Call for Papers

eucass the european conference for aero-space sciences

6th EUROPEAN CONFERENCE FOR AERONAUTICS AND SPACE SCIENCES

29 June-3 July 2015 Kraków, Poland

1st Announcement

CALL FOR PAPERS

Informative abstracts of at least one full page can be uploaded from **September 15, 2014** until **December 15, 2014**. If abstracts are accepted, authors will be invited to prepare a full 10-15 page paper and submit it **before** the absolute deadline of **June 15, 2015.** Papers submitted in due time will be published in the conference proceedings. Commercial papers will be rejected.

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 to:

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

The conference will highlight advances in aeronautic and space sciences in five parallel symposia dealing with aspects of **System Integration, Flight Physics, Flight Dynamics/ GNC and Avionics, Structures and Materials**, and **Propulsion Physics**.

SYSTEM INTEGRATION on Aircraft and Space Launch Vehicles

Chairs: L. Anselmo (CNR, Pisa), P. Tatry (Airbus), C. Bonnal (CNES), M. Sippel (DLR), W. Zinner (Airbus Defence & Space), J. Gigou (ESA)

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, actuators,), 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: D. Knight (Rutgers), Ph. Reijasse (Onera), I. Lipatov (TsAGI), A. Zheltovodov and Y. Bondar (ITAM)

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 on 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:

Advanced CFD tools for aerodynamic applications, aeroacoustics, aerodynamics (e.g., buffet, innovative configurations, optimisation techniques, unsteady flows), aerothermodynamics of high speed flows, laminarity and boundary layer transition, experimental diagnostics in low and high speed flows, surface imperfections and viscous drag, flow control (e.g., by energy addition, MEMS, plasmas or other technologies), methodology of flow control, flow instability and separation, in-flight and wind-tunnel testing, advanced flow measurements,, MHD, turbulence modelling (e.g., DNS, LES, RANS, URANS, DES), plasma dynamics, rarefied flows, vortex dynamics

STRUCTURES AND MATERIALS for Aeronautic and Space Systems

Chairs: M. Berdoyes (Safran), J-P Grisval (Onera), J. Gómez Garcia (Airbus), W. Luber (TUM) , St. Beyer (Airbus Defence & Space), B. Lenczowski (Airbus Group Innovation)

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 , additive manufacturing.

FLIGHT DYNAMICS/ GNC and AVIONICS for Aeronautic and Space Applications

Chairs: M Ganet (Airbus Defence & Space), C. Philippe (ESA), G. Balas (Un. of Minnesota), A. Nebylov (SUAI), D. Choukroun (TU Delft), J. Corbin (CNES)

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.

PROPULSION PHYSICS for Air-Breathing and Rocket Engines

Chairs: L. Galfetti (Politecnico di Milano), S. Frolov (RAS), O. Gorshkov (KeRC), O. Haidn (TUM)

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 European 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.

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 3, 2015.**

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Kraków, Poland, 29 June-3 July 2015

Special for Students
Students will be offered a reduced registration fee.

Conference Venue
ICE Kraków (International Conferencing and Entertainment)
17 Marii Konopnickiej Street, Kraków 30-302
Poland   www.icekrakow.com

Exhibition/ Sponsoring
EUCASS 2015 will offer space for exhibitions which provides an excellent opportunity to demonstrate expertise, products and services to a targeted group of researchers, scientists, engineers and senior managers. Customized Sponsorship packages will be available to allow for brand positioning throughout the event.

Organization
The Local Committee is chaired by Prof. Marek Banaszkiewicz (Polish Academy of Sciences)

Partners
EUCOMAS have decided to join forces with Eucass in the comprehensive handling of the STRUCTURES AND MATERIALS Symposium.
Aeronautical and space clusters Aviation Valley Rzeszow and Pole Astech will be present as exhibitors; others as well as major companies and SMEs are welcome.
The learned associations federated into the E-CAero consortium at the instigation of the EC, namely CEAS, Eccomas, Ercoftac, Euromech and Euroturbo will also participate in the conference program.

Conference Secretariat Coordinates
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http://www.carte-blanche.fr

Conference website: www.eucass2015.eu

CONFERENCE DEADLINES

September 15, 2014:	Website Open for Abstract Submission
December 15, 2014:	Abstract Submission Deadline
March 2015:	Notification of Acceptance/Rejection of Papers
June 14, 2015:	Final Manuscript Deadline