

Invitation to contribute to the Special Issue on **Robotics in the Construction Industry** (Advanced Engineering Informatics)

We would like to invite you to contribute to a Special Issue of Robotics in the Construction Industry that will be dedicated to the nascent field of construction robots. Research into construction robotics mainly focuses on developing new robotic hardware and software applications, but so far has developed limited knowledge about how to build robotic systems that can leverage carefully formalized knowledge of experienced craftsman and site managers.

The Special Issue will elucidate the technical and institutional difficulties inherent in the construction industry and provide several online workshops for sharing potential ways to overcome them. The first **online workshop** will be held on **June 26, 2020** to discuss ideas for possible papers to include in the special issue. As a pioneer in this field, you recognize the potential importance of construction robots - as well as the challenges - which is why you have been invited to join the workshop and contribute a paper for inclusion in this Special Issue. Potential topics will include:

- Computational design support for robotic construction
- Design of construction robotic systems for construction activities requiring high craftsmanship
- Advanced control strategies and artificial intelligence for robot locomotion and manipulation inspired by detailed studies of construction workers
- Sensing technologies for situation awareness in construction applications allowing to detect cues workers and site managers use in real practice
- Smart robot-robot and human-robot collaboration systems
- Novel applications of construction robots conducting complex non-mundane work
- Mobile, humanoid, and walking robots for construction work
- Ethical, legal, and social issues of construction robots
- Smart autonomous navigation of robotic systems based on formal knowledge
- Intelligent robotic swarms and auxiliary robotics for construction work
- Methods for simulating, controlling, and visualizing construction robotic work and work progress
- Research and design methods for robotic design and knowledge formalization

All submissions will undergo anonymous review to guarantee high scientific quality and relevance to the subject. The Special Issue will be published in first half of 2021, which means that we will need your manuscript by November 1st, 2020. For the submission of full papers authors must use the

online EVISE submission and editorial system for Advanced Engineering Informatics (<https://www.journals.elsevier.com/advanced-engineering-informatics/>). To ensure that your paper is correctly identified for inclusion into the special issue review, it is important that you select "**Construction robotics**" when you reach the "**Article Type**" step of the submission process.

Yours sincerely,

The Guest Editors

Heng Li, Professor, The Hong Kong Polytechnic University, Hong Kong

Timo Hartmann, Professor, Technische Universität Berlin, Germany

André Borrmann, Professor, Technische Universität München, Germany

Xincong Yang, Ph.D., The Hong Kong Polytechnic University, Hong Kong

Yantao Yu, Ph.D., The Hong Kong Polytechnic University, Hong Kong