Call for Papers

SIXTH USA/EUROPE ATM RESEARCH & DEVELOPMENT SEMINAR

June 2005, USA

In an effort to foster the realization of a harmonised global Air Traffic Management system, the United States Federal Aviation Administration and the EUROCONTROL Organization are jointly organizing the Sixth USA/Europe Seminar on Air Traffic Management Research and Development. This event will take place in June 2005, in Baltimore (Inner Harbor), Maryland, USA. It is a continuation of seminars held in Budapest, Hungary in June 2003, Santa Fe, New Mexico in December 2001, Napoli, Italy in June 2000, Orlando, Florida in December 1998 and in Saclay, France, in June 1997.

The focus of these seminars is Air Traffic Management (ATM). In the ICAO ATM Global Concept document, ATM is defined as "the dynamic, integrated management of air traffic and airspace - safely, economically, and efficiently - through the provision of facilities and seamless services in collaboration with all parties." ATM encompasses airspace organisation and management, flow and capacity management and en-route, terminal and airport air traffic control. Papers submitted for consideration need to be focused on these ATM aspects of aviation.

With these seminars we hope to create and reinforce working and personal relationships between leading experts and researchers in the ATM R&D community, share available results and reach consensus on major issues. Since the goal of these seminars is to "create and reinforce", an emphasis in the selection process will be on identifying and tracking continuity and progress from previous seminars. If the paper represents a continuation or addition to a topic addressed in previous seminars, this relationship should be made clear.

The Program Committee welcomes papers that present new concepts and methodologies, which might be described as fundamental research leading to innovative solutions, as well as results of applied research and development in the following areas of air traffic operations:

- Air Ground Cooperation
- Airport and Airspace Security
- Airport Management
- Airspace Management
- Decision Support
- Environmental Impacts and Mitigation
- Human Factors
- Metrics and Performance Management (System Architecture)
- Safety
- Traffic Flow Optimization
- Innovative ATM Concepts

Please refer to Themes below for a more detailed description.

The Program Committee is encouraging graduate students to respond to this call for papers by waiving the seminar registration fee.

Besides this open call, papers following-on from previous seminars are also solicited. This may include suggestions for collaboration between organisations to produce joint papers. In any event all papers will be subject to the same Evaluation (see below) and selected on that basis. Preferential consideration will be given to joint US/European papers.

Papers must be submitted no later than January 28, 2005!!!

Please refer to Structure and Format below for further explanations concerning submission of the papers and format details. Please note also that **no deadline extension** will be granted!

Authors will be notified of acceptance or rejection of their paper by March 30, 2005.
Authors presenting accepted papers are expected to attend the entire seminar. This is critical to achieving the seminar's goal of creating and reinforcing working and personal relationships between leading experts and researchers in the ATM R&D community.   During the final discussions it is especially important that a representative for each paper is present.

The Program Committee will recommend Best Papers for publication in a special issue of ATC Quarterly.

All information on this seminar will be updated continually and can be accessed (as well as the previous seminars) on the seminar website:

<p style="text-align:center;">http://atmseminar.eurocontrol.fr</p>

Program Co-Chairs:

Sabrina Saunders-Hodge, Federal Aviation Administration

(email: Sabrina.saunders-hodge@faa.gov)

Christian Pusch, EUROCONTROL Experimental Centre

(email: Christian.pusch@eurocontrol.int)

… more information

Themes

These seminars concentrate on ATM operational aspects. Papers presenting results from innovative research as well as applied R&D should thus focus on operational improvements of the ATM system rather than on technological enablers. Papers dealing with the following ATM operational themes (also a combination of them) will be taken into consideration:

- **Air Ground Cooperation** - Airborne separation assurance systems, limited and full delegation of controller tasks to the cockpit, free route / free flight issues.

- **Airport and Airspace Security -** Impact of enhanced security measures on airport/airspace capacity and efficiency; concepts for providing new (handling) procedures (of passengers or cargo) with regard to security, capacity, and service level; R&D related to coordination between security people and ATM service providers and airlines to improve real time departure sequencing and ATM flow planning.

- **Airport Management** - Surface movement, guidance and control systems, integrated airport capacity management, wake vortex issues.

- **Airspace Management** – Advances in optimization of the route network, airspace re-sectorization; procedures for more dynamic management of airspace allocation; improvements of Terminal Control Areas (TMAs); co-operative airspace-planning services, encompassing civil and military authorities ; enhanced ATM procedures

- **Decision Support** - Advances in ATM support tools, concepts and applications and human-centred systems.

- **Environmental Impacts and Mitigation** - Procedures designed to reduce noise and emissions on the airport surface, in the terminal maneuvering area and en-route; integration of environmental concerns into air traffic management and ATM system development; analytical tools for assessing the noise and emissions impacts of air transportation; local, regional and global environmental impact analyses.

- **Human Factors** - Application and integration of human factors concepts in ATM system development for both ground <u>and</u> airborne systems including: design of human-interactive technologies including information displays, decision support systems, and automated systems; human-centered design of work practices, procedures, and operational concepts; methods and models for measuring and assessing human performance; human resource and training issues.

- **Metrics and Performance Management (System Architecture)** - ATM performance assessment, modelling and analysis techniques, gate-to-gate (en-route to en-route) capacity issues, demand forecasting, demand management; this also includes wider ATM business related issues.

- **Safety** - ATM safety design, safety assessment, safety monitoring, safety cases, modelling and analysis techniques (including human factors applications).

- **Traffic Flow Optimization** - collaborative flight planning, scheduling and real-time airline operating centre applications, strategic and tactical flow management, capacity management focussing on multi-user relationships within ATM, network design (hub and spoke, direct-to, multi-hub,), flexible use of airspace; requirements for and availability and use of improved Weather data for ATM as well as all weather operations at airports.

- **Innovative ATM Concepts** - advanced system concepts and genuine new ATM paradigms; system architectural aspects, modelling and analysis requirements for future concept development and validation.

Structure and Format

Classification

Along with their submission authors should suggest the theme to which the paper should be attributed.

Structure of Paper

Each paper should begin with an <u>Abstract</u> of between 100 to 300 words, allowing the reader to understand the main ideas of the work and its relevance for the air traffic management areas given above.

The body of the text should start with an <u>Introduction</u> to the overall paper and explaining the paper's main contributions. A <u>Background</u> should assess the international state-of-the-art relevant to the work described. Note that suitable references to other relevant work in the subject area are

essential. The paper should end with <u>Conclusion</u>, <u>References, a list of Key Words</u> and the <u>Biographies</u> of the authors (not more than 100 words per author). The key words will enable search functions which are foreseen on a CD to be produced after the event.

NOTE: Please visit the ATM2005 Web site to review a sample template and the best papers from the ATM2003 Seminar as examples.

Format

Papers should be written in A4 or Letter format, with two-columns and 10 point characters (preferably Times New Roman); example papers are given on the seminar web site.

Submission

The paper should be submitted - **in PDF** - using the paper submission template on the seminar web site. It should not exceed 10 pages (including the authors' bios) and it **must** be the

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(Draft) **Final Paper!!**

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That is a complete paper for which, after the selection process, only changes suggested by and/or agreed upon with the reviewers, will be accepted.

Evaluation Criteria

The selection of papers will be based on a weighted evaluation of the following criteria:

1. Relevance to ATM, in particular to the themes indicated above
2. Overall significance
3. Originality of approach or content
4. Technical soundness
5. Availability of adequate results
6. Organisation / writing / clarity
7. Adequacy of references (especially citing papers from the previous 5 ATM seminars)

Please note again that joint US/European papers are particularly welcome!