MIDYEAR UPDATE 2012
RAILWAY APPLICATIONS SECTION

URL: http://www.informs.org/Community/RAS/

Linked in ®

2012 Mid-year Update

Compiled By: Xuesong Zhou, University of Utah

2011-2012 Section Officers

Chair	Homarjun Agrahari
Vice-Chair	Jagadish Jampani
Secretary	Shrikant Jarugumilli
Treasurer	Santanu Chakraborty

GENERAL UPDATE FROM RAS OFFICERS

Homarjun Agrahari, BNSF Railway, RAS Chair, Homarjun.Agrahari@BNSF.com

Dear RAS members,

RAS officers and volunteers have been busy planning and executing various RAS activities. The concept of a midyear update was actually pioneered by 2011 committee and we would like to continue this tradition and provide our members with a status update on where things are at this time. In addition to status update, we would also like to open up to you if you have any ideas that you would like RAS to consider, please let us know. This article is a quick summary and some of the topics are presented in greater detail by specific individual leading that effort.

RAS and Networks

Thanks to efforts of Juan Morales (BNSF) and Prof. Ravindra Ahuja and kind consideration of editor-in-chief of **Networks**, winning entries of RAS paper award and RAS problem competition will be considered for publication in Networks. We believe this will have a positive impact on RAS activities and will benefit its members.
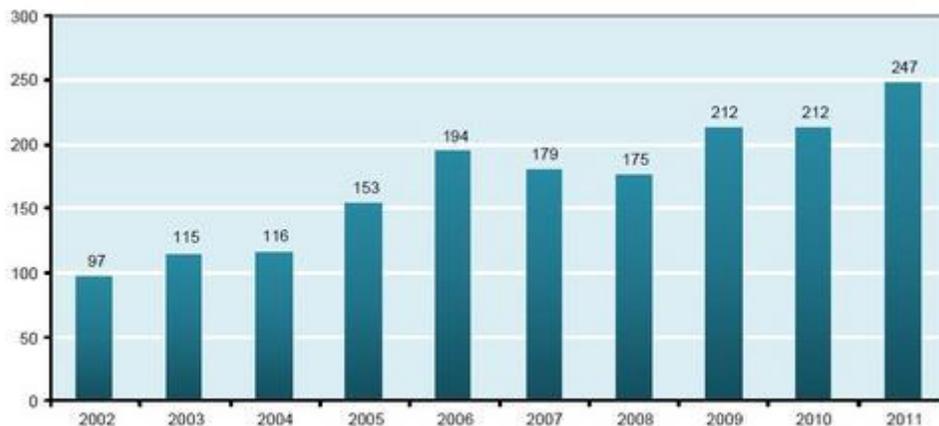
RAS Sponsors

RAS spends well over $10,000 every year on various activities from prizes, business meeting and dinner etc. In addition to the membership dues, RAS depends on generous donations from sponsors. We are thankful to the following sponsors for their generous support.

New VP-PR Position: We have submitted the RAS constitution amendment proposal to INFORMS. We are working with INFORMS to get the final approval on the position. This position is most likely to be in the Bylaws before we announce the elections July. In the interim various event chairs and officers and RAS volunteers have been working hard to publicize events. Xuesong Zhou from University of Utah has been helping us coordinate publicity efforts on RAS Problem Competition as well as this bulletin.

Membership

RAS membership has grown steadily in the last several years, especially in 2011. We thank our members for their commitment to RAS. If you have not renewed your RAS memberships, please do so now. Also, encourage others to renew or become members if they are not already a member.

To renew your 2012 membership – simply visit http://www.informs.org/Announcements/Renew-Your-Membership and select Railway Application Section under Sections and Societies.

RAS resources

RAS Resources – Communications: We encourage you to utilize the two communication channels endorsed and supported by RAS – namely RAS LinkedIn group and RAS Distribution List. We regularly post information regarding RAS activities on both these channels. We would like to you to participate in these channels for professional discussion and to share news or post job openings. To post to RAS List, simply email to railroad-appl-section@list.informs.org and CC Homarjun.Agrahari@BNSF.com. I will make sure that your posting is not dropped accidentally.

2

RAS Resources – Problems Repository

As you may recall, we introduced the RAS problem repository at our business meeting in INFORMS Annual Conference last year. The objective of this problem repository is to facilitate a platform where:

1. Real-life railroad application problems are presented along with dataset(s) and solutions publicly available for anyone to research, develop and test solution approaches.
2. Researchers may showcase their results, engage in questions, answers and discussions and measure the performance of different solution approaches

You can find the problem description and data files on our website at http://informs.org/Community/RAS/Problem-Repository . We encourage researchers to utilize LinkedIn for discussing the problems.

If you are interested in adding a problem to RAS Problem Repository – please contact RAS officers<http://informs.org/Community/RAS/Officers>.

Got News to Share?

Published a paper? Published a book? You are hiring full time or intern? If you have news that you would like to share with RAS members, please let us know. We can help spread the word.

Look forward to seeing you in Phoenix!

Thank you
Homarjun Agrahari

RAS DISTINGUISHED MEMBER AWARD - CALL FOR NOMINATIONS

Shrikant Jarugumilli, BNSF Railway, RAS Secretary, Shrikant.Jarugumilli@BNSF.com

RAS Distinguished Member AWARD
Due by July 31, 2012

The Railway Application Section (RAS) of INFORMS invites nominations for the RAS Distinguished Member Award. The RAS Distinguished Member Award was approved at RAS Business Meeting held in Charlotte last year and will be given away starting 2012. The award is created to recognize individuals whose distinguished service to RAS has helped to significantly advance the goals and objectives of the society.

Written nominations are to be sent electronically to the RAS Secretary, Shrikant Jarugumilli (Shrikant.jarugumilli@bnsf.com) by July 31, 2012. The award presentation will take place during the INFORMS Annual Meeting in Phoenix, AZ.

The details of eligibility criteria, nomination process, award committee, and the timeline are below or can be found online at:
http://www.informs.org/Community/RAS/Distinguished-Member-Award

Criteria
Given to long time contributor/supporter:
- Member of RAS for over total 10 years
- Should have made long lasting contribution
- Should have contributed in at least three of the below mentioned areas:
- Elected RAS Officer
- Served as RAS session chair, presenter, or invited speakers
- Assisted in different RAS activities
- Supported RAS programs either by guiding or sponsoring

NOTE: This award does not have to be presented every year and can be awarded to acknowledge noteworthy contributions.
Nomination Process
- Any current RAS member can nominate
- Secretary will invite nominations
- Self-nomination is acceptable
- Nomination must include a bio and list of contributions
- Current officers not eligible for nomination

Nomination Letter
Suggested Format
- Who is nominating (Name, Affiliation and Contact)
- Who is being nominated (Name, Affiliation and Contact)
- Nomination Letter Body (Why is this person worthy of this award?)
- Provide List of Contributions to RAS
    * Positions held
    * Volunteer works (help officers with RAS works)
    * History of RAS membership
    * Presentations/Roundtables/Sessions at RAS
Award Committee
- Committee of current officers, past award winners and past RAS chairs headed by current chair
- Voting will be administered by the current secretary
Timeline
- Nominations by - end of July

- Discussion and award decision - end of August
- Decision announced at INFORMS Annual Meeting

RAS SESSIONS IN UPCOMING INFORMS ANNUAL MEETING

Aihong Wen, CSX Railway, RAS Annual Meeting Cluster Chair; Aihong_Wen@csx.com

Each year, RAS organizes a cluster filled with interesting topics presented by experts in the area of railway/operations research and analytics from around the globe. Thanks to all session chairs' hard work, this year we have eleven sessions lined up in addition to the traditional sessions of Student Rail research Competition and Problem Solving Competition sessions. The cluster chair will work with the session chairs to further align and adjust presentations among all sessions in the next few weeks. Below are the sessions you can expect:

1. **Roundtable - Analytics for Intermodal (two sessions)**
2. **Impact of Positive Train Control on Railways**
3. **GIS-based Analytical Tools in Railroad**
4. **Railway Capacity Analysis**
5. **Shared Corridors and Joint Facilities**
6. **Unit Train Scheduling**
7. **Use Business Analytics to Improve RR Operations**
8. **Recent Advances in Yard and Shop Optimization and Analytics**
9. **State-of-the-art Implementation of OR Applications**
10. **Railway Optimization Models.**

In total, we will have about 44 presentations in the coming INFORMS annual meeting.

RAS PROBLEM COMPETITION 2012

Somani, Kamalesh, CSX Transportation, 2012 RAS Problem Competition Chair, Kamalesh_Somani@csx.com

This year's RAS Problem Competition topic is Movement Planner Algorithm Design for Dispatching on Multi-Track Territories. The Movement Planner Problem can be described by the following: Given a dispatching territory, a dispatcher's task is to give track authorities to trains to maximize the overall

system efficiency of the trains while abiding by a number of business rules. This is done by deciding which train takes the siding when two trains traveling in opposite directions meet each other, or when a faster train is to overtake the leading slower train. The dispatcher must also decide on the departure and hold times at the terminals where trains originate terminate or stop for work events (picking up cars, setting out cars, inspection, fueling, changing crews, etc.).

We have a total cash award of US$3750: $2,000 First Place, $1,000 Second Place, $750 third prize. Apart from the cash prizes, the first prize winner's contribution will also be considered for publication in Networks. The paper still needs to go through the journal's normal refereeing procedure; however, the paper will receive an expedited refereeing and publication process.

We have received a good amount of registrations. We are hoping that all the teams are enjoying working on the problem and should submit their solutions back to us before the deadline (Aug 15, 2012). Thank you for being part of the competition.

Visit the competition web site (http://www.informs.org/Community/RAS/Problem-Solving-Competition) for complete problem details.

RAS STUDENT PAPER AWARD 2012

Juan C. Morales, BNSF Railway, 2012 Student Paper Award Chair , Juan.Morales@BNSF.com

Once again RAS proudly sponsors the Student Paper Award on analytics and fact-base decision making in railway applications. The first edition of this competition dates back to at least 2002, and it has been held uninterruptedly every year since it started. To qualify, the paper must have been written by a student or students enrolled in an academic institution. The paper must advance the application or theory of OR/MS for improvement of freight or passenger railway transportation, and it must represent original research.

In 2012 we have a total cash award of US$1,750: $1,000 First Place, $500 Second Place, $250 third prize. Apart from the cash prize, the First Place paper will be considered for publication in Networks. The paper still needs to go through the journal's normal refereeing procedure; however, the paper will receive an expedited refereeing and publication process. For more information about the competition please visit http://www.informs.org/Community/RAS/Student-Paper-Award

This year a total of 10 abstracts were submitted to register for the contest. We received abstracts on various interesting topics from topnotch schools in countries all over the world, including Germany, Iran, Italy, the Netherlands and the US. As Chair of the Student Paper Award, I am very pleased with the response and wish to thank all of you that contributed to spreading the word and encouraged students to participate.

I wish to express my gratitude to those who have accepted the invitation to be a part of this year's paper reviewing panel. Deadline for the submission of the final paper is July 29. We are all looking forward to multiple hours of intense and passionate reading.