

Automated on-site assembly of form-fit timber building elements using two large-scale manipulators

聴講
自由

Anja Lauer,
Institute for System Dynamics (ISYS), University of Stuttgart
Cluster of Excellence Integrative Computational Design and
Construction for Architecture (IntCDC)



Abstract:

The University of Stuttgart is one of the nine leading technical universities in Germany (TU9) with around 26.000 students. The Institute for System Dynamics (ISYS) closes the gap between research and application in the field of system dynamics and control engineering by developing and applying methods of system theory, modeling, simulation, control engineering, and optimization. Research topics at ISYS are large-scale robotics, continuum robotics, automotive, medical technology, optics, and adaptive buildings. In this talk, the institute ISYS is introduced together with the double degree program between TUT and the University of Stuttgart. Further, the scope of the Cluster of Excellence Integrative Computational Design and Construction for Architecture (IntCDC) is outlined, which consists of 29 interconnected projects and 31 associated projects featuring digitization and automation throughout the whole construction process from the planning phase to prefabrication and on-site construction.

A special focus will be on IntCDC's research project RP16, which automates the on-site assembly of form-fit timber building elements. The research results from the automated on-site assembly of wooden cassettes on a real building are presented including some videos. The taken approach and methods as well as the future research plans are discussed.

Biography:

Anja Patricia Regina Lauer received her M.Sc. degree in Engineering Cybernetics from the University of Stuttgart, Germany, and graduated with a M.Eng. degree from the Toyohashi University of Technology, Japan, in 2019 as part of a double degree program. Since 2019, she is a research assistant and PhD student at the Institute for System Dynamics (ISYS), University of Stuttgart, Germany. Her project is part of the Cluster of Excellence IntCDC, which focuses on digitization and automation in construction. Her research is about automating on-site assembly of form-fit timber building elements on construction sites using two large-scale manipulators.



Registration for
online participation

Date : 2023年6月29日(木) 14:40~16:10

Venue : 豊橋技術科学大学 D棟4階 D-412室 (学内者のみ)
オンライン (学内者および学外者)

問合せ先 : リーディングプログラム推進室

leading@office.tut.ac.jp 0532-44-1028

担当 : 機械工学系 内山 直樹