

HMI DESIGN IN AERONAUTICS

As a matter of fact, the increased complexity and autonomy of aeronautical systems call for newly conceived Human Machine Interfaces that allow a safe and efficient interaction and/or control, involving both physical and cognitive interfaces.

HMI design is an iterative process performed adopting a user centred approach where human performances are generally measured by means of objective and subjective metrics derived by human factors discipline.

The webinar will introduce the basic methodologies for HMI design and validation at different maturity steps, providing examples and case studies derived from aeronautical applications. It will also describe a few emerging technologies that are expected to disrupt traditional aeronautical HMI design in the next future, with a specific focus on eXtended Reality.



LEARNING OBJECTIVES

- Familiarize with HMI design methods.
- Get an overview of the enabling technologies for new HMI in aeronautics.

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

Dates and time: 8 February 2023, 09:00-13:00 CEST

REGISTRATION AND CONTACTS

Course Code: 20230802

This course is part of the 2022 institutional activity for AIDAA members. The registration requires the purchase of one of the packages described here <https://www.aidaa.it/package-list/>, and the completion of the online form available on AIDAA webpage.

Course platform: Webex, a link will be sent via email as the registration is complete.
At the end of each course, **attendance certificates** will be sent to participants via email.

For further info, please, contact academy@aidaa.it



SPEAKER

Sara Bagassi is Associate Professor at the University of Bologna, in the field of Aerospace Structures and Design. Her research interest is targeting new aeronautical technologies and HMI (Human Machine Interfaces) evolution, as derived from increased complexity and autonomy of the aeronautical systems.

Sara Bagassi has shaped her research activity in the following three areas:

- Extended reality (XR) technologies for aeronautics: this research stream aims at investigating the potential of mixed/augmented/virtual reality in aeronautical systems design and operations.
- Sustainable aircraft configurations: preliminary design of a windowless aircraft concept that leads to fuel savings and embeds innovative visualization technologies to improve passengers' comfort.
- Additively manufactured metamaterials: numerical and experimental studies on acoustic metamaterials and negative stiffness materials with potential applications in aeronautics.

She has participated to several EU-funded projects and has cooperated with national and international universities, research centers and industries.

More info at <https://www.unibo.it/sitoweb/sara.bagassi/cv-en>

Francesca De Crescenzo is an associate Professor at the University of Bologna since 2015. Her research is in the domain of Design Methods and Industrial Engineering. In detail, she conducts studies on Virtual Reality, Augmented Reality, Additive Manufacturing and Reverse Engineering and their integration in Industry. She is currently focusing on Human Machine Interfaces in highly automated contexts. She participates to international projects and collaborates with European research institutes and industries.

