

Call for Papers



5th

EUROPEAN CONFERENCE FOR AERONAUTICS AND SPACE SCIENCES

July 1-5, 2013
Munich, Germany



ASTRIUM
AN EADS COMPANY



Technische Universität München



2nd CALL FOR PAPERS

Informative abstracts of at least one full page can be uploaded until **January 6, 2013**. Authors of accepted abstracts will be invited to prepare a full paper of 15 pages max and submit it **before** the absolute deadline of **May 27, 2013**. All papers submitted in due time will be published in the conference proceedings DVD.

A selected number of accepted papers may also be published after peer review in the EUCASS Book Series **Advances in AeroSpace Sciences**.

Objectives

EUCASS is **the high-level forum** for all aeronautic and space research players in Greater Europe, including Russia. It is dedicated to the promotion of enabling sciences and technologies. It is also the place where scientists can gain a comprehensive picture of European accomplishments. EUCASS is the natural venue for decision makers as well as an opportunity for young scientists to meet their peers and the industry leaders. The main objectives are:

- i. to review the state of the art in Aeronautic and Space Sciences, focusing on advances and innovations;
- ii. to promote industrial understanding of recent scientific breakthroughs and develop synergies between Aeronautics and Space, Academia and Industry;
- iii. to offer Agencies and Industry the opportunity to present their programs, particularly EU's Framework programs.

The conference will highlight this in five parallel symposia dealing with aspects of

- **System Integration,**
- **Flight Physics,**
- **Flight Dynamics/GNC and Avionics,**
- **Structures and Materials,** and
- **Propulsion Physics.**

TECHNICAL TOPICS

SYSTEM INTEGRATION on Aircraft and Space Launch Vehicles

Chairs: L. Anselmo (CNR, Pisa), P. Tatry (AIRBUS), C. Bonnal (CNES), J. Gigou (ESA), M. Sippel (DLR), W. Zinner (Astrium)

This symposium is concerned with multidisciplinary and integration problems (subjects where separate disciplines interact in synergy). Papers are solicited in the fields of:

MDO (optimization tools and strategies, sensitivity analysis, artificial intelligence), fluid-structure-GNC-thermal interaction, mission/trajectories, advanced or new concepts, vehicle comfort (acoustics and vibration, air-conditioning), FDIR approaches, embedded systems/ trends on information technologies, architecture design with COTS hardware, augmented reality, energy harvesting, special sessions on on-going research program, system aspects of space debris.

FLIGHT PHYSICS for Aircraft and Launch Vehicles including Re-Entry Bodies

Chairs: M. Ivanov (ITAM), D. Knight (Rutgers Univ.), I. Lipatov (TsAGI), P. Reijasse (ONERA)

The Flight Physics Symposium addresses all aspects of aerodynamics relevant to aircrafts and UAVs, missiles and projectiles, launchers, and re-entry vehicles. Aero-acoustics will be also examined for aeronautical applications with a special focus to landing and take-off flight phases of aircraft. Topics will deal both with external and internal flows since aerodynamics or aero-acoustics are the main concern of the symposium. Papers will privilege at least one of the following three approaches: physical understanding, theoretical analysis, and/ or the development of control technologies and control methodologies applied to aeronautical or aerospace flows. Prospective authors are encouraged to submit papers in the fields of:

Low and high-speed flows, unsteady aerodynamics, generation/ propagation and control of vehicle noise, boundary layer transition, flow separation, flow instability, turbulence, vortex dynamics, shock interactions, plasma flows, MHD flows, flow control by energy deposition, flow control using MEMS and nanotechnologies, fluid/ wall heat transfer, experimental diagnostics, aerodynamic measurements, advances in wind tunnel testing and ground test capabilities, in-flight/ airborne testing, innovative aerodynamic configurations, aerodynamic optimisation techniques, buffet and wing aerodynamics, advanced CFD tools, continuum methods for rarefied flows, real gas flow physics.

FLIGHT DYNAMICS/GNC and AVIONICS for Aeronautic and Space Applications

Chairs: G. Balas (University of Minnesota), D. Choukroun (TU Delft), J. Corbin (CNES), V. Kutahov (Rostechology), A. Nebylov (SUAI), C. Philippe (ESA), C. Vallet (Astrium)

This symposium will cover the applications of novel analytical and experimental methods for the analysis and the prediction of the flight dynamics of civil and military airplanes, drones, launch vehicles and spacecraft as well as on-board electronics and avionics. Papers are solicited in the fields of:

Control, mission analysis, flight management, guidance, navigation, multi-sensor data fusion, image processing, on-board decision and autonomy, verification and validation technology, highly innovative technologies and state-of-the-art research in energy storage, power distribution, sensors, radiation-hard electronics, wireless and power line communications, embedded software, methods and tools such as model-based system engineering, data coding and modulations, fault tolerance, avionics architectures such as embedded computing platforms, communication and telemetry data networks, thermal management, power control, centralized versus distributed systems.

STRUCTURES AND MATERIALS for Aeronautic and Space Systems

Chairs: M. Berdoyes (Herakles Safran), C. Dalle Donne (EADS IW), J.P. Grisval (ONERA), T. Khan (ONERA), W. Lubber (TU München), B. Troclet (Astrium), Y. Nozhnitsky (CIAM)

The structures and materials symposium covers profound improvements introduced in aerospace structures and engines through innovative materials, processing technologies, structural design and analysis. Massive introduction of fiber-reinforced organic composites has become a reality and the introduction of other composites is progressing in the engines. Papers are solicited in the fields of:

Materials and technologies (metallic and composite), structural design including design principles, manufacturing and assembly of composite and metallic structures as well as structural dynamic/ static analysis, fatigue and fracture, vibro-acoustics, impact and shock response, aero-elastic design and testing methodologies under both static and dynamic loading, health monitoring via electronic signature, acoustic, shock and vibration absorbers.

PROPULSION PHYSICS for Air-Breathing and Rocket Engines

Chairs: L. De Luca (Politecnico di Milano), S. Frolov (RAS), O. Haidn (TU München)

The Propulsion Physics Symposium will cover all aspects of air-breathing and space propulsion, spanning from new developments in engines and propellants to modeling and testing. Topics range from basic research and development to applied studies, using experimental, theoretical and/ or advanced numerical methods, with a special focus on fundamental physical understanding. Papers are solicited in the fields of:

Air-breathing propulsion (alternative fuels, supersonic/ hypersonic aircraft propulsion, scramjet/multi-mode ramjet, modified and combined cycles, pulsed detonation engines, propulsion system aspects), Launch Vehicle Propulsion (solid, liquid, gaseous, gel, and hybrid propellants), in-space propulsion (chemical, electric and nuclear engines; solar radiation; beamed energy; micro-propulsion; propellant-less techniques; on-board power), propulsion aspects of space debris, propellant injection and ignition, combustion fundamentals, combustion stability, combustion modeling, heat transfer and cooling technologies for propulsion devices, thrust nozzles, turbo-machines for air-breathing and rocket engine. Specific sessions may be dedicated to on-going activities in the framework of the current FP7 research programs.

MINI SYMPOSIA/WORKSHOPS

Persons willing to organize a mini symposium or a workshop dedicated to special topics (e.g. Clean Air, Space Debris, Combustion Instability, UAV, Supersonic Civil Aircraft, Generic Manufacturing, Renewable Fuels etc.) are invited to contact the concerned Symposium Chair.

Mini symposia dedicated to present student activities will be given special attention.

Technical Committee

Chair: Max Calabro (max.calabro@innerarch.eu)

Official Language

All papers must be submitted and presented in English, the official language of the conference.

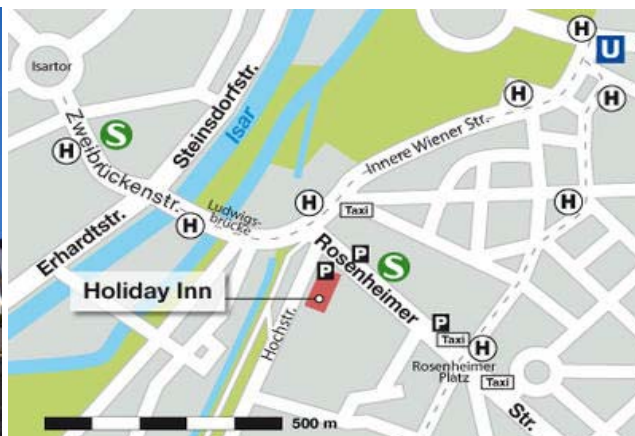
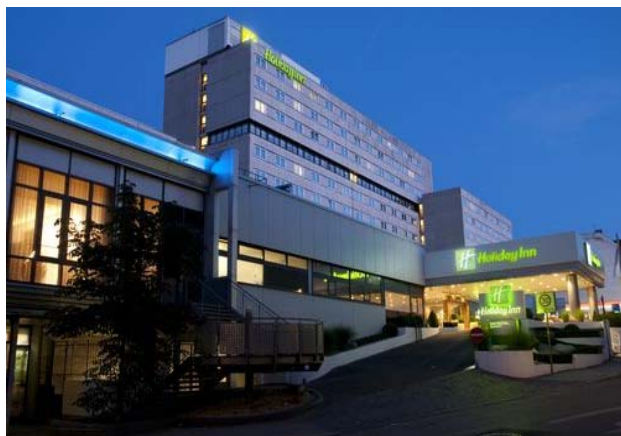
Technical Tours

Technical tours will be organized to visit the major R&D centers and aerospace industries of the region.

The tours will take place on Friday, July 5, 2013.

Conference Site

Holiday Inn Munich - City Centre, Hochstrasse 3, 81669 München, Germany



<http://www.holidayinn.com/hotels/de/de/munich/muchb/hoteldetail>

The conference site is conveniently located near the city center, “Englischer Garten” and “Deutsches Museum” and can be reached directly from the airport or central station by public transport.

Conference Fees

Registration for EUCASS 2013 is available through the event website www.eucass2013.de:

Registration date	before May 31, 2013	after May, 31, 2013	On-site registration
Normal Fee	730 €	950 €	1050 €
Student Fee	250 €	400 €	450 €

The registration fee covers access to all lectures, lunches and coffee breaks Monday – Thursday, the conference program booklet, the proceedings on USB stick or DVD, and the Welcome Reception held Sunday evening, 6 – 9 p.m., June 30, 2013.

Exhibition/ Sponsoring

EUCASS 2013 will offer space for exhibitions. Customized Sponsorship packages will be available to allow for brand positioning throughout the event.

Organization

The conference is being organized jointly by the Technische Universität München and Astrium, Germany. For more details please consult websites www.eucass.eu and www.eucass2013.de.

Conference Secretariat Coordinates

For further information, local organization, booth reservation, etc. please contact info@eucass2013.de or directly Oskar Haidn (haidn@tum.de) and Walter Zinner (walter.zinner@astrium.eads.net).

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Published by EUCASS, TUM Technische Universität München, 2012

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CONFERENCE DEADLINES

September 15, 2012: Website Open for Abstract Submission
January 6, 2013: Abstract Submission Deadline
Mid-February 2013: Notification of Acceptance/ Rejection of Papers
May 27, 2013: Final Manuscript Deadline