



CORS TIMES

W E L C O M E T O T O R O N T O

Today's CORS Events

Plenaries

Fifty Years of Vehicle Routing by Gilbert Laporte, Canada Research Chair in Distribution Mgmt., HEC Montreal | @2:10

Tutorials

An Introduction to Trajectory-based Heuristics by Michel Gendreau, CIRRELT/University of Montreal | @12:30 @ Metro Grand West, C2

Queueing Systems with Flexibility by Douglas Down, McMaster University | @15:50 @ Metro Grand West, C2

Social Events

Welcome Reception | @ 18:30 @ Westin



An interview with Dr. Laporte on the past and future of Canadian OR by Daphne Sniekers

Interview With Gilbert Laporte



Dr. Laporte is the author of a recently published article in INFOR titled "Operational Research: Milestones and Highlights of Canadian Contributions". He is also the presenter in today's Omega Rho distinguished lecturer session.

What do you believe are the most significant Canadian contributions to OR, and why?

I think Canadian researchers have made major contributions in two main fields of application. The first is transportation, mostly organized around the Montreal group at the Centre for Research on Transportation (now CIRRELT) and at the GERAD. The second is planning in the field of health care, under the leadership of Michael Carter at the Centre for Research in Healthcare Engineering of the University of Toronto, and at the Centre for Health Care Management of the University of British Columbia.

Canadian researchers are also strong in the management of natural resources, namely forestry, and in some methodological areas like mathematical programming and stochastic processes. At least in transportation and health, the key to our success has been the creation of strong research centres which have helped develop co-operative research efforts,

recruit top quality students, obtain steady financing and create spinoff companies.

What are some key areas where Canadian OR practitioners should focus on for the next 50 years?

I see health care management as the next major challenge for operational researchers. As in all western countries, the Canadian health budget represents an ever increasing part of the economy, and improvements to the health care system can only come through better management and resource allocation. On the methodological side, the linkage between information systems and operational research should become stronger in coming years and we should focus more on solving real-time and stochastic problems.

What OR research would help Canada become more competitive and a leader on the world stage?

This country has a very strong OR expertise. What we now need is to market and export our technical knowledge in the form of software and consultancy. This is a niche market in which it should not be too difficult to gain a competitive advantage. We are already doing it, mainly in optimization and simulation tools for transportation problems, but we could probably extend our effort to other areas.

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From the Editors

We would like to welcome you to Toronto for the 51st Annual Conference of CORS held jointly with the INFORMS International Conference. CORS Times was established to help provide context for the 50th anniversary of CORS during the last year's annual conference. The overwhelmingly positive response from the members to the inaugural newsletter prompted us to give it another try this year.

In the next few days the focus of our content will be on OR in Canada, as a natural progression of last year's theme of the history of CORS. Our goal is to highlight the significant Canadian achievements in OR and bring attention to those topics in OR that feel a little Canadian. Think forests, healthcare and fish. CORS Times will also be providing coverage of the CORS events and competitions at this conference.

We hope that you have a great stay in Toronto and enjoy the joint conference.

Ali & Daphne

OR/MS RECESSION?

How is OR/MS faring in the internet? We decided to look into the search volume for OR/MS related keywords from Google using their new Google Trends service.

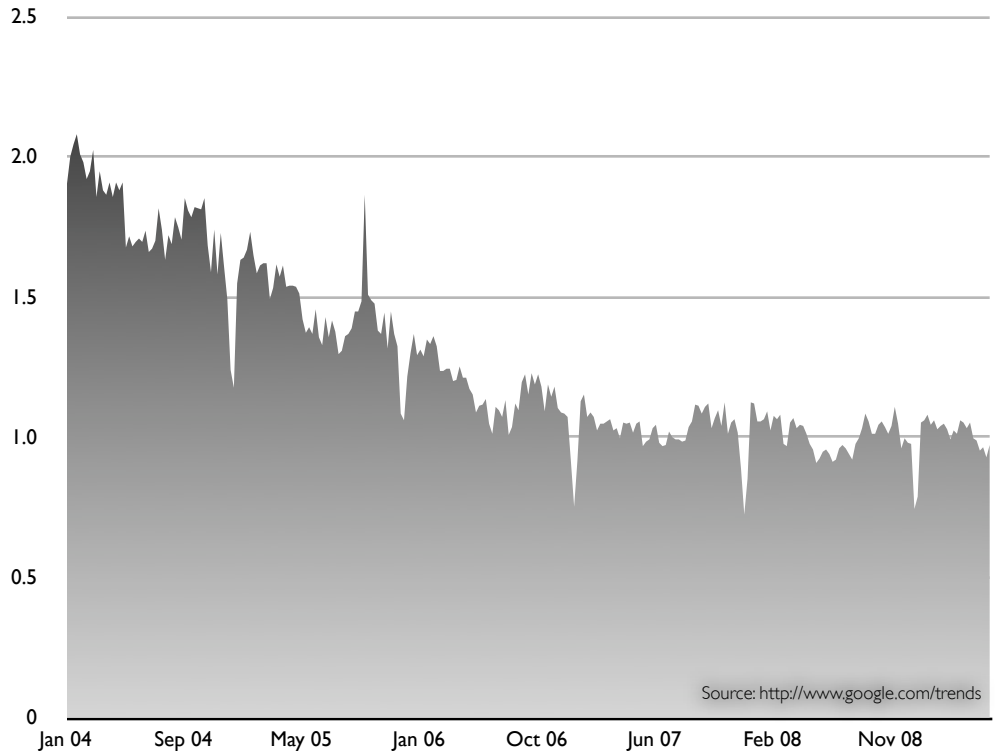
The graph on the left is based on the global Google search volume for the keywords *operations research*, *operational research*, *operations management* and *management science* between January 2004 and May 2009.

A value of 1.0 on the y-axis corresponds to the average search volume for this time range. You can see that between 2004 and 2006 there has been a steady decrease in the number of searches performed using typical OR/MS terms. This decrease seems to have slowed since 2006.

Why is this happening? Write to us with your ideas at:

WWW.RYPPL.COM/CORSTIMES/ORMS.

The responses will be published in Tuesday's CORSTimes.



LAPORTE INTERVIEW CONTINUED

How do you think OR can help Canada weather the current economic turbulence and help Canada return quickly and smoothly to economic stability and growth?

I don't think OR can do much in the short term. The crisis we are now facing is mostly due to the lack of safeguards in the financial sector and will have to be resolved through better regulation. In the longer term our natural resources, industrial and service sectors will need to be more efficient through massive investments in education and high technology.

When a potential OR student approaches you and asks "What is OR and why should I study it?", how do you respond?

Put simply, OR is the art of applying analytical methods to the solution of complex management problems. My move to OR in the early 1970s, after a first degree in mathematics, is probably the best decision I took in my whole life. The problems one encounters in OR and the variety of methods one can develop and apply to solve them make this field a fascinating area. Researchers of various disciplines can do OR and there is room for contributions ranging from the very theoretical to the very applied. And you can do a lot of good!

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Pamela Chan profiles three Toronto neighbourhoods you should definitely check out

What's Good Nearby?

Distillery District

The Distillery District is a national historic site that has been preserved since the Victorian Industrial era. Countless films, commercials and music videos have been filmed on site such as the Blues Brothers starring John Goodman and Dan Aykroyd, Ararat and Anne of Green Gables to name a few. Stroll around during the daytime and visit some art galleries or artist studios. Stop by at a local café for an espresso or latte at Balzac's coffee or walk into Taste of Quebec to purchase fine epicurean delicacies. If you are around in the evening, there are unique dining opportunities to satiate your taste buds from chophouse, to Italian, to Japanese cuisine.

☞ MILL ST. BETWEEN CHERRY AND PARLIAMENT STREETS

Little Italy

Hang out in Little Italy where there are numerous Italian restaurants all around. After dinner, you can make a quick stroll to I feel like Crepe (605 College St) or stop for some gelato at Dolce Gelato (6597 College St, 416.915.0756) in the heart of little Italy. Some notable places include the new hotspot Grace, visited by Rachael McAdams, (503 College St. 416.944.8884), a \$30 prix fixe menu at Coco Lezzone (602 College St,

416.535.1489) or Il Gusto (796 College St, 416.588.7490)

☞ WEST OF BATHURST ALONG COLLEGE STREET. | \$\$

St. Lawrence Market

Established in 1803, this is the site of the historic Old Toronto. From Tuesday to Saturday, the markets are open where local produce can be bought from vendors. During the hustle and bustle of the weekends, there are vendors also selling interesting, sometimes home made jewellery or jams. Also, if you're in the neighbourhood, great brunch fare is available at Le Petit Dejeuner where the waffles are so light and crispy that melt in your mouth, it's as if you're eating cotton candy (191 King St East, 416.703.1560). Relax with your friends with an awesome selection of beers at Bier Markt (58 The Esplanade)

☞ FRONT AND JARVIS ST.

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CORS LIVES

THE UPSIDE DOWN ISSUE

WE ARE STILL ACCEPTING IDEAS FOR OUR
GOOGLE TRENDS QUESTION AT:
www.rypple.com/corstimes/orms



THE SIGN OF THE TIMES. EVEN THE
CORS MAN IS POINTING DOWNWARDS AS
PRINTED ON THE CONFERENCE BAGS.



An interview with Dr. Aleman on OR in epidemic planning by Somaz Azari-Rad

OR Can Help Keep Pandemics at Bay



Professor Aleman is the director of the Medical Operations Research Lab (morLab) and an active collaborator of the Centre for Research in Healthcare Engineering (CRHE). Professor Aleman's research interests are

focused on optimization of the delivery of healthcare services such as intensity modulated radiation therapy treatment planning, donor selection for organ transplants, pandemic disease spread modelling and operating room scheduling.

Could you describe the role of OR in healthcare industry?

OR offers potential for improvement in the healthcare industry from very detailed applications at clinical levels such as design of radiation therapy treatment to very large-scope applications at administrative levels such as policy and strategic decision making, which is being done in CRHE and in morLAB's pandemic planning research.

Could you give some examples of the projects that you and your team are working on?

The objectives of the morLAB are to incorporate operations research techniques into medical procedures to improve the quality and success of the

treatments. We work on designing radiation therapy, and recently we work in collaboration with Ontario Agency for Health Protection and Promotion (OAHPP) to model the spread of pandemics in an urban environment.

How can OR help in emergency planning in the event of pandemic?

In the event of a pandemic, vaccination of the population using anti-virals is a critical issue. As the antiviral stockpile is limited, the efficient distribution of anti-virals among the population in order to minimize the spread of disease is very important. There are questions such as: How can we estimate the number of infected people through transportation patterns? How can we make the best use of the antiviral supply to minimize deaths? Should the older or younger population have priority access to anti-virals? Is it more efficient to distribute anti-virals among healthcare workers who are at high risk of getting sick? Does vaccinating, for example, bus drivers reduce the spread of disease? These questions can be answered by using mathematical modelling and simulation. The best alternatives can be determined by running different scenarios in a simulation model. Different groups researching this area take different approaches in terms of their simulation models. We use an agent-based simulation model in order to more easily observe the effects of individual demographics and behaviours.

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Today's CORS Events

Plenaries

Three Combinatorial Problems in Computational and Genomic Biology by Richard M. Karp, UC Berkeley | 8:00

Tutorials

OR Applications in Forestry by Taraneh Sowlati, University of British Columbia | 8:00 @ Metro Grand West, CC2

Correcting the Foundations of OR by Jonathan Barzilai, Dalhousie University | 11:00 @ Metro Grand West, CC2

Social Events

General Reception | 18:30 @ The Hockey Hall of Fame. Busses leave the venue starting 19:15

Competitions

CORS Student Paper | 8:00 and 11:00 @ Metro Grand West, Bay Room CC1

Simulation Competition | 13:30 and 15:30 @ Metro Grand West, Bay Room CC1

ALEMAN INTERVIEW CONTINUED

Are there any plans exist in the case of pandemic outbreak? If yes, how effective these plans are in your view?

There are some plans in place, but they are mostly based on the experience of policy makers, and are not necessarily based on accurate quantitative analysis.

Do you see a need for an integrated plan across the province/country?

Absolutely! In the event of pandemic outbreak, infection can travel easily from one province to another, especially considering the ease of long-distance travel (e.g., airplanes) in this day and age. Thus, it is beneficial for every province to help stop pandemic spread in another province in order to preserve the health of their own province's population. Provinces may share or lend out resources and it is definitely beneficial to have an integrated plan to minimize the spread of disease and make the best use of resources.

What initiatives are you undertaking and what do you hope to achieve?

Our overall goal in pandemic planning is to determine the best way for the province of Ontario to respond to a pandemic outbreak (we will address the issue of inter-province cooperation later). There are three phases for this plan. First, how will the disease spread? For this phase, an agent-based simulation model is used to study the transmission mode of the disease and the role of public facilities such as public transportation and buildings, e.g., offices and grocery stores, in the disease transmission. Second, how should the limited supply of antiviral be distributed? Estimation of the number of infected people and identification of an accurate strategy for efficient antiviral use are performed at this phase. Third, how do we actually get the anti-virals to infected people and where should we locate the distribution centres? Supply chain logistics are used to determine the best way of physically distributing antiviral among population. For instance, a model which is developed in UK uses the postal service to deliver anti-virals right to the door of designated recipients.

Do you have any suggestions or insights for aspiring academics or students?

I believe that there are innumerable applications for OR and we are only limited by our imagination!



Last night's Welcome Reception was well catered with a wine and cheese format, attracting large numbers of conference participants to network and catch-up. The students adopted a more Pop & Cheese format to avoid spending their entire year's stipend with the handsomely-priced wine.

Pamela Chan shares her culinary insights into Toronto's buzzing restaurant scene

What to Eat?

Chaife: Best bubble tea and snacks located in the heart of Yorkville. This place is a gem in Yorkville serving different types of bubble teas, lattes and their recent launch of fresh watermelon juice. It is located on Cumberland near the entrance of the Nike Store and Toni and Guy. \$ 102 Bloor St West, 416.966.2233

Fune Japanese Restaurant: This Japanese restaurant is one of the few restaurants in town where small portions can be seen in front of you on the rotating sushi bar. The prices are reasonable and their scrumptious dragon rolls or Kobe beef dinners are high recommended. \$\$ 100 Simcoe St, 416.599.3868.

Pearl Harbourfront: Right on the water, this upscale Chinese cuisine is located at the Queen's Quay terminal. Arrive during lunchtime for some fine dim sum that you probably would not find at other Chinese restaurants. In the evening, a romantic view of the sunset will be your backdrop to accompany the fine Chinese cuisine. \$\$\$ 207 Queen's Quay West Ste 200. 416.203.1233

Ultra Supper Club: For an upscale, trendy dining/dance club experience, the exclusive Ultra Supper Club, a non-descript restaurant, marked only by its famous red doors is also

located on Queen St. Toronto socialites and some Hollywood celebs have been known to dine here. Hello Lindsay Lohan, Paris Hilton and Danny Masterson. Dress Code in effect. Reservations recommended. \$\$\$\$ 314 Queen St. West, 416.263.0330

Messini

Travel to Greektown on Danforth Avenue for a family owned and operated Greek restaurant. The grilled octopus is scrumptious with a light citrus vinaigrette. \$\$ 445 Danforth Ave, 416.778.4861

The Drake Hotel

Hang out on the patio at this trendy restaurant for drinks and an all around good time. This place has been recently renovated to provide a chic hipster feel. 1150 Queen Street West

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CORS TIMES

THE SECOND LAST ISSUE OF THE YEAR

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Today's CORS Events

Plenaries

**You can't get there from here -
reflections on an unlikely career in OR**
by Steve Gallivan, Clinical Operations
Research Unit, UC London | 10:00

Tutorials & Workshops

**Semidefinite Programming and
Application to Hard Combinatorial
Optimization Problems** by Henry
Wolkowicz, Uni. of Waterloo | 11:00 @
Metro Grand West Room, CC2

NSERC Info. Session | 13:30 @ Bay
Room, CC1

**Optimization, Operations Research
and the Engineering Sciences** by Tamas
Terlaky, Lehigh University | 13:30 @ Metro
Grand West Room, CC2

NSERC Discovery Grant Workshop |
15:30 @ Metro Grand West, Bay Room
CC1

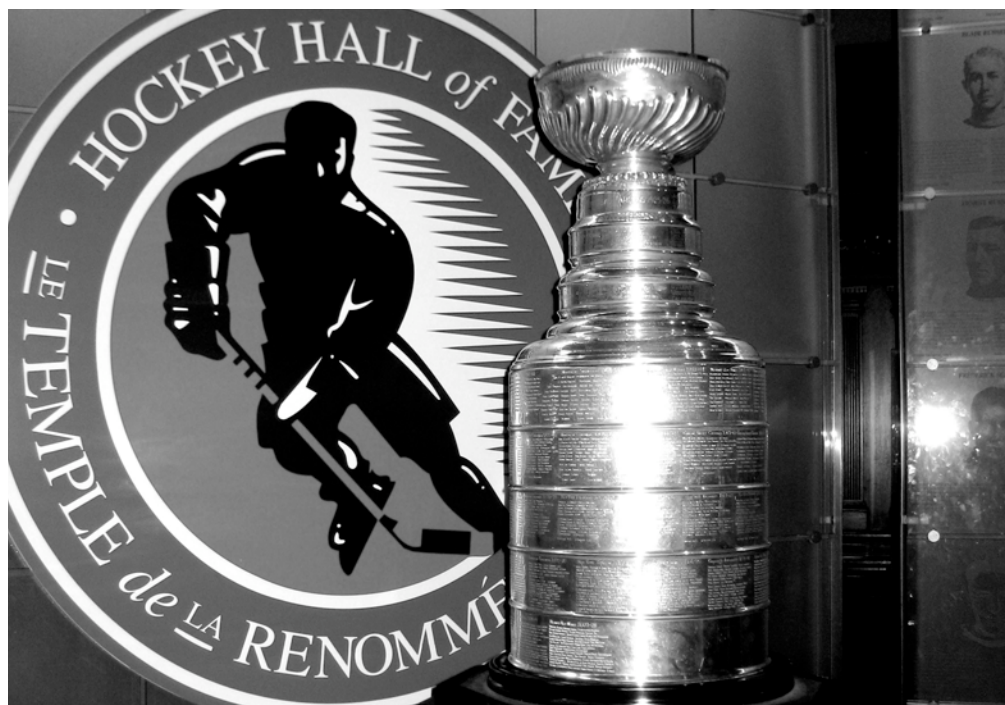
Social Events

CORS Luncheon and AGM | 12:30 @
Harbour Salon B, H-Conv. Level

CORS Awards Banquet | 19:00 @
Acqua Restaurant, 10 Front St. West

Competitions

CORS Practice Prize Final | 8:00 and
11:00 @ Bay Room, CC1



Dr. Vinh Quan reveals his master plans for the next year as the 2009-10 president of CORS. **Is Dr. Quan to CORS as Obama is to the US?**



Dr. Quan is a lecturer at the University of Ontario Institute for Technology. He has taught over 15 different courses in OR and Engineering. His research focuses on staff timetabling and scheduling as well as applications of IP and CP.

Dr. Quan has held several positions within CORS including most recently the president of the Toronto Section of CORS. He has also held positions on the Toronto section of IIE, on various conference organization committees.

We had a chance to ask Dr. Quan a few questions as the incoming CORS president.

What is your (or CORS exec) core goal/objective for the next year for the CORS group?

I hope to increase our membership and update our very much outdated constitution.

What do you think will be the key challenges for yourself as the president, and/or for

CORS itself over the next year?

Key challenges for myself as well as CORS will be to find innovative ways to increase our membership which has been in steady decline over the past few years. Also, we will have for the first time a joint conference with MITACS in Edmonton next May.

How do you think we can increase interest for studying OR for prospective students? industry leaders?

We can increase interest for students and industry leaders by having them attend OR events such as this conference so they can see the applications of OR.

What do you think is the main contribution or service to date for CORS?

It provides a forum where Canadian OR practitioners can have an opportunity to network and share research ideas and celebrate their successes.

If you had a super human power, what power would it be? (ex. flying, x-ray vision, etc)

Hmmm, interesting question. I like to be able to change the weather.

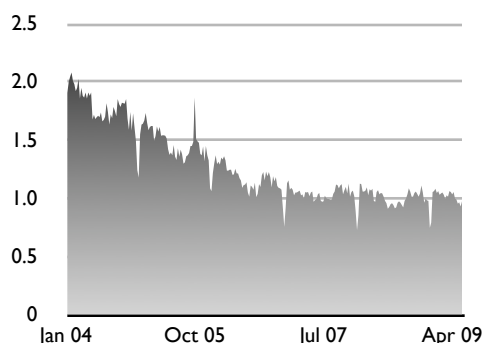
A Round of Applause to...

The editors would like to extend their gratitude and thanks to a number of CORS members and executive for their support and time for the planning and production of this year's newspaper. We would like to specifically thank Vinh Quan for his help co-ordinating the newspaper content with conference events and logistics, Wendy Caron for award recipient information, and mostly Bill Simms for his support and persistence in following up with our progress over the months leading to the conference and during the conference.

We would also like to recognize the reporters who filled our newspaper with great content. Specifically our travel consultant Pamela Chan, and our interviewers Sherry Weaver, and Solmaz Azari-Rad.

Google Trends Results

This is your last chance to submit ideas or comments about our newspaper or about the below Google trends as described in vol. 2 #1. We will publish a "letters to the editors" section with your comments in Wednesday's edition. Submission will be eligible for GREAT prizes!!!!



www.rypple.com/corstimes/orms

Join Our 2010 Team!

CORS times is looking for editors, reporters, French translators and photographers for next year's conference newsletter. Contact either Ali or Daphne if you are interested or message

www.rypple.com/corstimes/feedback



Capitol building, Edmonton, Alberta. The host city for CORS 2010. Also, the host of Klondike Days (a similar, but less-famous version of the Calgary Stampede) and the home of the Edmonton Oilers. Edmonton is surrounded by the majestic Rocky Mountains, Jasper National Park, and the oil sands.

Pamela Chan profiles shopping areas in the city where you can spend your hard-earned cash.

DIY Stimulus for Toronto's Economy

Queen West (Between University and Spadina)

This area is known for its vibrant, trendy community and unique shops. There are many local shops mixed in with commercial retailers such as Zara, Aritzia, Club Monaco and Kichl's. You can stop by the local creperie (Café Crepe) for a delicious snack. Hipper bars in the area include the Cameron, Horseshoe Tavern and The Rivoli.

Yorkville

Located in the heart of downtown Toronto, this street is the equivalent to Newbury Street in Boston or Fifth Avenue in New York City. There are many premier designer stores (Louis Vuitton, Chanel, Prada) as well as upscale fashion boutiques (Over the Rainbow, Noir). Also located in this area is the flagship store for the luxury department store Holt Renfrew and uber chic shopping centre Hazelton Lanes. Stop by for a bite on the Patio at Remy's, Hemingway's or Montreal Bread Company.

Eaton Centre

Toronto's multi-level shopping mall that is now open 365 days of the year and designated as a

tourist location. There are over 250 retail stores and two food courts occupying different ends of the shopping. | 220 Yonge Street, 416.598.8560

Kensington Market

This urban-hippy neighbourhood has a number of independent shoppes. Stop by The Blue Banana to fulfil all your personal and household accessories needs. Including unique jewellery, furniture, scarves and much more all made by local artists. Satisfy your pallet with one of the many food choices ranging from Jamaican Beef Patties, Asian-fusion from Supermarket, Mexican from El Trompo or La Pallette, a small French bistro.. Afterwards, enjoy a delicious dessert in the sun on Wanda's Pie in the Sky patio. You can also relax in one of the local coffee shops such as Ideal Coffee or Luis Coffee Stop. Kensington is located just west of China Town, between College Street and Dundas Street, from Spadina to Augusta. This market area features

Vaughanmills

A bargain hunter's dream. The outlet stores at Vaughanmills offer outlet prices from major retail stores. There's a shuttle leaving from Union Station twice a day. | HWY400 /Rutherford Rd



CORS TIMES

THEY SHOOT, THEY SCORE

Sherry Weaver and Dr. Martell chat about climate change and forest fires and how OR can help with the increasing complexities of fire management

Merit Prize Winner Dr. David Martell is Hot Hot Hot



What drew you to the flame? That is, why did you choose Fire Management as your area of OR research.

When I was a third year undergraduate Industrial Engineering student at the University of Toronto I applied for, was offered and accepted a summer job with the Fire Control Unit in the then, Ontario Department of Lands and Forests in Toronto. My job was to assist a planner (who had completed OR courses in IE while he was completing his Masters in Forestry) with the development of models that could be used to help determine how to allocate suppression resources to small, initial attack fires. I really got caught up in the problems and developed an airtanker simulation model for my undergraduate thesis. I was having so much fun that I then decided to continue studying forest fire management problems for my Masters and PhD thesis research in IE at U of T. The Faculty of Forestry at U of T advertised a position for a forest fire specialist as I neared the completion of my PhD program so I applied for, was offered, and accepted that position and I have been here ever since.

The challenge of developing decision support systems for complex stochastic systems and working with dedicated professionals that are constantly seeking scientific and technological advances to enhance their performance coupled with the fact that I occasionally get out in the bush and experience the adrenalin rush that comes when you see nature at work, up close, in the form of a raging crown fire has made my career, to say the least, interesting. The fact that when I do so I occasionally encounter former students using concepts my graduate students and I have developed or taught them makes such experiences especially rewarding.

In your opinion, what has been OR's biggest contribution to Forest Fire Management over the past 10 years?

OR has contributed to improved forest fire management through 1) the development of models and decision support systems that are used by fire managers and 2) by fostering the development of a management culture in which decision analysis expertise is viewed as something that can and should be drawn upon to enhance forest fire management.

Operational Researchers have, for example, contributed to the development of 1) fire occurrence prediction models (Poisson processes), strategic planning models that are used to help determine how many fire fighters, air tankers and helicopters are required to minimize the cost of fire protection (simulation models), and 3) forest management planning models that are used to assess the impact of fire on forest resources and to develop forest management plans under uncertainty due to fire (linear programming models).

Even more importantly, fire people in the province of Ontario have come to rely upon and use decision support systems to guide them in their work. The challenge to OR specialists working in fire is not so much to “market” their ideas and expertise but rather to keep up with the demands of fire managers who have come to assume they should draw upon and use OR to support “science based” management of Ontario’s forest fire management program.

Climate change is certainly a topic that currently gets a lot of attention in the media. How do OR models integrate our understanding of climate change on forest management systems?

Weather has a very significant impact on fire and climate change is expected to result in increases in the number fires that occur and area burned. Operational researchers have contributed to the development of fire occurrence prediction models that are used to project how climate change will alter fire regimes in the future and the forest management planning models they have developed are, and will continue to be used to evaluate strategies for managing forests under a changing climate

At the beginning of the year, the forest fires in

Australia were headline news across the globe. How much collaborative work is done in your area across the continents? Are there significant geographical differences that one sees dealing with forest fires in other countries/continents? What did the global research community learn from the fires in Australia?

The spread of fire into inhabited landscapes is common throughout California, the Mediterranean basin and from time to time, but on a much smaller scale, the British Columbia interior. But the fires in Australia served as a wake-up call to the international forest fire community as the loss of life was on a scale not seen in recent years.

I have not yet visited Australia but one of my colleagues has participated in burning experiments there and we have had Australian fire specialists visit my lab and participate in conferences here in Canada. Australians have a somewhat unique relationship with fire because of the flammable eucalyptus forests that feature so prominently in their forests and their culture. They will, as they always have, share their knowledge and experience with us, but the tragedies of 2009 have yet to be fully documented and formal judicial enquiries are far from over so I expect it will be some time before we fully understand and appreciate what happened and how we and they might deal with such problems in the future.

With respect to OR, the Australian fire community has a well deserved reputation for excellence in fire ecology and fire behaviour and we hope to collaborate with them to benefit from that knowledge and to share our OR expertise with them.

What advice would you give to students currently entering your field of research?

I would encourage anyone who aspires to apply OR in any particular area to take time to learn what’s really going on in the organizations in which they hope to apply their expertise, be they researchers, in house analysts, or consultants. After I completed my PhD program and was hired as an assistant professor I spent part of the summer as a member of a fire crew based at Shebandowan near Thunder Bay, Ontario. I was very fortunate that my crew leader and the members of my crew taught me a great deal about what they did, how and why they did it, and how they viewed the fire organization from the bottom up.

In subsequent years I have been very fortunate to have the opportunity to spend many days sitting in fire centres, walking and flying around fires, sitting in on planning sessions and having experienced individuals throughout Ontario’s fire management program share their knowledge and experience with me after things have quieted down and the smoke has settled. Social scientists call it participant observation. One of my colleagues called it “getting dirt on your boots”. Whatever you call it, it’s a great way to learn how systems really function and I recommend it to anyone who aspires to help managers improve their decision-making.

Our prime minister was jokingly asked what vegetable he would be if he were to choose. So to wrap this up with a bit of levity, what tree would you describe yourself as... and why?

Well first of all, I’d much rather be a tree than a vegetable because most vegetables live short boring lives in gardens surrounded by other vegetables whereas trees live in forests. When’s the last time you went hiking, canoeing or camping in a vegetable garden :-)

If I were a tree I would prefer to be a White Pine, the arboreal emblem of the province of Ontario. White Pine are tall beautiful trees that live long lives in places like Algonquin Park, Quetico Park and near Temagami. They have thick bark that enables them to survive low intensity fires that facilitate the regeneration of their offspring. In the end, they are either cut to produce quality lumber that can, for example, become part of a kitchen or dining room table or they become dead standing snags that become homes for cavity nesting birds.



Student Paper Competition

The award recognizes 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.

There were 12 submissions in the open category. The results are:

Winner

Product Differentiation and Operations Strategy in a Competitive Market by Sachin Jayaswal, Elizabeth M. Jewkes, Saibal Ray | Department of Management Sciences, University of Waterloo.

Honorable Mentions

Fuzzy Hierarchical Production Planning by Mahmood Ebadian, Seyed Ali Torabi, Reza Tanha | Deaprtment of Wood Science, University of British Columbia.

Appointment Scheduling with Discrete Random Durations by Mehmet A. Begen, Maurice Queyranne | Suader School of Business, University of British Columbia.

There were six submissions in the undergraduate category. The results are:

Winner

Robust portfolio selection for index tracking by Chen Chen, Roy H. Kwon | Mechanical and Industrial Engineering, University of Toronto.

Honorable Mentions

Prodcution Facility Optimization by Maxine Cunningham, John Schmidt, Jonathon Braamms, Dan Haight | School of Business, University of Alberta.

Disabled Adult Transit Service - Optimal Shift Design and Demand Forecasting by Mike Clay, Yvan Fortier, Chris Samuel, Dan Haight | School of Business, University of Alberta.

SIMUL8 Simulation Competition

In this annual student competition, teams of 2-4 students from the same university work on a simulation problem that can be solved using SIMUL8. This year’s winning group is:

Winner: **The Hungry Simul8tors: Joey Uljevic, Chong Chen, Haoyu Xu, Wenhai Huang**, Sauder School of Business, University of British Columbia.

Honorable Mention: **Silvia Moreno, David Mendoza, David Melendez, Luis Humberto Fajardo** | Universidad de Los Andes, Bogotá, Colombia

Service Awards

The Service Award recognizes members of the Society who have made outstanding contributions of time and service to the Society. This year’s winners are:

Debbie Blakeney, 2008-09 CORS Secretary | Department of National Defence, Ottawa.

Elkafi Hassini, 2008-09 CORS Treasurer | McMaster University, Hamilton.

René Séguin, 2008-09 CORS President | Department of National Defence, Winnipeg.

Omond Solandt Award

The Omond Solandt Award is awarded to an organization, private or governmental, that is deemed to have made an outstanding contribution to operational research in Canada. Dr. Solandt was the founder and first chairman of the Defence Research Board (DRB).

Maplesoft™ is given the Solandt Award this year. Based in Waterloo, Ontario, Maplesoft™ is the leading provider of high-performance software tools for engineering, science, and mathematics.

Practice Prize

Each year the CORS conducts a competition on the practice of operational research to recognize the challenging application of the OR approach to the solution of applied problems. The main criteria considered in evaluating submissions are project impact on the client organization, contribution to the practice of OR, quality of analysis, degree of challenge and quality of written and oral presentation. There were six submissions for this prize. The winners of this competition are:

First Place: **Improving Production and Inventory Planning for Scotsburn Ice Cream** by Andre Cameron, Eldon Gunn, Corinne MacDonald | Department of Industrial Engineering, Dalhousie University.

Second Place: **Modelling the Future of the Canadian Cardiac Surgery Workforce Using Systems Dynamics** by Sonia Vanderby, Michael Carter, Christopher Feindel, Timothy Latham | Mechanical and Industrial Engineering, University of Toronto & Canadian Society of Cardiac Surgeons.

Harold Larnder Prize

The Harold Larnder Prize is awarded annually to an individual who has achieved international distinction in operational research.

This year, the Larnder prize is awarded to **Steve Gallivan**, Clinical Operations Research Unit, University College London.

Correction Notice (to prove that we are a real publication): In the Tuesday morning issue of CT, we have mistakenly stated that Dr. Quan is a lecturer at UOIT. Dr. Quan is actually a lecturer at the University of Toronto, Scarborough.