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Aviation Applications Section

Newsletter

VOLUME 1, ISSUE 1

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Welcome Address

This is the inaugural newsletter, Volume I, Issue I. Initially the plan is to have annual newsletters, which will be released after the Fall INFORMS meeting. Hopefully with the increased interest, we will start publishing them twice a year. They will be distributed only electronically and they will be available at the section's website. We start with the reprise of the welcome address given by the board members.

Starting with January 2005, the Aviation Applications Section (AAS) has a new leadership with Amy Cohn (Secretary/Treasurer), Stefan Karisch (Vice Chair), and myself as Chair. We also welcome the following contributors. Thomas Vossen is the new webmaster, who has already started on a major overhaul of the website. Irina Ioachim is in charge of internship operations. Presentations for the upcoming INFORMS meeting should be sent to Laurie Garrow, the organizer of the aviation track.

We would like to thank Professor John-Paul Clarke who has done a marvelous job leading the section during the past three years.

To recollect, among other achievements, he pushed for the special issue of Transportation Science on Aviation Operations Research commemorating 100 years of aviation, and many of us had a wonderful time at the joint

NEXTOR-FAA-INFORMS and AGIFORS-INFORMS meetings. We deeply appreciate his effort and engagement, and the flawless operations of the section. John-Paul, we are much obliged.

As we move forward in the troubled times for the aviation industry, we must even further fortify our role as a discipline that can help the industry back to profitability. I am a firm believer of the ongoing "Science of Better" marketing campaign and therefore we should work even harder to improve our visibility. One way in which we intend to raise the profile of OR at the highest levels of the industry is through a forum for airline executives where section representative will highlight recent completed and ongoing work that can have significant impact on the bottom line. The great news is that INFORMS has offered their full support to this effort.

At the turn of the millennium our membership substantially declined. It has been relatively stable since then; however, it would be beneficial to bring it up to earlier levels. I am also active in AGIFORS, the Airline Group of IFORS, and therefore I want to preserve tight connections between our Aviation Applications Section and the AGIFORS. A concrete goal is to have a joint AAS-AGIFORS Symposium in the near future.

I hope the section is going to be

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of value to all members and that this year will be topped by a big gathering at the Annual Meeting in New Orleans.

On behalf of the board, I thank you for being a part of AAS. If you have any comments or suggestions, please let either of us know.

Chair, Diego Klabjan, University of Illinois at Urbana-Champaign



Promoting OR in Aviation: Read more at <http://www.orchampions.org/>

“The board will undertake an effort to bring back past members. We plan to target individuals by personalized solicitations.”

Obtain first hand experience in aviation: Be a rising start



Strategic Plan



Although the main strategic directions have already been outlined in the welcome address, we elaborate on them in this article.

Visibility of the profession in the industry

The aviation industry is known as being one of the early adopters of operations research. The success stories are well documented. Nevertheless, many middle and upper level managers are not fully aware of operations research related impacts on their company. We plan to improve the awareness by either organizing workshops or visiting companies to promote the profession. We will target carriers, airports, and ATC related agencies.

Membership

At the turn of the century the membership of AAS dramatically decreased. While it is been steady in the past few years, our plan is to increase it. The board will undertake an effort to bring back past members. We plan to target individuals by personalized solicitations.

Web site overhaul

By using the enthusiasm and dedication of the newly selected webmaster Professor Thomas Vossen from the University of Colorado, we plan to add several enhancements and additions to the website. First, the current web site will be redesigned and updated. A new web page will be set up for summer internship positions (read below for more information). A similar effort will be carried out for open job positions in aviation. We plan to set up a web page for exchange of information re-

garding job openings. We envision students posting their resumes online and therefore it will be easier for companies to search among candidates. We have also bounced around the idea of putting presentations online.

Miscellaneous

In recent years we cherished a positive collaboration between AAS and AGIFORS. We plan to maintain these ties and even strengthen them (read more on Page 3). It is clear that we have just started the newsletters. We hope that the newsletters will bring even more ties among the ASS members, the industry, and the profession.

Please stay tuned about all these efforts. We are confident in bringing more value to the members.

Contributor: Diego Klabjan, University of Illinois at Urbana-Champaign

Internship Program

Our Aviation Applications Section is proud to instate an Internship program. This program aims to help Operations Research students obtain internship positions with air transport optimization providers. The program also aims to

help operations research practitioners in aviation find quali-

fied interns. Several well known companies in North America participate in our program, please visit our INFORMS website for an updated list.

To be considered for a given internship position, please send a copy of your resume to our internship coordinator Irina Ioachim at irina.ioachim@delta.com, mentioning the companies and topics you are interested in.

Your resume will be promptly forwarded to the respective operations research departments and you'll be contacted for confirmation.

We encourage you to participate in our program either as a student or as an internship provider in the aviation industry.

Contributor: Irina Ioachim, Delta Technology

Establishing a Closer Relationship to AGIFORS



AGIFORS is the Airline Group of IFORS, the International Federation of OR Societies, founded in 1961 after a few airline OR workers held a successful symposium on the use of OR within the airline industry. Today the AGIFORS membership exceeds 1,200 professionals representing more than 200 airlines, airline manufacturers and aviation related industries and associations.

Several members of the Aviation Applications Section (AAS) have been longtime AGIFORS members and find the dual memberships extremely worthwhile. While AAS is more rooted in academia, AGIFORS can be considered more practice-oriented.

In 2004, AAS co-sponsored and actively participated in the meetings of the Airline Operations and Cargo study groups of AGIFORS. Several AAS members presented their work in jointly organized ses-

sions, resulting in interesting discussions that showed the synergy between AGIFORS and AAS.

One of the goals of our section for this year is to strengthen the relationship with AGIFORS, and discussions with the council of AGIFORS have already started. We agreed that AAS would participate in the upcoming Annual AGIFORS Symposium in September and contribute with presentations by AAS members. At the same time, we are going to advertise our section and the Airline Applications Cluster at the Annual Meeting to AGIFORS members and solicit contributions to our section activities. We hope that these initiatives will bring AGIFORS and AAS closer together for the benefits to members of both groups.

AGIFORS itself consists of study groups that individually organize yearly meetings to discuss the latest developments and trends in their respective fields of interest. The study groups include Reservations and Yield Management, Strategic and Schedule Planning, Cargo, Crew Management, Airline Operations and the Operational Research Managers Working Group.

At the yearly AGIFORS Symposium, the best presentations from the study group meetings are presented by speakers from academia and related industries. In addition, contributed presentations by AGIFORS members reflecting the state-of-the-art of OR practices and their application in the airline industry are presented as well.

To find out more about AGIFORS and to keep informed about the 2005 symposium to be held in Brazil during September go to <http://www.agifors.org/>.

Please contact Stefan Karisch or another section officer if you are interested in helping establish a closer relationship between AGIFORS and the AAS.

Contributor: Stefan Karisch, Carmen Systems

“One of the goals of our section for this year is to strengthen the relationship with AGIFORS, and discussions with the council of AGIFORS have already started.”

Dissertation Award

The recipient of the annual dissertation award for the outstanding Ph.D. dissertation related to aviation in 2004 is Laurie Anne Garrow. Her dissertation titled “Comparison of Choice Models Representing Correlation and Random Taste Variation: An Application to Airline Passengers’ Rescheduling Behavior”, advisor Professor Frank Koppelman, Department of

Civil and Environmental Engineering, University of Northwestern, studies choice models related to the airline industry.

We are thankful to the chair of the selection committee Professor Cynthia Barnhart and all the committee members for their superb job in selecting the best nomination among several candidates.

The solicitation for the 2005 dissertation award is forthcoming. The chair of this year committee is Professor Michael Ball from the University of Maryland.

Special thanks to all involved members and participants that bring this



Congratulations to Laurie Anne Garrow

Upcoming Meetings and Announcements

- **INFORMS** conference on **OR/MS** practice, April 17-19, 2005, Palm Springs, CA.
- **Mathematical Models for Optimizing Transportation Services**, University of Auckland, April 19-22, 2005. <http://www.esc.auckland.ac.nz/Transportation/>

The workshop will focus on these three broad areas of major importance: transportation planning under uncertainty, optimizing the design of transportation systems, and pricing and revenue management. Exploring the interface between these areas will be of particular interest, and so the workshop will seek to bring together researchers who work in each of these fields to provide a cross-fertilization of ideas. A further goal is to emphasize the interface between mathematical optimization and its applications in practical situations. To enhance this we will be engaging the support and participation of industrial partners.

- **AGIFORS** meetings. <http://www.agifors.org>
 - **Schedule and Strategic Planning Study Group**, May 19-20, 2005, Seattle, WA.
 - **Airline Operations Study Group**, May 18-21, 2005, Mainz, Germany.
 - **Crew Management Study Group**, May 15-18, 2005, Mainz, Germany.
 - **Reservation and Yield Management Study Group**, May 15-19, 2005, Cape Town, South Africa.
 - **Symposium**, September 5, 2005, Brazil.
- **IFORS**, July 11-15, 2005, Honolulu, HI.
- **INFORMS** annual meeting, New Orleans, November 13-16, 2005. <http://www.informs.org>

AGIFORS Anna Valicek Award Solicitation

AGIFORS is accepting submissions for the Anna Valicek Medal.

The Anna Valicek Medal is for original and innovative research by graduate students in the area of airline operations research. The Anna Valicek Medal provides a US\$2,500 award as well as the opportunity to present your research at the upcoming AGIFORS Symposium. Students who are interested need to submit a paper describing their research work by 15 April 2005.

<http://www.agifors.org/scholarship.html>



Promoting OR in Aviation: Read more at <http://www.orchampions.org/>

"He (chair Professor Clarke) opined that the Section was blessed with members who were dedicated to both the profession and the industry, and stated that the future of the Section was very bright."

Minutes from the November Business Meeting

The Aviation Applications Section held its annual business meeting on Sunday, October 24, 2004 (during the 2004 INFORMS Annual Meeting). The meeting took place in Plaza Room 8 at the Adam's Mark Hotel in Denver, Colorado. The meeting commenced at 6:25 PM and ended at 7:15 PM.

The following is summary of the meeting:

1) The Chair welcomed the participants and observed that the number of attendees was greater than at the business meeting last year, and significantly greater than at the 2001 business meeting when he was elected as Chair. He opined that the Section was blessed with members who were dedicated to both the profession and the industry, and stated that the future of the Section was very bright.

2) Cynthia Barnhart (MIT), the chair of the selection committee for the 2004 Aviation Applications Dissertation Prize, informed the participants that the committee, consisting of herself, Peter Belobaba (MIT) and Diego Klabjan (University of Illinois), had selected the following person to receive the prize:

Winner: Laurie Garrow

School: Northwestern University (currently faculty at Georgia Tech)

Thesis: Comparison of choice models representing correlation and random taste variation -- An application to airline passengers' rescheduling behavior

3) The Chair provided a recapitulation of the activities of the Section in 2004:

Co-Sponsored (with both the AGIFORS Operations Control Study Group and the AGIFORS Cargo Study Group) the "Airline OR Extravaganza" held in Washington, DC, May 2-7, 2004.

Sponsored 2 sessions at the CORS-INFORMS Meeting held in Banff, Canada, May 10-14, 2004.

Awarded the 2004 Aviation Applications Dissertation Prize Sponsored (or co-Sponsored) 7 sessions at the INFORMS Annual Meeting held in Denver, Colorado, October 24-28, 2004.

4) The Chair thanked the following people for their superb efforts:

Stefan Karisch (Carmen Systems) for co-organizing (with the chairs of the AGIFORS Study Groups) the "Airline OR Extravaganza".

William Hall (Analytics) for organizing the sessions at the CORS-INFORMS Meeting.

Cynthia Barnhart (MIT) for convening and leading the selection committee for the 2004 Aviation Applications Dissertation Prize.

Irina Ioachim (Delta Technology) for organizing the cluster at the INFORMS Annual Meeting, and for doing such a great job despite having to take time off to have a baby :-)

5) The participants held a wide ranging discussion on the state of the industry and on activi-

ties that the Section might sponsor in the coming year. In addition to continuing the doctoral dissertation prize, which was widely acclaimed by the participants as being critical for the section, the following new activities were suggested:

A workshop in the Spring for high level managers in the industry where they could learn about the history and fundamentals of OR and understand how OR can be used to improve both operational and financial performance.

Co-sponsorship of, or perhaps active participation in, the AGIFORS Symposium in the Fall. The feeling was that, while co-sponsorship of AGIFORS study group activities were good, a link to the annual symposium would be more representative of the broad synergy that should exist between the Aviation Applications Section and AGIFORS.

Identifying and coordinating internships for students who are interested in aviation OR so that, in addition to being a gateway to a permanent position, they might learn more about how the industry really works and thereby create more representative models and readily applicable results.

6) The following persons were nominated and elected to the indicated positions.

Chair: Diego Klabjan

Vice-Chair: Stefan Karisch

Secretary/Treasurer: Amy Cohn

Contributor: Professor John-Paul Clarke



Aviation Applications Section

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Exchange ideas in aviation.

This section is a venue to promote the exchange of ideas, research, and accomplishments in aviation organization.

We invite interaction among industry professionals, educators, and students in areas including, but not limited to:

- the planning and operation of airports and airline companies
- air traffic control
- aviation financial, economic and policy analysis
- human factors
- the future of aviation.

Contact Diego Klabjan, Chair, for more information at klabjan@uiuc.edu.



Officers

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