

Dear colleagues,

As you can see in the attached photo, I'm employed in University of Salerno, Italy, and I'm the head of "Human Centered Design and Vehicle Design by Simulation" Lab. In the last ten years my colleagues and I have created this lab in order to perform experiments and create experiences for investigating the human behavior while performing different activities. The main topic is related to seating comfort and the main area of application is the Automotive one. Nevertheless, we face issues coming from the whole area of transportations (Train, Aircraft, Public transportation, etc. etc.).

The Lab is divided in two main parts: the first area is dedicated to the experimental analysis lab, in which we perform every kind of experiments, mixing the hard testing facilities (full dynamic driving simulator, seating buck, mattress testing systems, etc...) with the AR/VR/XR devices for environment and interaction simulation in virtual reality; the second are is dedicated to the Virtual prototyping activities and to data acquisition and elaboration. This lab is equipped with several workstations and software that are able to model, simulate and analyze big amounts of data. Reverse engineering and rapid prototyping systems complete the lab and allow us to analyze shapes and geometries and to realize prototypes in a fast way.

Main goals of activities are related to definition and developments of new design methods. Most of them are framed inside the Human-Centered-Design theory and we develop both Ergonomic-Driven and Comfort-Driven Design. Biomechanics, Digital Human Modelling, Digital twins, Human Artifact Interface studies and new Paradigms for Autonomous Driving are only some of the topics that our research group covers and works on.

Lectures by me and Prof. Califano will be focused on new methods and technologies to be used in (dis)comfort-related researches: in detail, Naddeo's lecture will face the new issues related to the completely new experience of "driving without driving: human behavior in autonomous vehicles" and the Califano's lecture will face the new AI-based method that seems to be really powerful but represents a danger for researchers because create a "black box" of knowledge whose "mechanisms" should be hidden by AI technologies.

The idea of creating a lab experience during our workshop was carried out from a past experience that was really fruitfully with a class of students (most of them coming from abroad) driven by a pool of professors.

For both of them we have planned to perform experiments to practically explain what we are looking for, thus, during the masterclass some experiments were performed, involving attending people, and grabbed data will be hopefully used for a publication.

We can't wait for having colleagues from a different country and with a different culture for exchanging experiences and impressions and for performing experiments all together.

Japanese students, researchers and professors are kindly invited to join our workshop and to

give us their suggestions and feedback.