

CONSTRUCTION ROBOTICS SOLUTIONS LAB SYMPOSIUM AND WORKSHOP

LOCATION

Building Lab, OTH Regensburg
Rudolf-Vogt-Str. 16, 93053 Regensburg, Germany

TIME & MODERATION

26. November 2024, 9:30 – 16:15 CET & Prof. Dr.-Ing. Thomas Linner

PROGRAMM

01 SESSION 1 | Symposium: Network for Research to Industry Transfer of Robotics and Automation in Construction (09:30-12:30 CET)

Introduction (9:30-10:00 CET)

a) Building Lab, welcome note

Martin Schneider, CEO Bavaria North Branch, Bavarian Contractors Association & Prof. Dr.-Ing. Mathias Obergrießer, Digital Construction. Building Lab, OTH Regensburg, Germany

b) Opening talk

Prof. Dr. Zoubair Lafhaj, Chair Holder in “Construction 4.0”, President IFCL (Lean Construction), Ecole Centrale Lille, France

c) Introduction and vision for future construction & Importance and role of value networks for research to industry transfer

Prof. Dr.-Ing. Thomas Linner, Laboratory for Automation and Robotics in Construction. Building Lab, OTH Regensburg, Germany & Dr. SoungHo Chae, Chief Research Engineer and Deputy Director, Kajima Technical Research Institute Singapore. Kajima Corporation, Japan & Singapore

R&D for robotics & automation in construction: a global perspective

Part 1 – Research (10:00-10:45 CET)

1) HEPHAESTUS—transforming construction site with cable robots

Jun. Prof. Dr.-Ing. Kepa Iturralde, Züblin endowed Junior-Professor on Digital Transformation in Construction. Stuttgart University, Germany

2) Robotic Dismantling and Reconstruction – Empower Robots for complex reconstruction and dismantling task

Dr. Markus Schmitz & Prof. Dr. Burkhard Corves, Institut für Getriebetechnik, Maschinendynamik und Robotik. RWTH Aachen, Germany

3) Walz 4.0 & CyberCraft: Cooperative Future – Research and Learning in Dialogue between Craftsmanship and Engineering

Prof. Dr.-Ing. Michael Bühler, Professor of Construction Management. Konstanz Institute of Technology, Germany & Prof. Dipl.-Ing. Florian Weininger, Design-to-Fabrication Laboratory, OTH Regensburg, Germany

Breakout Lounge (10:45 – 11:15 CET)

Part 2 – Industry (11:15-12:30 CET)

4) Decoding processes for targeted automation: Towards next level concrete slab construction

Dr. Nadine Preßmair & Gregor Weninghofer. Doka, Austria

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Part 2 – Industry (11:15 - 12:30 CET)

- 5) **Autonomous Mobile Robots for construction – logistics and other applications**
Alwin Heerklotz, CEO and founder, expert for mobile robotics. Innok Robotics, Germany
- 6) **Simulation and virtual ergonomics for construction production planning and robotic development**
Michael Spitzhirn und Jörg Uhlig, ergonomics and production expert. imk Industrial Intelligence, Germany
- 7) **Transforming the Entire Construction Value Chain Using Robotic and Digital Solutions**
Julen Astudillo, Senior Researcher. Energy, Climate and Urban Transition Unit. TECNALIA, Spain
- 8) **Experiences and learnings for construction robotics from a General Contractor perspective**
Maximiliane Straub, Department Manager of Innovation & Startups, GOLDBECK, Germany

Lunch Lounge (12:30 - 13:30 CET)

02 SESSION 2 | Workshop: Industry transfer tactics for robotics in construction: a multi-stakeholder perspective (13:30 - 16:00 CET)

- a) **Impulse 1: How to deploy robotic technology to industry with support from the government?**
Dr. Soungho Chae, Chief Research Engineer and Deputy Director, Kajima Technical Research Institute Singapore. Kajima Corporation, Japan & Singapore
- b) **Impulse 2: Digitalized lean construction with robots – what can we learn from approaches in Asia and Singapore?**
Dr.-Ing. Rongbo Hu, Researcher & Manager of Construction Robotics Lab, Kajima Technical Research Institute Singapore. Kajima Corporation, Japan & Singapore
- c) **Introduction round and introduction of workshop goals**
- d) **Workshop session 1: challenges**
- e) **Workshop session 2: solutions**
- f) **Solution summary**

03 CONCLUSION | Closing talk and summarization (16:00 - 16:15 CET)

- **Construction robotics: from prototypes in 1978 to industrial realities till today**
Prof. Dr.-Ing. Thomas Bock, retired Professor, former director of the Chair of Building Realisation and Robotics, Technical University of Munich, Germany

Networking & Takeaway Snacks Lounge (16:15 - 17:00 CET)