

Where
Galleria,
Canavee

UNDO

About

Human-robot Interaction for Real-time Design and Reconfiguration of Timber Structures.

UNDO introduces an innovative workflow that leverages human-robot interaction (HRI) to facilitate dynamic and reconfigurable fabrication processes. Construction, like any act of making, can be unpredictable and require on-the-fly adjustments. Human-in-the-loop workflows combine human flexibility with robotic precision to overcome fabrication bottlenecks and increase on-site agility. This partnership between humans and robots is powerful, yet the interaction modalities and intervention protocols are still in the early stages of development. In search of an intuitive and safe interaction medium for robotic instruction, this workshop will use a small-scale model made from simplified props to guide a full-scale robotic timber assembly process. This hands-on approach serves as an accessible medium for non-experts and establishes a communication protocol with the robotic setup outside the construction zone. By doing so, our approach aims to lower the barriers to engaging with robotic construction processes and enhance safety on construction sites.

Participants will also gain insights into the digital tools and processes used in hybrid human-robot construction teams, learn about HRI strategies, and reflect on potential pathways for HRI in construction. The workshop will include presentations from tutors, interactive discussions and a small demo with a Gofa Robot.

Schedule

- 09:00 – 12:00 | Introduction to Human-Robot Collaboration for Adaptive Fabrication Workflows
Presentation of Constructive System, Fabrication Setup and Interaction Modalities
- 12:00 – 13:00 | Lunch break
- 13:00 – 16:30 | Live Demonstration of Interactive Fabrication Process and Experimentation
Discussion on Best Practices for Human-Technology Interaction

Team



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