

AIRCRAFT IMPACT DYNAMICS

The webinar provides an overview of recent developments in a specialized research area on aircraft impact dynamics.

The original contributions from the authors define the state of the art in the chosen thematic area by focusing attention on cases of industrial interest addressed to development programmes.

They give an overview of the definition of both of the field of applicability and of how the research has produced innovations and improvements. Improvements concern certainly materials and structures, but they also include the ways of energy absorbing involving a greater part of the structure during the impact.

This webinar is addressed to PhD students, experienced researchers, regulatory agencies and industry specialists. It discusses the latest aerospace crashworthiness regulations, certification by analysis methods for aircraft, bird strike, metallic & composite structures, impact dynamics up to computational and experimental techniques. Finally, two case studies about the aircraft seat structures and an aircraft accident will be discussed.

Target audience: doctoral students, non-academic professionals, and undergraduate students.

Dates and timetable

DAY 1 – Tuesday 25 May 2021 from 16.30 to 18.30 CEST

- 16.30 – 16.45 Welcome: Francesco Marulo
- 16.45 – 17.15 Wim Doeland: "Crashworthiness of CS-25 Large Aeroplanes – Review of structural airworthiness requirements in relation to some recent accidents"
- 17.15 – 17.45 Michiel Schuurman: "Re-engineering the Accident - Learning from accident scene to a computer screen"
- 17.45 – 18.15 Gerardo Olivares: "Integrated Safety for Urban Air Crashworthiness"
- 18.15 – 18.30 Round Table/Question Time

DAY 2 – Friday 28 May 2021 from 10:30 to 13:00 CEST

- 10.30 – 10.45 Welcome: Michele Guida
- 10.45 – 11.15 Chiara Bisagni: "Composite Structures of Aircraft Fuselage in Crash and Ditching Conditions"
- 11.15 – 11.45 F. Liccardo - B. Vitolo: "Numerical-Experimental Correlation of a Novel Mg-Alloy Aircraft Passenger's Seat under 16G-forward load condition"
- 11.45 – 12.15 M. Belardo - L. di Palma: "Tiltrotor Crashworthiness Approaches"
- 12.15 – 12.45 M. Guida: "Analysis of factors influencing the survivability of passengers in aircraft accidents"
- 12.45 – 13.00 Round Table/Question Time

Speakers

Wim Doeland (EASA): Senior structures expert at European Union Aviation Safety Agency (EASA).

Chiara Bisagni (Delft University): Full Professor of Aerospace Structures and Computational Mechanics at the Faculty of Aerospace Engineering of Delft University of Technology.

Michiel Shuurman (Delft University): Assistant Professor at the Faculty of Aerospace Engineering Delft University of Technology.

Gerardo Olivares (NIAR): Director of the National Institute for Aviation Research (NIAR) at Wichita State University.

Liccardo Fabio and Bonaventura Vitolo (GEVEN spa): Director and project coordinator at Geven, an Italy based aircraft seating and interiors leading force.

Luigi di Palma and Marika Belardo (CIRA): Head of Aerostructures and project coordinator at Italian Aerospace Research Center.

Francesco Marulo (UNINA): Full Professor at the Department of Industrial Engineering – DII – Federico II.

Guida Michele (UNINA): Assistant Professor at the Department of Industrial Engineering – DII – Federico II.

Registration and Webinar Platform

The registration is mandatory via the online form.

Deadline: 18 May 2021

Fees: there are no registration fees for AIDAA members. Instructions to become a member can be found here: <https://www.aidaa.it/become-a-member/>

Webinar platform: Webex, a link will be sent via email a few days before the event.

