

# Call for Participation



## HCI-Aero 2012

International Conference on Human-Computer Interaction in Aeronautics

EUROCONTROL, Brussels, Belgium



*Transition of science into reality*

The goal of HCI-Aero 2012 is to foster a closer alignment between human-computer interaction research and its application to real-world product development. Whilst significant progress has been made in the context of NextGen and SESAR, the key challenges that exist today are developing and executing a sustainable and far reaching research agenda relevant for government, industry and academia alike, as well as successful deployment of research results to ensure that industry capitalizes on the body of scientific knowledge built by the research community. HCI-Aero 2012 is a unique opportunity for a dialog between researchers and practitioners to influence the future of human-computer interaction research in aerospace and its appropriate application in practice.

It is clear that human-computer interaction is a critical element of the entire innovation and product lifecycle, starting from early concept generation, through to design, evaluation,

certification, training, maintenance and dealing with in-service operational issues. The human-centered approach challenge faced by the aerospace community today is complex and driven by many competing needs in an extremely cost-conscious environment, including: new certification processes; user interface technology evolution; end-user usability expectations; changing demographics of the end-user; usability as a market discriminator; reduced training footprint; offerings of new applications previously not possible; existing applications being re-designed on new platforms; future airspace requirements and demands on the ATM system (SESAR, NextGen); forward-fit vs. retro-fit design; and time-to-market and associated costs.

HCI-Aero 2012 will bring together manufacturers, operators, government, research establishments and academia to focus on sharing their experiences that will allow us to continue and improve the current, un-

precedented levels of safety achieved in aviation operations.

We invite researchers and practitioners to present innovative methods, techniques, tools and technology. This includes laboratory research and field investigations, industrial developments and perspectives including design, evaluation, certification & rule-making, training, maintenance, in-service experience and incident/accident investigation.

Ratan Khatwa, Honeywell  
Dirk Schaefer, EUROCONTROL  
General Co-Chairs of HCI-Aero'12

### Deadlines

16 January 2012	Full research papers
27 February 2012	Industry papers, Early stage researcher papers
27 February 2012	Panels, Posters, Demos, Workshops
26 March 2012	Acceptance notification
23 April 2012	Camera-ready
12-14 Sep 2012	HCI-Aero'12 Brussels

# HCI-Aero 2012

September 12-14, 2012 - Brussels, Belgium

## A scientific and industrial event

### General Co-Chairs

Ratan Khatwa, Honeywell, USA  
Dirk Schaefer, EUROCONTROL, France

### Program Committee Chair

Guy Boy, FIT, IHMC & NASA, USA

### Program Committee

Richard Blomberg, Dunlap, USA  
Tatjana Bolic, Venice International Univ., Italy  
Barbara Burian, NASA, USA  
Kim Cardosi, USDOT Volpe Center, USA  
Divya Chandra, USDOT Volpe Center, USA  
Stéphane Chatty, ENAC, France  
Charles Denis, EASA, Germany  
Frank Durso, Georgia Institute of Technology, USA  
Michael Feary, NASA, USA  
Gudela Grote, ETH, Switzerland  
John Hansman, MIT, USA  
Don Harris, HFI Solutions, UK  
Brian Hilburn, CHPR BV Consultant, NL  
Barbara Holder, Boeing, USA  
Edwin Hutchins, UCSD, USA  
Alistair Jackson, France  
Denis Javaux, Consultant, Belgium  
Christopher Johnson, Univ. of Glasgow, UK  
Richard Kennedy, Boeing, Spain  
Bernd Korn, DLR, Germany  
Paul Krois, FAA, USA  
Wen Chin Li, National Defense Univ., Taiwan  
Sandra C. Lozito, NASA Ames, USA  
Andreas Lüdtke, OFFIS, Germany  
Nigel Makins, EUROCONTROL, France  
Lena Mårtensson, KTH, Sweden  
Patrizia Marti, University of Siena, Italy  
Antony Masalonis, MITRE, USA  
Patrick Millot, University of Valenciennes, France  
Max Mulder, TU Delft, NL  
Randall Mumaw, Boeing, USA  
Jari Nisula, Airbus, France  
Philippe Palanque, University of Toulouse, France  
Thomas Prevot, San Jose State University, USA  
Amy Pritchett, NASA, USA  
Anil Raj, IHMC, USA  
Eric Raufaste, University of Toulouse, France  
Jean-Marc Robert, Ecole Poly. Montréal, Canada  
Stephan Romahn, IABG, Germany  
Lance Sherry, George Mason University, USA  
Philip Smith, Ohio State University, USA  
Jean-Jacques Speyer, Univ. Bruxelles, Belgium  
Nigel Stanton, UK  
Sun Ruishan, Civil Aviation Univ. of China, China  
Rick Travers, Air Canada, Canada  
Pernilla Ulfvengren, KTH, Sweden  
Rolf Zon, NLR, NL

### Organization

Delilah Caballero, FIT, USA  
Rhonda Lyons, Boeing, USA  
Dave Young, EUROCONTROL, Belgium

### THEMES

#### Research

Ethnographic studies, Human error, Fatigue  
Influence of national and organizational cultures  
Situation awareness, decision-making, workload  
CRM/TRM/Maintenance resource management  
Adaptive system design, Neurotechnology  
Testing and evaluation of new concepts

#### Technology and product development

Human-centered design  
Design for usability, Electronic flight bags  
Design for maintainability, Training issues  
Technology developments for NextGen & SESAR  
New technologies, Multi-modal interaction  
Next generation OPS/technical documentation  
Usability evaluations for design and certification

#### Operations

Pilot/ATC CO selection  
Emerging operational issues  
Training for advanced automation & challenges  
Maintenance resource management / CRM

#### Regulatory

Standard and specific regulations  
FAA/EASA 25.1302 HF regulatory compliance  
Human factors metrics for certification  
Human factors means of compliance  
Flight crew operations and licensing  
Safety management system (SMS)

#### Human factors tools and enablers

Tools and methods for human-centered design  
Mock-ups, part task and full-task simulators  
Flight tests  
Style guides for advanced flight deck design  
Flight deck design philosophy development  
Human modeling for design, digital manikins  
Tools and methods for human performance eval.

#### Accidents/incidents

Role of HF in accident investigations  
Analysis of accidents/incidents  
Taxonomy development  
Human error in accidents/incidents  
Formal methods for error identification  
Flight operations quality assurance (FOQA)  
Line Oriented Safety Audits (LOSA)  
Safety Management Systems (SMS)  
Criminalization of accidents - Designers and flight crews

### SUBMISSIONS

All submissions must be written in English and should present previously unpublished work. They will be peer evaluated by at least 3 reviewers. Acceptance will be based primarily on originality and high-quality contribution.

Submissions should have a cover page including title, author's names, postal and electronic addresses, keywords and abstract, and should be sent in PDF format to [hci-aero2012@fit.edu](mailto:hci-aero2012@fit.edu).

For information on presentation format consult the website [research.fit.edu/hci-aero/HCI-Aero2012](http://research.fit.edu/hci-aero/HCI-Aero2012). All accepted submissions are presented at HCI-Aero'12 and appear in the Conference Proceedings.

### Research Track

#### Deadline 16 January 2012

(up to 8 pages including diagrams and references)

Research Papers present significant contributions to research, development and practice in the field of human-computer interaction in aeronautics. Submissions should present new approaches to HCI in aeronautics, emphasizing the interest and originality of the approach and provide complete and substantial support for its results and conclusions. Only previously unpublished papers will be accepted.

### Industry Track

#### Deadline 27 February 2012

(From 4 to 6 pages including diagrams)

We solicit papers with practical implications or tied to actual implementation in industry and the operational world. These papers will be presented either in special sessions or combined with related research papers. This track is dedicated to practitioners to share the recent evolution of industrial aeronautical innovations.

### Early Stage Research Track

#### Deadline 27 February 2012

(Up to 4 pages including diagrams and references)

Early stage research has not yet been completed, or may be in the phase of developing research questions and approach, results, or practical work. This track encourages the active participation of inexperienced researchers and professionals to support their work and to involve them in the HCI-Aero community.

This track also welcomes submissions from students involved in graduate work not yet sufficiently completed for papers in the regular research track. These papers will be presented in a special session allocating more time to discussion and feedback.

Early stage researchers may be provided with a mentor experienced in their area of research. All submissions should include a brief description of the researcher's experience.

### Panels, Workshops, Posters Demos

#### Deadline 27 February 2012

(Up to 2 pages including diagrams and references)

**Panels** must explore a range of perspectives as well as controversial and burning issues. Panelists should include different backgrounds, i.e., practitioner/researcher, cultural backgrounds, and disciplines.

**Workshops** are discussion forums of work in progress, which are managed by a chair and a committee, and focused on a specific theme. All accepted workshops are held on a half-day or full-day period.

**Posters** present research in progress or recently developed industrial devices and innovative methods.

**Demos** must show ground-breaking innovative products and prototypes.

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