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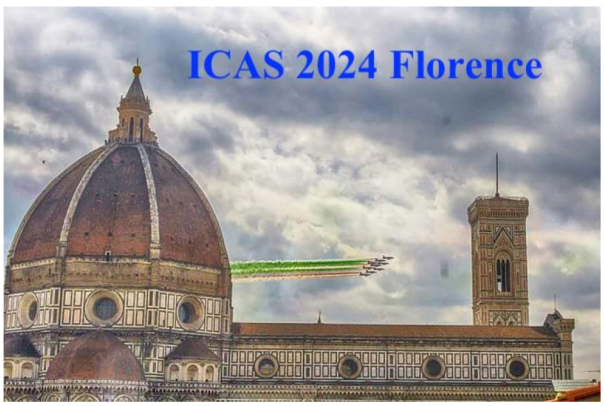
NEWS

A.I.D.A.A. News #6

1 AIDAA and ICAS2024



AIDAA's bid to host **ICAS Congress in Florence in 2024** was selected by ICAS Executive Committee on May 5th, 2020. ICAS is an international, non-government, non-profit scientific organization with the mission to advance knowledge and facilitate collaboration in aeronautics.

ICAS (*International Council of Aeronautical Sciences*) is the only international support organization to representative aeronautical engineering professional societies and their members in 30 countries. It organizes every 2 years an International Congress covering all aspects of aeronautical science and technology and their application to both military and civil aviation.

Since ICAS 1996 in Sorrento, the Italian Aeronautical community has been a lively partner of the international Aerospace Research and Industry. In recent years Italy has given proof of its commitment to host a new ICAS congress culminating in the ICAS 2024 hosting proposal in Florence.

Located in the beating cultural heart of Italy, Florence offers modern and efficient congress hosting within its open-air museum setting. The five-days congress programme will propose to delegates outstanding plenary lectures, a dense program of technical sessions, five technical tour options as well as an amazing social programme, including welcome cocktail, congress reception and congress banquet.

Looking forward to meeting all of you in Florence from 9 to 13 September, 2024.

2 PhD Program in Cosmology, Space Science & Space Technology (SPACE) at the Scuola Superiore Meridionale

The *Scuola Superiore Meridionale* in Naples is an international school of higher education and research that offers PhD programs in advanced scientific areas.

Space is becoming an increasingly important resource both for facing new scientific and technological challenges and for its applications in different fields of modern society. The "Cosmology, Space Science & Space Technology" PhD program aims to become part of an international framework in which it is necessary to develop cutting-edge scientific and technological skills. In this context, "Cosmology" can be understood as the unifying aspect of Space Science and Technology, declined in all their meanings, not least the philosophical one of why the human being is interested in Space. As such, "Cosmology" in the title intends to reveal the effective cohesion action that this PhD proposes between the equally important areas of theoretical and applicative studies for Space, mentioned in the rest of the title. It is worth remembering that Giordano Bruno, the first "cosmologist" in the modern sense and scholar of the University of Naples, already imagined this unified picture.

After a first year dedicated to develop a common knowledge, the research of the PhD students will focus on the following pillars: cosmology and astrophysics, space instrumentation, astroparticle physics, microgravity and fluid physics, remote sensing, general relativity, multi-messenger astronomy, planetary exploration, celestial mechanics, swarms and formation in flight, launch and reentry, in-orbit operations, detection and removal of debris, material science in extraterrestrial environment.

It intends to contribute to the internationalization of these programs both on a training level, through studies that go beyond national borders, and by initiating and consolidating collaborations with Italian and foreign academic and research institutions. In this regard, the PhD program already has collaboration agreements with national research institutes such as the National Institute of Nuclear Physics (INFN), the National Institute of Astrophysics (INAF), the Italian Space Agency (ASI), the National Council of Research (CNR) as well as with prestigious international and foreign institutions, such as the European Space Agency (ESA) and the European Center for Nuclear Research (CERN).

Link for further information on the PhD course: https://www.ssm.unina.it/en/phd-program-in-cosmology-space-science-space-technology-space-eng/

Attendance to the PhD SPACE requires passing a selection, link at the call for application https://www.ssm.unina.it/wp-content/uploads/2020/05/CALL_ssm2020.pdf

Deadline for application: 30 June 2020.

3 The Brand-new MSCA-H2020 ASCenSIon Project Aims High to Develop Our Future Launcher Systems

The Department of Aerospace Science and Technology of Politecnico di Milano is involved in the three-years research program ASCenSIon (https://ascension-itn.eu/). The program is supported by the MSCA-H2020 framework and aims at training the next generation of experts in technologies for future reusable launchers conceived to deliver on orbit multiple payloads. Within the ASCenSIon project, Politecnico di Milano will lead 2 PhD positions focused on multiple orbits\multiple payloads on orbit release optimal strategies from single launcher and to settle its guidance navigation and control to tune its precision landing re-entry phase. The research will be carried out in parallel to the other 13 PhD projects, which span from the advanced hybrid propulsion solutions with green propellants to the refined aerothermodynamics to enhance the launchers' configuration. Politecnico di Milano will also give secondment to 2 PhD researchers, focused on different aspects of the launcher design, to keep a multidisciplinary perspective and enforce the researchers' continuous and intense technical achievements sharing.

The ASCenSIon consortium balances the presence of European Academies and Industrial Groups, with an important Italian participation: Technische Universität Dresden, German Aerospace Center, Politecnico di Milano, Sapienza Università di Roma, ONERA, Université libre de Bruxelles, Hochschule Bremen, Università Di Pisa, Technische Universität Braunschweig, ArianeGroup, ESA, AVIO, DEIMOS Space, OHB-S, SITAEL srl, SpaceForest VINCI Group-Telematic Solutions and D-Orbit srl compose the team (Fig. 1).

4 Politecnico di Milano Support to the Provision of Protection Equipment Against COVID-19

On Thursday, March 12, 2020, shortly after a country-wide lock-down was decided, with extremely short notice Politecnico di Milano responded to the request from Regione Lombardia to support the provision of personal protection equipment for the regional health services during the COVID-19 emergency. Politecnico di Milano is supporting Regione Lombardia in the creation of a regional and national provisioning chain of sanitary masks, surgical gowns, disposable gloves, googles and other PPE. The collaboration involves other national institutions (Istituto Superiore di Sanità, INAIL) and National Universities, sharing the test protocols. The Departments of Aerospace Science and Technology, Energy, and Chemistry, Materials and Chemical Engineering "Giulio Natta" developed a series of tests that covers almost all trials required for the certification of surgical masks and PPE, which include: pressure drop measures, flammability,

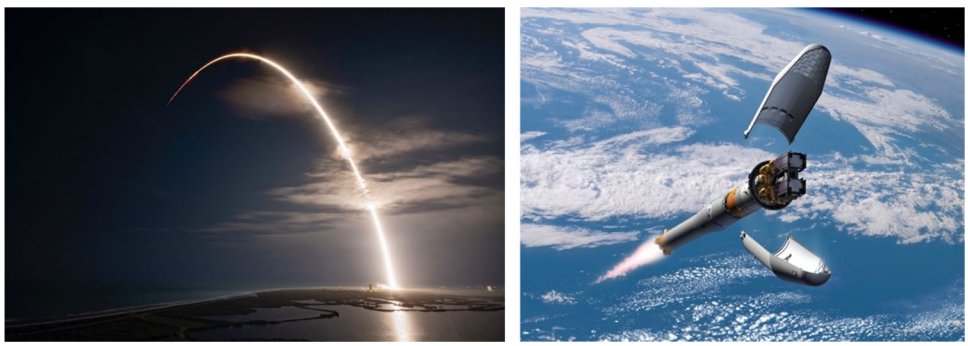


Fig. 1 The launch of JCSAT-18 with the SpaceX Falcon 9 rocket (left, credits: SpaceX) and an artist's impression of a deployment phase (right, credits: ESA)

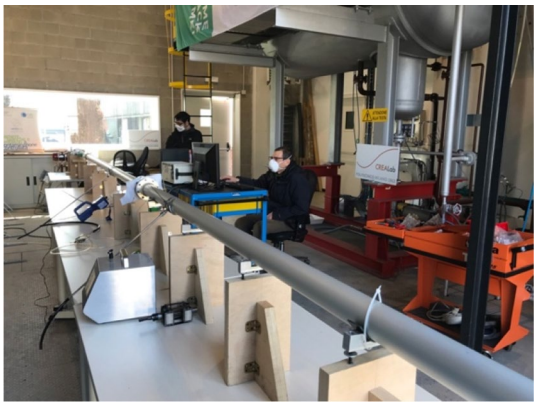


Fig. 2 One of the testing facilities set up by Politecnico di Milano for the certification of surgical masks and PPE

splashing of synthetic hematic material, particle filtration efficiency (PFE) and bacterial filtration efficiency (BFE). The Director of the Aerospace Science and Technology Department of Politecnico di Milano, Prof. Giuseppe Sala, was appointed by the Rector, Prof. Ferruccio Resta, as the coordinator of the testing activities (Fig. 2).