

MANUFACTURING RESEARCH

Smart Manufacturing Seminar Series

Human-Robot Collaboration: Current Status and Future Trends

Abstract

Human-robot collaboration has attracted increasing attention, both in academia and in industry. For example, in human-robot collaborative assembly, robots are often required to dynamically change their pre-planned tasks to collaborate with human operators in a shared workspace. However, the robots used today are controlled by pre-generated rigid codes that cannot support effective human-robot collaboration. In response to this need, multi-modal yet symbiotic communication and control methods have been developed. These methods include voice processing, gesture recognition, haptic interaction, and brainwave perception. Deep learning is used for classification, recognition and context awareness identification. Within this context, this seminar provides an overview of the current status of human-robot collaboration including its classification, definition and characteristics. At the end of the seminar, remaining challenges and future research directions will be highlighted.

Speaker Bio

Lihui Wang is a Chair Professor of Sustainable Manufacturing at KTH Royal Institute of Technology, Sweden. His research interests are focused on cyber-physical systems, human-robot collaboration, real-time monitoring and control, predictive maintenance, adaptive and sustainable manufacturing systems. Professor Wang is actively engaged in various professional activities. He is the Editor-in-Chief of Robotics and Computer-Integrated Manufacturing,

Editor-in-Chief of International Journal of Manufacturing Research, and Editor-in-Chief of Journal of Manufacturing Systems. He has published 9 books and authored in excess of 500 scientific publications. Professor Wang is a Fellow of Canadian Academy of Engineering, CIRP, SME and ASME, the President-Elect of North American Manufacturing Research Institution of SME, and the Chairman of Swedish Production Academy.

Friday, February 7, 2020
11:00am - 12:00pm

Chrysler Center, Room 151
2121 Bonisteel Blvd
Ann Arbor
Metered parking is available.



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Questions?

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