AIDAA News #13

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1 AIDAA Celebrated Centenary of Foundation in Rome

Casa dell'Aviatore in Rome hosted the celebrations of the centenary of the Association. The event had been programmed in 2020, but pandemic-related restrictions forced a postponement to 2021. The event chairman was Professor Mario Marchetti, and members from all the regional sections attended. The Italian Air Force was the host, and major aerospace organizations sent delegates, including the Italian Space Agency (ASI), Leonardo, the Italian Center for Aerospace Research (CIRA), the National Cluster of Aerospace Technology (CTNA), the Council of European Aerospace Societies (CEAS), and the Association Aéronautique et Astronautique de France (3AF).

2 AIDAA Member Secured the 2022 ICAS-IFAR Award

Dr Manish Hassan Nagaraj ranked first in the 2022 edition of the Award of the International Council of Aeronautical Sciences and the International Forum for Aviation Research. The ICAS–IFAR Award was established in 2016 by the International Council of the Aeronautical Sciences (ICAS) and the International Forum for Aviation Research (IFAR). The Award honors an individual who has made a significant contribution to Aeronautical Science within his/her doctoral thesis. The Award will be delivered during the next ICAS Congress in Stockholm, in which Dr Nagaraj will give a lecture at the Congress.

Dr Nagaraj conducted his doctoral project within the MUL2 Lab of Politecnico di Torino (www.mul2.com) as a Marie Skłodowska Curie Action Early-Stage Researcher of the ICONIC project. His research focused on developing higher-order layer-wise models for the progressive damage and impact analysis of composite structures (<http://hdl.handle.net/11583/2872328>). In addition, during his PhD,

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he collaborated with the University of British Columbia to develop advanced material models for composite failure.

3 New AIDAA Regional Section Announced

AIDAA is pleased to announce that Liguria is its 10th Regional Section. Liguria has a strong aerospace sector with academic and non-academic activities. Liguria expressed its interest to AIDAA in 2021, thus, confirming the growing interest in the Association and its activities. Professor Jan Pralits and Francesca Satta from the University of Genoa are the section representatives.

4 AIDAA Announced the List of Courses 2022

The Italian Association of Aeronautics and Astronautics (AIDAA) is pleased to announce the list of courses to be held from February to December 2022, focusing on hard and soft skills covering multiple aerospace topics. Speakers from Italian and international institutions will deliver some twenty-five courses for graduate students, faculty members, and professionals. The list of courses is given below, and the registration procedure will be available online in the following weeks.

- Challenges and opportunities for the aerospace frontier research offered by the ERC and the MSCA program
- Economic assessment of future environmentally sustainable high-speed vehicles
- Multiscale techniques for nonlinear analysis of composite structures

- Sound transmission control through optimized composite sandwich lattice panels
- Boosting the commercialization of space activities
- Optical methods for spacecraft attitude and orbit determination
- High-speed civil aircraft on-board systems integration
- Aerothermodynamic and propulsive investigations to support pollutant and greenhouse gasses emissions estimation of future high-speed vehicles
- Tethers in space: deorbiting and power generation
- Toward smart air mobility: a model-based design approach
- Basics of corrosion and protection of metals for aerospace
- High-order accurate numerical methods in aeronautics at the Exascale
- Nonlinear spacecraft attitude control
- Aircraft impact dynamics
- An overview on space debris protection best practices
- Numerical models for the solution of multifield problems
- Innovative propulsion system in service of small satellites
- Planetary probes entry and descent science
- Introduction to the design of LEO nanosatellite orbits for local coverage
- Numerical modeling of hypersonic flows
- The space environment interaction engineering: physics, test technology and experimental validation
- Full flight simulator: testing and research platform

5 Inauguration of the International Alliance for Vertical Flight Education

On Friday, December 17, 2021, the International Alliance for Vertical Flight Education (IAVFE) was inaugurated with a ceremony organized by the Nanjing University of Aeronautics and Astronautics and held at the Nanjing Dongjiao State Guesthouse, with online participation from several international partners and guests.

The Alliance originates from an idea proposed by the Chinese National Key Laboratory of Rotorcraft Aeromechanics at the Nanjing University of Aeronautics and Astronautics (NUAA). It is promoted by a team of international organizations, including Politecnico di Milano and its Aerospace Science and Technology Department as one of the founding partners, along with the Vertical Flight Society, the Indian Institute of Science, the Japan Helicopter Society, the Kazan National Research Technical University, the Korea Advanced Institute of Science and Technology, and the University of Glasgow. The Alliance encourages the participation of other organizations worldwide.

The purpose of this Alliance is to cooperate in developing global educational goals and standards, supporting academic and scientific research institutions in vertical flight technologies, strengthening international exchange and cooperation, promoting the development of global vertical flight technologies in both theory and application, and cultivating international, high-level talents of the vertical flight specialty.

Professor Bin Jiang, Vice President of NUAA, welcomed the participants; Professor Pinqi Xia, the Director of the

National Key Laboratory of Rotorcraft Aeromechanics at NUAA, briefly presented the status and scope of the Alliance. Professor Zhongde Shan, President of NUAA, and the international guests expressed their wishes for fruitful activity. Professor Pierangelo Masarati, AIDAA member and Chairman of the Rotorcraft Technical Committee of CEAS, represented Politecnico di Milano.

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