

## Call for Papers

### **FIFTH EUROCONTROL / FAA ATM R&D SEMINAR**

23<sup>rd</sup> - 27<sup>th</sup> June 2003, Budapest, Hungary

In an effort to foster the realisation of a harmonised global Air Traffic Management system, the EUROCONTROL Organisation and the United States Federal Aviation Administration are jointly organising the Fifth USA/Europe Seminar on Air Traffic Management Research and Development. This event, kindly sponsored by the Directorate General for Energy & Transport of the European Commission, will take place in June 2003, in Budapest, Hungary. It is a continuation of seminars held in Santa Fe, New Mexico in December 2001, Napoli, Italy in June 2000, in 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 Programme Committee welcomes papers which present new concepts, which might be described as innovative research, as well as results of applied research and development in the following areas of air traffic operations:

- Human Factors
- Safety
- Traffic Flow Optimisation
- Metrics and Performance Management
- Decision Support
- Airport Management
- Air Ground Cooperation
- Weather and Environment

Please refer to Themes below for a more detailed description.

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 Criteria (see below) and selected on that basis. Preferential consideration will be given to joint US/European papers.

**Papers must be submitted before January 6, 2003 !**

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** can be granted !

Authors will be notified of acceptance or rejection of their paper by March 30, 2003.

The Programme 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 web-site

<http://atm2003.eurocontrol.fr>

Programme Co-Chairs:

Christian Pusch, Eurocontrol Experimental Centre

Sabrina Saunders-Hodge, Federal Aviation Administration

**... 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:

Safety - ATM safety assessment, safety monitoring, safety cases, modelling and analysis techniques (including human factors applications) and ATM security issues

Human Factors - Application and integration of human factors concepts in ATM system development (both ground and airborne systems); human resource and training issues.

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

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.

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

Decision Support - Advances in ATM support tools, concepts and applications and human-centred systems, collaborative decision making and support (CDM).

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

Weather and Environment - requirements for and availability and use of improved met data for ATM, all weather operations at airports, procedures designed to reduce noise and emissions on airport surface and terminal manoeuvring area as well as global emission studies.

As stated above, broader, fundamental research issues, e.g. innovative systems covering genuine new concepts, new ATM paradigms, system architectural aspects and modelling and analysis requirements for future concept development and validation are particularly welcome.

## **Structure and Format**

### **Classification**

Along with their submission authors are requested to suggest the theme to which the paper should be attributed. Where research is leading to a fieldable product, authors should also indicate to which Technology Readiness Level category (based on NASA's TRL classification) the paper could be attributed. The following three groups are proposed:

TRL A (TRL 1 – 3): Early research, far term research (2020+). Basic principles observed and reported. Technology concept and/or application formulated. Analytical and experimental critical function and/or characteristic proof-of concept.

TRL B (TRL 4 – 5): Mid term research, the research in this area would build on previous analyses and studies, component and/or breadboard validation in laboratory environment, high-fidelity human in the loop experiments and demonstrations and system/subsystem model or prototype demonstration in a relevant and comprehensive environment (ground or space).

TRL C (TRL 6 – 9): Near term research and development. This area would focus on tools and procedures that are being deployed in shadow mode or field demonstration, and could also address a system completed and "flight qualified" through test and demonstration (ground or space) or a system "flight proven" through successful mission operations.

### **Structure of Paper**

Each paper should begin with an Abstract 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 Introduction assessing the international state-of-the-art relevant to the work described and explaining the paper's main contributions. Note that suitable references to other relevant work in the subject area are essential. The paper should end with Conclusion, References, a list of Key Words and the Biographies 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.

### **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

**(Draft) Final Paper !**

That is a complete paper for which, after the selection process, only minor changes, agreed upon with the reviewers, will be accepted.

### **Evaluation Criteria**

The selection of papers will be based on evaluation criteria which include:

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 in relation the previous 4 ATM seminars)

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