineering department at a pharmaceutical manufacturing company as well as a Lecturer in Industrial Engineering. Houra’s research mainly focuses on the methodology and applications of large-scale robust optimization and data-driven inverse optimization, with a special interest in healthcare. Her work has been published in *INFORMS Journal on Optimization*, *INFORMS Journal on Computing*, and *Medical Physics*, and has been funded through the NSERC Discovery and NSERC Alliance grants. Houra served the CORS Healthcare Operational Research SIG as the communications officer for 2 years, co-chaired the Healthcare Operations cluster of the CORS 2022 conference, and is looking forward to serving CORS as a councillor.





## 2022 PRACTICE PRIZE FINALIST PROJECTS

### GoForward – an efficient tool for sequence dependent vehicle routing

The forest industry is a very important part of the Swedish export industry with an export value of SEK 145 billion (CAD 18.8 billion) in 2020. At the national level, the forest industry accounts for 11 percent of Swedish industry's total value added and employs a total of about 115,000 people. The possibilities of digitalisation for sustainable forestry are a very important area of research and innovation. Access to high-resolution digital information is increasing rapidly. Today, both airborne and ground-based high-resolution laser scanning is used to image the forest almost down to the centimeter level. Digital maps are used for planning forest measures, and exciting research is currently underway on semi-automatic and remote-controlled forest machines. An efficient value chain including the forest operations (harvesting and forwarding) is also critical to sustain the position in a competitive international market. Efficient forwarding operations is essential for high productivity in cut-to-length forest operations. In such harvesting system, the harvester performs the bucking process on the harvest area, typically 3-20 hectares, and separates the different assortments into piles adjacent to the trail network generated by the harvester. For each log bucked, data are stored on, e.g., assortment, diameter, volume, and the geographical coordinates of the harvester during bucking operations. The forwarder picks up the piles in routes on the harvester trail network and transports the logs to the larger assortment piles at the landing by the forest road. The capacity of a forwarder is expressed as both a weight limit and a cross-sectional area limit of the bunk, where the latter is often the most restrictive. There are many possible loading patterns when different assortments are co-loaded in the bunk. Planning the routes is difficult, with multiple and complex decisions about route selection, loading pattern and sequence, number and types of assortments per load. It takes several years for new operators to achieve the skills of effective on-site forwarding planning, and demand is high among forest companies for decision support tools.

The forwarder bunk is either one big compartment or include a separating bar dividing the lower part of the bunk into two compartments. A third theoretical compartment is on top where it is only efficient to put assortments with larger diameters due to the risk of mixing. For example, loading sawlogs (with larger diameters) on top of pulpwood (with smaller diameters) in a compartment is preferable, as these assortments do not mix easily, unlike the opposite situation with pulpwood on top. As more assortments are loaded and mixed, longer time is needed to sort and unload the forwarder into the correct piles at the landing, and the time needed also depends on loading pattern and loading sequence. The routing problem is a special case of a capacitated Vehicle Routing Problem, where the route time depends not only on the driving and loading piles of logs on the trail network but also on the sorting time associated with unloading at the landing.

GoForward is an optimization-based tool to find routes with information about the loading sequence of piles and in which bunk compartment they are to be placed. It uses harvester production file (including tracking of the routes), placement of landing, and machine specifications. The tool is tested and compared with actual forwarding routes, and it provides shorter total driving time for the operation (including loading and unloading) compared to the actual forwarder operations. The tool is in particular useful for new drivers and those with limited experience helping them to increase productivity more quickly. It is also a useful tool for fully automated or teleoperated forest operations. In 2019 the official harvesting level in Sweden was 74.7 million cubic meters (under bark). This was done by approximately 1776 forwarders and equal number of harvesters as they work in team of two. The overall cost for these harvest operations was 9.5 billion SEK (1.23 billion CAD). The cost of the forwarding is about 45-48% from studies and this is directly proportional to the forwarding time. An improvement of 5-10 % of the forwarding time as reported in the article would hence have a potential savings of 225 million SEK (29.5 million CAD) in Sweden. In addition, as the fuel consumption is about a third of the cost, the reduced fuel consumption would have a very positive impact of the reduction of CO2 emissions.

## Gateway Consolidation for Purolator International

Cross-border transportation between the United States (US) and Canada is the longest in the world, spanning 8,891 km across 13 US states and 8 Canadian Provinces/Territories. Mutual trading between the two countries has proven to be of significant importance; as of 2021 Canada accounted for 18% of the US exports and 13% of its imports, while the US is the largest import and export market for Canada accounting for 76 (\$378.38 B) and 49% (\$237.33 B) of its export and import market, respectively. Evidently, the US-Canada trade relationship crosses all industries; however, one prominent industry, regardless of the business size, is the trucking industry. Not only do trucks handle much cargo than other transportation modes, they are irreplaceable due to their integral part of the supply chain. In particular, trucks account for 58% of transported freight values in US-Canada trans-border trades, and according to Statistics Canada, trucks hauled 90% of freight shipments in 2017. Thus it is expected that supply chains will focus their efficiency efforts on streamlining their trucking transportation operations. This project is one such effort. It is an outcome of a joint research collaboration between McMaster University, Purolator Inc. and Purolator International. Purolator Inc. , headquartered in Mississauga, Ontario, is a leading integrated freight, package and logistic solutions provider. Purolator International is a subsidiary of Purolator Inc. and a leading US based supply chain logistics solutions provider, specializing in high-quality cross-border shipping services from the United States to Canada. The main objective of this project was to propose a cost-effective plan that minimizes the domestic and international cost of shipping from the US to Canada through the following:

- Optimal assignment of customers to gateways, where specific operational constraints have to be implemented.
- Possible consolidation of gateways in order to maximize trailers' utilization.
- Determining the optimal number of trucks to dispatch from each gateway to Canadian destinations, depending on daily volumes from customers.

Our efforts within the research team, comprised of multiple phases outlined below:

**Phase 1. Information and Data Collection.** This stage involved intensive communications with associated companies' personnel to fully and clearly comprehend their existing operations, managerial decisions, preferences, and supply chain operations. The process involved multiple onsite visits to visually observe the company's daily routines. Managing the data base through SQL has proven to be efficient, especially when it comes to feeding the optimization model with updated customers' shipping volumes.

**Phase 2. Conceptual Problem Formulation.** At this stage the research team used the obtained knowledge to develop mathematical formulations and models that would best describe the system. The mathematical optimization problem would help facilitate the managerial decision making. A mixed-integer linear program has been formulated that is similar to the general assignment problem, but with added complications of practical constraints needed by the industrial partner.

**Phase 3. Validation and Revision with network engineering team.** The research team constantly confirmed the practicality of the formulated problem with the practitioners to ensure the mathematical formulations are representative of the governing rules, regulations and policies.

**Phase 4. Solution and Numerical Experimentation.** The formulated model on company's logistics network was solved by the commercial solver CPLEX 12. It generated four major network reconfiguration recommendations.

**Phase 5. Validation and Revision with operational team.** The optimal scheduling plan that resulted in Phase 4 was communicated with the company operational team to assess any limits. The operational team confirmed the feasibility of two recommendations and outlined some possible cost overruns for the two other recommendations. Our final results confirmed significantly overall lower routing costs, in the order of several hundred thousand US dollars per year.



## 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.

### **Analytics SIG**

Gregory Paradis, [cors.analytics.sig@01101.io](mailto:cors.analytics.sig@01101.io)  
University of British Columbia  
[www.cors.ca/SIG/Analytics](http://www.cors.ca/SIG/Analytics)

### **Forestry SIG**

Foroogh Abasian, [foroogh.abasian@fpinnovations.ca](mailto:foroogh.abasian@fpinnovations.ca)  
FPInnovations  
[www.cors.ca/SIG/Forestry](http://www.cors.ca/SIG/Forestry)

### **Health Care Operational Research SIG**

Nadia Lahrichi, [nadia.lahrichi@polymtl.ca](mailto:nadia.lahrichi@polymtl.ca)  
École Polytechnique de Montréal  
[www.cors.ca/SIG/HCOR](http://www.cors.ca/SIG/HCOR)

### **Queueing Theory SIG**

Yichuan Ding, [daniel.ding@mcgill.ca](mailto:daniel.ding@mcgill.ca)  
McGill University  
[www.cors.ca/SIG/Queueing](http://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](http://www.cors.ca/?q=content/communities)

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

Peter VanBerkel ([vicepresident@cors.ca](mailto:vicepresident@cors.ca))

## **SIG NEWS**

### **Health Care OR**

#### **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.

This year competition was held during an online CORS micro-event organized by the HCOR SIG on March 11, 2022. Four finalists presented a ten-minute presentation each. The 2022 HCOR SIG Competition Results were announced at the end of the micro-event:

#### **Winners**

When to Extend a Shift in Emergency Departments?  
Negar Ganjoughaghi (University of Calgary)

Master Surgery Scheduling Considering Bed Availabilities  
Adam Lebrigue (Polytechnique Montreal)

#### **Finalists**

Healthcare Distribution Network in the New Carrier Economy  
Sara Ahmed (Concordia University)

Machine Learning for Early Detection of Severe COVID Infection  
Faraz Khoshbakhtian (University of Toronto)

Congratulations to all finalists!



## Health Care Operational Research SIG Elections

We are approaching the end of the current Health Care Operational Research SIG officers' term. In mid-May, we will have an election for the following positions:

- vice-chair/chair-elect,
- track organizer,
- secretary/treasurer,
- communication officer.

The term of all officers of the SIG shall be two years. The vice-chair/chair-elect completes a two-year term, followed by a two-year term as Chair.

In early May, all SIG members will receive an email for nominating individuals for these positions. Please note that:

- No nomination shall be made without the candidates agreeing to be nominated.
- Self-nominations are permitted.
- All nominations should be sent to Manaf Zargoush ([zargoush@mcmaster.ca](mailto:zargoush@mcmaster.ca)) by May 2, 2022.

After receiving nominations, all SIG members will receive another email about how to cast their votes for the candidates.

## Queueing Theory

We are organizing the Queueing Theory SIG cluster at 2022 CORS/INFORMS International Conference <http://meetings.informs.org/wordpress/2022international/> to be held on June 5-8, 2022, in Vancouver, BC, Canada. We look forward to seeing you at the conference!

Best regards,

Co-Chairs for the Queueing Theory SIG  
Jing Dong ([jing.dong@gsb.columbia.edu](mailto:jing.dong@gsb.columbia.edu))  
Vahid Sarhangian ([sarhangian@mie.utoronto.ca](mailto:sarhangian@mie.utoronto.ca))



## SECTION & CHAPTER NEWS

### Montreal Operations Research Student Chapter

On April 6, 2022, CORS / INFORMS Montreal Operations Research Student Chapter, aka MORSC, hosted professor of Operations Management at UMass Amherst, Dr. Anna Nagurney, for an online talk on Labor and Supply Chain Networks under the influence of the COVID19 pandemic and the Russian invasion of Ukraine.

Basak Tozlu, M.Sc.  
President, Montreal OR Student Chapter

### Waterloo Student Chapter



On April 6, Ian Zhu, of the University of Toronto, visited the University of Waterloo CORS Student Chapter to deliver the talk titled “Inverse Optimization: Applications, Models, and Algorithms”. Ian first introduced the audience of students and faculty to this area of optimization in an approachable, tutorial style. He then provided insight into reformulation and decomposition methods as well as detailing how we can apply inverse optimization in noisy and Big Data regimes. The Student Chapter was delighted to have Ian for their first ever hybrid (in-person/virtual) event and look forward to hosting more speakers in the near future.



## MEETINGS AND CONFERENCES

### CORS Business Meetings

|                |                                                            |
|----------------|------------------------------------------------------------|
| June 16, 2021  | Council Meeting, Teleconference                            |
| Sep 17, 2021   | Council Meeting, Teleconference                            |
| Nov 19, 2021   | Council Meeting, Teleconference                            |
| Jan 21, 2022   | Council Meeting, Teleconference                            |
| March 18, 2022 | Council Meeting, Teleconference                            |
| May 18, 2022   | Council Financial Planning Meeting, Teleconference         |
| TBA, 2022      | Council Meeting (Conference)                               |
| TBA, 2022      | Council Meeting (Conference with SIGs, Sections, Chapters) |
| TBA, 2022      | CORS AGM (Conference)                                      |

### CORS Annual Conferences

|                |                                                                                                                                                                                           |
|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| June 5–8, 2022 | CORS-INFORMS International Conference<br>Vancouver, BC<br><a href="http://meetings2.informs.org/wordpress/2022international">http://meetings2.informs.org/wordpress/2022international</a> |
| TBA, 2023      | CORS Annual Conference<br>Joint with Optimization Days<br>Montreal, QC                                                                                                                    |

### WWW Conference Listings

CORS: [www.cors.ca/?q=content/cors-annual-conferences](http://www.cors.ca/?q=content/cors-annual-conferences)

INFORMS: <https://www.informs.org/Meetings-Conferences>

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: <https://pomsmeetings.org>

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 will be published in **August**. Contributions to this issue, especially news on the activities of local sections or CORS members, should be submitted by **22 July 2022** to:

Andrea Friars  
Editor, CORS Bulletin  
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 in which they are submitted.

## 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 Mailing List. Direct inquiries to the Editor.

## CORS MAILING LIST

As a benefit of membership, members may use the CORS Mailing List 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 if these are related to operational research in its broadest sense
- job postings of general interest to CORS members

The Mailing List is not used for commercial purposes, and all messages are vetted before they are sent out. To submit items to the Mailing List, please email [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