Transportation Science and Logistics Society Newsletter Fall 2010

From the Past President, Theo Crainic

Time flies and it is the time to review the year that passed and welcome our new President, Patrick Jaillet (Jaillet@mit.edu).

The Newsletter details many fine accomplishments by TSL members and the Society. I will not bore you by repeating them. I take this opportunity, however, to offer our collective congratulations and thanks to a few particular people (and all my excuses and regrets to all of you that I forgot to mention).

Special congratulations are of course due to the winner, honourable mentions, and their advisors, of the TSL Best Dissertation Award competition. The general level of the submitted theses was particularly high, and we offer our thanks and congratulations to all participants and their advisors, as well as to winners and participants to other competitions organized in 2010. I encourage all of you to nominate the work of your best students and thus contribute to disseminate their contributions and to increase the visibility of the Society.

Very special congratulations to Professor Michael Florian who received the most prestigious distinction awarded by the government of Quebec for outstanding contributions to the scientific and social development of the Province of Quebec. We also offer our congratulations to the winners of the TSL Best Paper Award.

Thanks are due to several of our colleagues who contributed greatly to the Society. I offer our collective and special thanks to Jim Moore who not only did a wonderful job during his three year on the board of the TSL as VP, President, and Past President (and made my task so much easier this last year!!), but also single-handedly undertook and completed the task of providing the Society with a logo. You had the opportunity to vote for your preferred version and you can appreciate the beauty of it. I assure you that it was also a lot of work, in particular humouring the desires of the Board and fitting within the INFORMS standards.

The Society has also initiated the series of annual workshops we discussed over the past years. The first one will take place in June of this year and you have the opportunity to participate by submitting and abstract before February 14. Mike Ball, Mike Florian, and Toi Lawphongpanich are organizing it and we thank them greatly for it. Special thanks are due to Mike Ball for his tenacity and enormous amount of work he put in to see the project through. It is now our turn to continue this series of workshops. The procedure will be announced momentarily and I encourage you all to consider putting together a fine meeting of minds on an interesting topic in transportation and logistics science.

From the Past President, Theo Crainic continued

Meetings and workshops are one of the most visible activities performed or supported by the Society. Two major accomplishments must be emphasized this year: the TSL cluster at the INFORMS Annual Meeting in Austin, chaired by Lei Zhang, and TRISTAN, organized in Tromso, Norway, by Henrik Andersson, Michel Bierlaire, Marielle Christiansen, Geir Hasle, Arild Hoff, Arne Lokketangen. You will find in this Newsletter the descriptions of these two events, which had great success with respect to science and, at least for TRISTAN, social activities. Many thanks to the organizers and to all of you who helped in organizing sessions and participated!

It is Tom van Woensel (T.v.Woensel@tue.nl) who is organizing the TSL cluster for the 2011 INFORMS Annual Meeting and I encourage you to contact him with proposals for sessions and talks.

I offer our collective thanks to our colleagues who chaired TSL committees and who run in the elections for the TSL Board: R. (Jay) Jayakrishnan**,** who **a**greed to be a candidate in TSL elections and chaired the TSL Dissertation Prize Committee, and Anton Kleywegt, who chaired the Best Paper Prize Committee. This is hard and essential work and you have our collective gratitude.

Congratulations to Elise Miller-Hooks who was elected our new Vice President / President Elect and to David Lovell who was reelected as Secretary Treasurer. And all the best to Patrick Jaillet who become our President. The society is in good hands.

From the newsletter editor, Mike Hewitt

Thanks to all who contributed to this newsletter. I invite everyone to submit information on conferences, special editions of journals, employment opportunities, awards, etc., to both myself (mailto:mrheie@rit.edu) for inclusion in the newsletter and to the Communications Chair, Maciek Nowak (mailto:mnowak4@luc.edu), for inclusion in the TSL community web page. As always, any comments, suggestions or feedback regarding the look of the newsletter are welcome.

Membership in the TSL Society remains strong, with 972 members in 2010. However, new members are always needed and welcome. We are a society that appeals to many disciplines, so invite your colleagues and make sure your students are aware of our society.

This edition of the newsletter contains many interesting stories, beginning with an invitation to submit abstracts to the new TSL workshop. The newsletter continues with a recap of INFORMS Austin and the awards given at the business meeting. We continue the theme of awards, recapping the Council of University Transportation Centers 2010-11 award winners and some wonderful recognition recently paid to Michael Florian. Next, Jim Moore discusses the options for the new logo for our society. After that, we have many photos and a wonderful description of TRISTAN VII, which took place this past summer. We next recap the latest problem-solving competition held by the Railway Application Section. The next story reveals how you can solve TSPs on your iPhone. After that, we discuss international courses that are being offered this spring/summer, and then we finish with the results of the latest TSL election.

Mike Hewitt

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Inaugural TSL workshop

The inaugural TSL workshop will be held on June 26 through 29, 2011 at the Asilomar Conference Grounds http://www.visitasilomar.com/. The topic of the workshop is: *Congestion Management of Transportation Systems on the Ground and in the Air.* Information on the workshop can be found at: http://www.informs.org/Community/TSL/TSL-Workshop

If you are interested in attending the workshop we request that you submit an abstract. This can be done by attaching your abstract to an email and sending it to the workshop email repository: tsl.workshop@gmail.com. Your abstract should be at most 250 words and be in PDF format; please include your name, affiliation, address and email address with the abstract. In the body of your email you may include additional information regarding your interest in the workshop such as projects, activities or work experience you have had that are germane to the topic. The deadline for submitting an abstract is Monday, February 14. You will be notified of acceptance of your abstract by Monday, March 14.

We are looking forward to this workshop and hope that it will represent the beginning of a tradition of high-quality stimulating workshops on a range of topics that, over time, will cover the interests of all TSL members.

Mike Ball, Mike Florian, Toi Lawphongpanich
Co-Organizers

Asilomar Conference Grounds, Pacific Grove, CA

TSL Cluster Report at INFORMS 2010 Annual Meeting

Cluster Chair: Lei Zhang

13 Sessions in the TSL Intelligent Transportation Systems (ITS) Track.
Chair - Satish Ukkusuri <sukkusur@purdue.edu>, Vice Chair - Jeff X. Ban <banx@rpi.edu>
12 Sessions in the TSL Freight Logistics Track.
Chair - Alan Erera <alerera@isye.gatech.edu>, Vice Chair - Yanfeng Ouyang <yfouyang@illinois.edu>
10 Sessions in the TSL Urban Transportation Track.
Chair - Pablo Durango-Cohen <pdc@northwestern.edu>, Vice Chair - Yueyue Fan <yyfan@ucdavis.edu>
15 Sessions in the TSL Facility Logistics/Evaluation Track.
Chair - Bryan Norman <banorman@pitt.edu>, Vice Chair - Ananth Krishnamurthy <ananth@engr.wisc.edu>

6 jointly-sponsored sessions with Aviation Applications Cluster
Chair - Amy Cohn <amycohn@umich.edu>, Vice Chair - Laurie Garrow <laurie.garrow@ce.gatech.edu>
Cluster Chair: Gizem Keysan, gizem.keysan@united.com

1 jointly-sponsored session with Railway Applications Cluster
Chaired by Ravindra Ahuja, University of Florida, ahuja@ufl.edu

Total number of presentations in all these sessions: 203

One of the top 10 INFORMS Clusters/Tracks (out of 70+) with more than 30 sessions.

Special Thanks to:
Jim Moore and other TSL Officers
Theo Crainic;   Past Cluster Chair, Yanfeng Ouyang

Thanks to Elise Miller-Hooks, Yafeng Yin and Siriphong (Toi) Lawphongpanich for voluntarily organizing session tracks

2010 TSL Dissertation Prizes

Winner: Irina Dolinskaya, PhD, University of Michigan, 2009.
Thesis: Optimal Path Finding in Direction, Location and Time Dependent Environments.
Advisor: Prof. Robert L. Smith

Honorable Mentions: Zeliha Akca, PhD, Lehigh University, 2010
Thesis: Integrated Location, Routing and Scheduling Problems: Models and Algorithms
Advisor: Prof. Theodore K. Ralphs

Naveen Eluru, PhD, University of Texas-Austin, 2010
Thesis: Developing Advanced Econometrics Frameworks for Modeling Multidimensional Choices: An Application to Integrated Land-Use Activity Based Model Framework
Advisor: Prof. Chandar R. Bhat

Committee Members:
- R. Jayakrishnan, University of California, Irvine
- Anthony Chen, Utah State University
- Diego Klabjan, Northwestern University
- Ram Pendyala, Arizona State University
- Huseyin Topaloglu, Cornell University

2010 TSL Best Paper Competition

Winner: Hugo P. Simão, Jeff Day, Abraham P. George, Ted Gifford, John Nienow & Warren B. Powell for the paper "An Approximate Dynamic Programming Algorithm for Large-Scale Fleet Management: A Case Application."

Honorable Mentions:
Iris F. A. Vis & Kees Jan Roodbergen for the paper "Scheduling of Container Storage and Retrieval."

Balachandran Vaidyanathan, Ravindra K. Ahuja & James B. Orlin for the paper "The Locomotive Routing Problem."

Prize Committee Chair: Anton J. Kleywegt

Council of University Transportation Centers 2010-11 Award Winners

Jim Moore, University of Southern California

Advisees of TSL members are once again well represented among submissions to the annual Council of University Transportation Centers (CUTC) Awards Competition. The competition recognizes outstanding transportation graduate students, faculty, and leaders for their accomplishments in the field of transportation research and education. Each year six students are honored at the Annual CUTC Awards Reception and Banquet, which is held in conjunction with the annual meetings of the Transportation Research Board in Washington, DC. The 14th Annual Banquet was held on January 22, 2011 at the Omni Shoreham Hotel.

These individuals, who have been nominated by educators from across the country, have emerged as some of the best and brightest minds in the field. This 2010-11 CUTC Award Winners are:

- **Pikarsky Award for Outstanding Ph.D. Dissertation in Science and Technology:**
  Dr. Dr. Pengcheng Zhang, Purdue University for the dissertation " A Generalized Modeling Framework to Analyze Interdependencies Among Infrastructure Systems." Advisor: Srinivas Peeta, Department of Civil Engineering/NEXTRANS Center.

- **Pikarsky Award for Outstanding M.S. Thesis in Science and Technology:**
  Mr. Kai Yin, Texas A&M University for the thesis "Modeling Information Propagation Along Traffic on Two Parallel Roads." Advisor: Bruce Wang, Zachry Department of Civil Engineering/Texas Transportation Institute.

- **Wootan Award for Outstanding Ph.D. Dissertation in Policy and Planning:**
  Dr. Gian-Claudia Sciara, University of California Berkeley for the dissertation "Planners and the Pork Barrel: Metropolitan Engagement in and Resistance to Congressional Transportation Earmarking." Advisor: Martin Wachs, RAND Corp.

- **Wootan Award for Outstanding M.S. Thesis in Policy and Planning:**
  Mr. Sashank Musti, The University of Texas at Austin for the thesis "Evolution of the Household Vehicle Fleet: Anticipating Fleet Compositions, Plug-In Hybrid Electric Vehicle (PHEV) Adoption and Greenhouse Gas (GHG) Emissions in Austin Texas." Advisor: Kara Kockelman, Department of Civil, Architectural, and Environmental Engineering.

- **Parker Award for Outstanding Non-thesis Masters Degree Paper in Science and Technology:**
  Ms. Adina Boyce, The City College of New York for her report "Modeling Traffic Idling Conditions in East Harlem (96th to 145th Street & Lenox Ave to 1st Avenue) and their Impact on Air Quality." Advisor: Neville Parker, Department of Civil Engineering/CUNY Institute for Urban Systems.

- **Parker Award for Outstanding Non-thesis Masters Degree Paper in Policy and Planning:**
  Ms. Colleen Callahan, UCLA Department of Urban Planning for her report "The Plane Truth - Air Quality Impacts of Airport Operations and Strategies for Sustainability: A Case Study of the Los Angeles World Airports." Advisor: Brian Taylor, Department of Urban Planning/Institute of Transportation Studies.

Congratulations to the winners and special thanks to all students who contributed papers and to the advisors and sponsors who nominated individuals. CUTC reports that there were many excellent submissions and identifying winners was a very difficult decision for the judges.

CIRRELT

MICHAEL FLORIAN RÉÇOIT LE PRIX LIONEL-BOULET 2010

Le professeur *MICHAEL FLORIAN*, chercheur du CIRRELT et professeur émérite au Département d'informatique et de recherche opérationnelle de l'Université de Montréal, a reçu le *Prix Lionel-Boulet 2010*. Ce prix prestigieux est l'un des onze Prix du Québec décernés annuellement par le gouvernement du Québec. Il couronne l'ensemble de la carrière et de l'œuvre d'un chercheur québécois.

Le *Prix Lionel-Boulet* reconnaît la carrière d'un chercheur qui s'est distingué par ses inventions, son leadership dans le développement scientifique et son apport à la croissance économique du Québec. Il doit son nom à Lionel Boulet (1919-1996), premier directeur (1967-1982) de l'Institut de recherche d'Hydro-Québec (IREQ).

Les Prix du Québec constituent la plus haute distinction décernée par le gouvernement du Québec pour rendre témoignage de la reconnaissance de la société envers des personnes qui ont contribué à l'avancement social et scientifique du Québec.

MICHAEL FLORIAN IS AWARDED THE 2010 LIONEL-BOULET PRIZE

Professor *MICHAEL FLORIAN*, researcher at CIRRELT and Emeritus Professor at the Department of Computer Science and Operations Research of the Université de Montréal, is awarded the *2010 Lionel-Boulet Prize*. This prestigious award is one of the eleven *Prix du Québec* presented annually by the Government of Québec. It is the recognition of outstanding career achievement by a researcher from Québec.

The *Lionel-Boulet Prize* recognizes the career of a researcher who has become famous by his inventions, leadership in the scientific development and his influence on the Québec economic growth. This award has been named after Lionel Boulet (1919-1996), the first director (1967-1982) of Hydro-Québec research institute (IREQ).

The *Prix du Québec* are the most prestigious distinctions to be awarded by the Government of Québec to express the recognition of the society to the persons who have contributed to the social and scientific advancement of Québec.

Pour obtenir plus d'information / For more information:
http://www.prixduquebec.gouv.qc.ca/recherche/desclaureat.php?noLaureat=418

UNIVERSITÉ **LAVAL**   **UQÀM** *Université du Québec à Montréal*   **HEC MONTRÉAL**   ÉCOLE **POLYTECHNIQUE** MONTRÉAL   Université de Montréal

Selecting a TSL Logo

Jim Moore, University of Southern California

The Bylaws of the Transportation Science and Logistics Society declare that TSL provides the Institute for Operations Research and the Management Sciences with continuing, specialized focus on the topics of transportation science and logistics with the aim of identifying current and potential problems and contributions to their solutions. Specifically, TSL leads in

    i.   the development, dissemination and implementation of knowledge, basic and applied research;

    ii.   efforts to extend, unify and integrate related branches of knowledge and practice;

    iii.   the free interchange of information, encouraging discussion and interaction among interested scholars and professionals;

    iv.   efforts to identify, codify, synthesize and interpret knowledge, tools and techniques; and

   v.   the promotion high professional standards and integrity in all work done in these areas.

Unfortunately, at present, the Transportation Science and Logistics Society has no graphic identity that captures and communicates this mission. There are several reasons that TSL needs a graphic identity. At a minimum, it is important to communicate our affiliation with INFORMS, the largest professional society in the world for professionals in the field of operations research, draw attention to our unique and specific intellectual focus on transportation science and logistics, and demonstrate our unyielding commitment to professionalism. We also want to help promote interest in our field, particularly among students. On some occasions, the membership of the Transportation Science and Logistics Society wants to communicate our role within INFORMS and emphasize our identity as part of INFORMS, while on other occasions TSL has a need to identify itself without explicitly alluding to INFORMS, such as those occasions on which INFORMS has a commercial preference not be identified as a sponsor of an event in which TSL has reason to participate.

Approximately half of the INFORMS societies have a graphic identity. Some of these are starkly unambiguous:

Selecting a TSL Logo continued

Some present the viewer with a minor mystery:
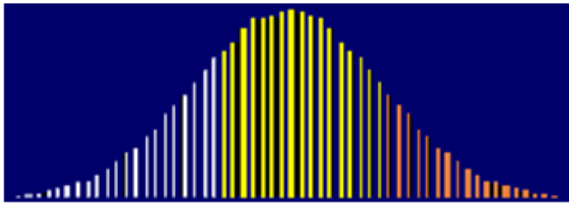
Applied Probability Society

Simulation Society

And some are somewhere in between:

Computing Society

It is time for the Transportation Science and Logistics Society to select a graphic identity that support's TSL's purpose and role as a focal point for transportation science and logistics scholars and professionals, an identity that embodies the strength of our organization and its members.   The TSL Board and the INFORMS communications office reviewed various TSL graphic identity options provided by the Warren Group / Studio Deluxe, a Los Angeles-based design firm. The Board has voted to place four options before to the TSL membership for a general vote. These options conform to the INFORMS graphic identity guidelines and have been provided at no cost to TSL.

Selecting a TSL Logo continued

Each option includes

      i.)   an abbreviated logo consisting of a symbol,
      ii.)   a logo consisting of the symbol combined with a word mark, and
      iii.)   an extended logo that incorporates the TSL logo and the INFORMS symbol.

Option 1 a

Royal blue is the primary INFORMS color

    "because blue is perceived as trustworthy, dependable, fiscally responsible and secure. …a
    darker blue, included in the secondary INFORMS palette is associated with intelligence, stability,
    unity, and conservatism. According to studies, blue is a preferred color for corporate America,
    demonstrating expertise, and suggests precision when promoting technical products."
                                                    INFORMS BRANDING GUIDE

These traits are ones that the Board is proud to highlight in the TSL membership.

Selecting a TSL Logo continued

Options 1a and 2a rely exclusively on the official INFORMS color palette. This is intended to communicate the strong connection TSL has to the larger INFORMS community. Options 1b and 2b introduce maroon, a color not currently present in the INFORMS palette, and uses this color in combination with elements from the INFORMS palette. This is intended to communicate the unique dimension TSL brings to the INFORMS community.

Option 1 b

An electronic vote will be held soon with respect to these options. The option that receives the most votes will be adopted. Consistent and frequent use of the logo will help to bring the Society and its goals to the forefront of the public's perception of transportation science and logistics. The elements of the preferred option will be made available for download from the TSL website in both color and black and white versions for use by TSL members, and will be used as an identifier on the TSL website and in TSL written and electronic communications

Selecting a TSL Logo continued

Option 2 a

Option 2 b
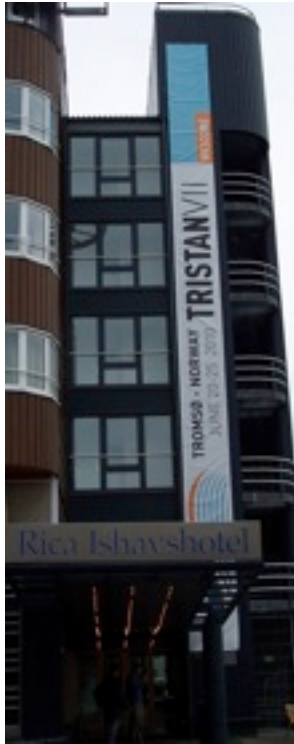
TRISTAN VII

Geir Hasle

The Seventh Triennial Symposium on Transportation Analysis – TRISTAN VII – took place in Tromsø, Norway June 20-25, right in the middle of the long "day" of midnight sun lasting from May 20 until July 25. At close to 70 degrees north, the city of Tromsø with some 70.000 inhabitants lies well within the Arctic Circle. It is called "The Gateway to the Arctic", but also "The Paris of the North" because of the lively nightlife. Fortunately, we had "all day rain" and 8 degrees centigrade during large parts of the conference, so very few delegates were tempted to sneak away during sessions.

TRISTAN VII was officially opened Monday morning by the Mayor of Tromsø, Mr. Arild Hausberg. With 310 submitted and 204 accepted papers, 252 participants and 21 registered accompanying persons from 29 countries TRISTAN VII is the largest TRISTAN so far. Of the 204 presentations there were three excellent plenary talks by Grazia Speranza, Rolf Möhring, and Martine Labbé. On Monday just before midnight there was the Midnight Session with three somewhat less formal, very entertaining talks by Marius Solomon, Patrice Marcotte, and Gilbert Laporte. The remaining talks were structured into 71 sessions in four parallel tracks. It is our impression that the quality of the presentations was generally very high. Selected full papers will be published in special issues of Transportation Science and Transportation Research Part C.

In contrast with the physical climate, the warm social climate from earlier TRISTANs prevailed. The get together party at the Polaria exhibit on Sunday evening had good attendance. In addition to food, drinks and good company we could enjoy a spectacular film from Spitsbergen, the "Arctic Walkway" with local marine species and a separate pool with bearded seals. On Tuesday evening we organized a PhD student gathering in the Skibsbroen bar with some 30 participants. The committee is grateful to Bruce Golden for this excellent idea. The ones that had been clever enough to sign up for a fishing trip with MS Caroline Mathilde were rewarded with perfect fishing weather and a nice catch. The 13 kg halibut caught by Luca Gambardella could be admired on the lunch buffet the day after. The mountain hike people were not as lucky, but at least the ones with warm clothes and rainwear seemed quite happy.

Luca Gambardella got concrete results from TRISTAN VII

TRISTAN VII continued

Rica Ishavshotel - the conference venue

The mayor of Tromsø, Mr. Arild Hausberg, officially opened TRISTAN VII

The Wednesday excursion took us to traditional Sami lavvo tents at the Villmarkssenteret wilderness center where we enjoyed reindeer stew with lingonberries. We continued further out to the small community at Sommarøy on the ocean. A selection of activities included sea rafting, climbing, and hiking to a nearby mountain. Despite the rain and 8 degrees, some 25 delegates were observed swimming (a few strokes, anyway ...) in the Arctic waters. Luckily, two hot tubs were available. After the buffet dinner, the TRISTAN VIII candidates were presented: Manhattan, Sicily, and Chile.

Exploring Sommarøy

Grazia Speranza gave an excellent plenary talk on inventory routing

TRISTAN VII continued

The venue conference dinner was DRIV, originally a harbor warehouse, now the student house of Tromsø. Two young Sami women in traditional costumes opened the evening with joik, a special form of song. Judging from all the happy faces, the four course meal with accompanying wines was great. We needed two rounds of voting to select San Pedro de Atacama in Chile as the venue for TRISTAN VIII. The band 'Lost' was very present indeed, and delegates of all ages could be observed on the dance floor. The weather had improved greatly, and people on their way home could enjoy clear skies and the midnight sun. Quite a few took the trip on top of the Tromsøsund bridge for a better view, and a dozen or so delegates even took the three hour hike up and down Mount Storsteinen for a magnificent view of the Tromsøya island, the city of Tromsø, and the surrounding mountains in the wee hours.
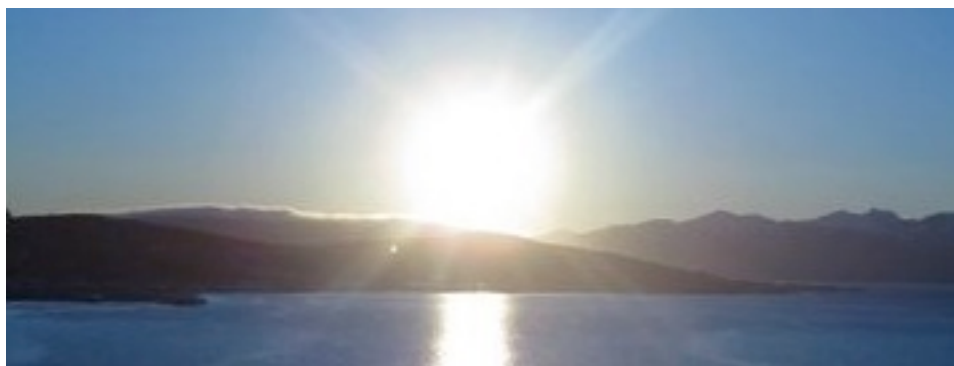

View from DRIV during the conference dinner

When we drew the curtains in the Rica Panorama hall at the end of the farewell drink event on Friday, the sun shone from clear skies. TRISTAN VII finished on a very positive note with everyone outside on the quay. We take this as a good sign for the future.

The Organizing Committee would like to thank everyone involved for making TRISTAN VII a successful event, and TSL and the other sponsors in particular for their substantial contribution.

Geir Hasle

For more information and pictures, we invite you to visit www.tristan7.org .

Midnight sun in Tromsø

View from Mount Storsteinen at 4AM after the conference dinner

Marielle Christiansen of the Organizing
Committee in her national costume

Brave mountain hikers

The Chair of the Organizing Committee Geir Hasle during the
opening session

The 2010 RAS Problem Solving Competition

Homarjun Agrahari, Juan C. Morales
BNSF Railway Company

The Railway Applications Section (RAS) of INFORMS is a vibrant international community with over 200 members. At this year's Annual Meeting, RAS sponsored 11 sessions with over thirty presenters. In 2010, RAS organized the first Problem Solving Competition. The purpose is to provide visibility to the OR community of some of the challenging and interesting problems that can be found today in railroads around the globe. This competition is open to anyone new to railroading, Operations Research, or both. The total prize money is $5000 (thanks to generous sponsorship from BNSF, CSX, UP and NS). First prize is $2500, second prize $1500, and third prize is $1000.

For this year's competition, participants were asked to solve a simplified version of the locomotive fuel planning problem. In this problem, the railroad needs to identify a fueling plan that minimizes total fuel-related expenses, which includes fueling truck operating costs as well as fuel purchasing costs over a planning horizon. This plan must specify the number of trucks that should be contracted at each yard and the quantity of fuel that must be dispensed into each locomotive at every yard for every train-start in the locomotive train assignment cycle. A complete description of the problem along with an example can be found at our website http://www.informs.org/Community/RAS/Problem-Solving-Competition.

The initial response exceeded the organizing committee's expectations by far. A total of 89 teams registered for the competition, which included universities, companies, and consultants. Finally, 31 teams from 12 countries submitted entries making it a truly international competition. The solution techniques used by participants were varied – e.g., MIP, MIP with customized cuts, constraint programming, heuristic, and meta-heuristic methods. Several teams reported near-optimal solutions. The judging panel selected three finalists on the basis of solution quality, report and novelty and elegance of the formulation and solution approach. The three competed at one of the RAS sessions in this year's INFORMS Annual Meeting in Austin. Based on the finalist's presentation, and on their answers to the questions posted by the judging panel, these are the final standings of the 2010 competition:

1st Prize: TAU-IE, Members- Mor Kaspi & Tal Raviv, Tel Aviv University, Israel

2nd Prize: EDRAMSDEN, Members- Ed Ramsden, Lattice Semiconductor Corp. USA

3rd Prize: HALOS, Members- Virot Chiraphadhanakul, Cristian Figueroa, MIT, USA

Team *EdRamsden* proposed a creative hierarchical two-level heuristics that provided a near optimal solution within seconds. Team *HALOS* applied a series of valid inequalities and a lagrangian relaxation approach that produced good results in reasonable time. The winner, team *TAU-IE,* applied a series of insightful valid inequalities at the root node that enabled them to solve an MIP to near optimality within a few seconds. For more information about the winners' reports, please visit the competition's website.

Given the high quality of their work, the judging panel recognized the following teams with honorable mentions:

MATHY, Member - Michael Trick, CMU, USA and Tallys H Yunes, University of Miami, USA

NCKU, Members - I-Lin Wang, Min-Ting Liao, and Tzu-Chin Lin, National Cheng Kung University, Taiwan

RAS is encouraged by the broad support from the OR community around the world. Thank you for contributing to the success of this year's competition. In the spirit of making railroading problems accessible to the community, RAS will continue to make the 2010 problem available in its website. Additionally, more realistic problem instances will be added in the coming days. If you are a professor, we invite you to use this problem as a course project and challenge your students to match or beat the wining entry. If you are a consultant looking to engage railroads, we invite you to showcase your organization by competing next year.

The 2010 RAS Problem Solving Competition continued

If you are a railroad leader, we invite you to consider competition participants as potential employees or research and consulting collaborators. RAS is getting ready to host the 2011 Problem Solving Competition. If you have suggestions about the competition, please send them to Homarjun.Agrahari@BNSF.com and Juan.Morales@BNSF.com.

Acknowledgements:

Homarjun Agrahari and Juan Morales (BNSF Railway), Kamalesh Somani (CSX Corporation), Erick Wikum (IBM), Vinay Mehendiratta (NS Corporation), Carl VanDyke (Oliver Wyman), Shankara Kuppa (UP Railroad), Michael Gorman (University of Dayton), Yanfeng Ouyang and Seyed Mohammad Nourbakhsh and (University of Illinois at Urbana - Champaign), Krishna Jha and Saumya Ahuja (Innovative Scheduling Inc.).

iTSP?

Have some idle time and an iOS device? Thanks to Brian Egge of Ring 3 software, you can now put your TSP-solving expertise to the test on your iPhone or iPad with his app, "The Traveling Salesman," available for $.99 in the iTunes App Store.

For each of the 50 states in the US, the game contains four TSP instances of varying difficulty. The goal, of course, is to create the optimal tour. After creating a tour, the app indicates whether it is optimal, and, if not, how much longer it is than the optimal one and a hint about the city where your tour deviates from the optimal one. There's also a World Leaderboard where you can compare the tour you find with others who have played the app.

He used a dispersion-type algorithm to generate the instances, with the goal of maximizing the amount of screen space covered, and ensuring that points are far enough apart to be selected with a finger, while still using actual cities. He pre-computed the optimal tour for each instance with an enumerative technique implemented in Python and stores that tour, along with its length as data in the app.

According to Brian, the app took a couple of months to develop, with about a month spent on the user interface, which was developed in Objective-C, the Apple-sanctioned language for developing iOS apps. According to Brian, "like C++, Objective-C is an object oriented superset of the C language. Unlike C++, which has a strong type system, Objective-C is a dynamic, weakly typed language which adds Smalltalk-style messaging to it's objects."

Next, Brian wants to implement is a man-vs-machine mode, where the player and the iPhone/iPad create routes simultaneously, with the iPhone/iPad using a heuristic, and the app would then report who found the better route. Could having students compete with an iPad using nearest-neighbor be a good educational exercise?

The app has been successful; as Brian puts it, "The app has paid for the artwork which I hired an artist to do, and has provided me with some enjoyment. However, I certainly won't be quitting my day job."

Doctoral Courses with International Participation and PhD Openings

The Transportation Science and Logistics Society has a service to promote international cooperation and interaction at doctoral level. There are two sections to the community website (found at http://www.informs.org/Community/TSL/Doctoral-Studies), one for doctoral courses and one for PhD positions. Although run by TSL, all parts of OR are candidates for both sections. Ideally, what we wish to have in those sections are:

1. The announcement of PhD courses which satisfy four criteria:

- The course is concentrated in time, preferably with only one session, typically 1 to 2 weeks. We will not post "each-Monday-at-2" courses.

- Costs are nominal for outside students, that is, this is not for profit-oriented courses.

- At least some outside students must be accepted. This is not meant to be for internal courses open only to own students. On the other hand, it is fully acceptable that participation is competitive and that participation hence is limited.

- The courses are within OR in a wide sense.

2. The announcement of PhD positions.

- This is NOT for general advertisements for doctoral programs, only for specific openings with competitive access to funding.

All submissions are to be made to Stein.W.Wallace@lancaster.ac.uk. Professor Wallace is TSL International liaison for Europe and Africa and PhD Director at The Department of Management Science, Lancaster University Management School, UK.

The current listings are (and more details can be found at http://www.informs.org/Community/TSL/Doctoral-Studies):

Stochastic Modelling
Lancaster University
4-8 April 2011

Simulation
The University of Warwick
4-8 July 2011

Combinatorial Optimisation
University of Southampton
12-16 September 2011

All these courses are available to non-UK students at nominal costs. Please contact l.newby@lancaster.ac.uk if you are interested.

Stein W. Wallace
Professor of Operational Research
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Stein.W.Wallace@lancaster.ac.uk NEW!

TSL Officers

Election results are in and we have a new group of TSL Officers. Bios for those newly elected are below.

Elise Miller-Hooks (www.millerhooks.umd.edu) is the new Vice-president and President elect.
Elise Miller-Hooks is an associate professor of civil & environmental engineering and the Immediate Past Chair of the University Senate at the University of Maryland (UMD). She holds a Ph.D. (1997) from the Department of Civil Engineering at UT Austin. Elise's primary research interests are in optimization and mathematical modeling of transportation systems, stochastic and dynamic network algorithms, disaster planning and response, routing and scheduling, transportation infrastructure vulnerability and protection, and intermodal freight transport. She has served as PI on grants with funding of over $4 million from the National Science Foundation (NSF), European Commission, Federal Highway Administration, U.S. Department of Transportation, United Technologies Corp., U.S. Army through the Protective Technology Center, National Institute of Statistical Sciences, Sloan Foundation, I-95 Corridor Coalition and various state agencies, and is co-PI on an additional multi-million dollar University Transportation Center (UTC). She is the Director of the Mid-Atlantic UTC (MAUTC) at the MAUTC partner, UMD. Elise received a NSF CAREER award, 1st Young Distinguished Alumni Award from the Department of Civil Engineering at UT Austin, Charley Wootan Award for Best Ph.D. Dissertation from the Council of UTCs (CUTC), and several other national awards related to her research, including the 2007 Burggraf Award from the Transportation Research Board (TRB) of the National Academies of Science and Engineering. In her 12 years as a tenured/tenure track faculty member, she has chaired 13 Ph.D. committees (7 complete) and many M.S. committees.

Elise's work has been published in numerous journals, including *Transportation Science*, *Networks*, *European Journal of Operational Research, Naval Research Logistics, Computers and Operations Research*, *Journal of the Operational Research Society*, *Naval Research Logistics*, *Transportation Research-Parts B and E, Journal of Mathematical Modelling and Algorithms, Fire Technology, Journal of Intelligent Transportation Systems*, and *ASCE Journals of Urban Planning and Development and Transportation Engineering*, among others. She is Associate Editor of *Transportation Science* and is on the editorial board of the *Journal of Intelligent Transportation Systems*. She served on the TRB Transportation Network Modeling Committee for over a decade, is leading the effort for the TRB Subcommittee on Evacuation to become a committee, and is currently serving on 3 conference organization boards.

Elise has held numerous elected and appointed positions within INFORMS. Recently, she served on the INFORMS WORMS Award Committee and was a member of the 2008 Washington, D.C. INFORMS Organizing Committee, serving also as Special Events Co-Chair and Cluster Co-Chair for the meeting. She served as Chair of the INFORMS Ad-Hoc Committee on Diversity and for four years on the INFORMS Subdivisions Council, the INFORMS Fora/Chapters Committee and the INFORMS Prize Committee. She was a member of the INFORMS Membership and Member Services Committee and was President, Vice President and Treasurer of the INFORMS Women in OR/MS Forum.

Elise has served TSL extensively over the years. She was Secretary/Treasurer of the Transportation Science Section (TSS) for two terms, a member of the recent Editor-In-Chief Search Committee for Transportation Science and the TSS Dissertation Prize Committee. She chaired the "TSL Dissertation Prize: Guidelines for the Prize Committee" Committee. She was Cluster Chair for several meetings and has for many years informally organized numerous sessions for TSL on topics related to emergency preparedness and response. While on the INFORMS Subdivisions Council, she worked extensively on the creation of TSL as a society. .

Teodor Gabriel Crainic (University of Quebec in Montreal, TeodorGabriel.Crainic@cirrelt.ca) is the new Past President.

David Lovell (University of Maryland lovell@umd.edu) continues as the Secretary Treasurer, a post he has held since 2009.

Call for Papers

SUBMISSION DUE DATE: March 31, 2011

SPECIAL ISSUE ON Use of Real-Time Information in Transportation Operations

International Journal of Operations Research and Information Systems (IJORIS)

**Guest Editors: Scott E. Grasman, Missouri University of Science and Technology
           Michael R. Hewitt, Rochester Institute of Technology**

INTRODUCTION:
While real-time and dynamic information gathering and tracking technology presents a tremendous economic opportunity to transportation companies, it is also a significant challenge to researchers. Algorithms to determine how best to respond to such information may have only seconds to complete, rendering traditional approaches ineffective.

OBJECTIVE OF THE SPECIAL ISSUE:
This special issue will focus on papers that illustrate the benefits of using dynamic information in practical settings and how they were attained. The aim of this special issue is to provide both the theoretical and practical knowledge necessary to realize these benefits in other situations.

RECOMMENDED TOPICS:
Topics to be discussed in this special issue include (but are not limited to) the following:

   Case studies of practical and/or economic implications
   Communicating real-time information to customers
   Dynamic routing based on real-time traffic information
   Information security and integrity
   Integration of tracking tags with information systems
   Online algorithms in transportation
   Practical implications of dynamic policies
   Real-time inventory information in vendor managed inventory systems
   Simulation of real-time transportation operations
   Software applications for real-time information

SUBMISSION PROCEDURE:
Researchers and practitioners are invited to submit papers for this special theme issue on **the Use of Real-Time Information in Transportation Operations** *on or before* **March 31, 2011**. All submissions must be original and may not be under review by another publication. INTERESTED AUTHORS SHOULD CONSULT THE JOURNAL'S GUIDELINES FOR MANUSCRIPT SUBMISSIONS at: http://www.igi-global.com/Files/AuthorEditor/guidelinessubmission.pdf.
All submitted papers will be reviewed on a double-blind, peer review basis. Papers must follow APA style for reference citations.

Call for Papers - IJORIS continued

ABOUT International Journal of Operations Research and Information Systems (IJORIS):
The International Journal of Operations Research and Information Systems (IJORIS) examines current, state-of-the art advances in the interactions, linkages, applications, and support of operations research with information systems. Covering emerging theories, principles, models, processes, and applications within the field, this journal provides practitioners, educators, and researchers with an international collection of all operations research facets.

This journal is an official publication of the Information Resources Management Association www.igi-global.com/IJORIS.

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All submissions should be should be directed to the attention of:

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