CONSTRUCTION & DECONSTRUCTION
IN AMERICA

a talk by
Prof. **CARL HAAS**
University of Waterloo

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A few interesting recent developments that might lead to some useful discussions are presented. A truly astonishing development is that the US Bureau of Labor Statistics reports that compound annual growth rates in productivity have exceeded 5% over the last decade in key construction sectors in the US, including industrial and multi-family residential. I posit that advances in robotics, artificial intelligence, information technology automation and integration, new materials, management practices, and training have driven this outcome, and that some of them were in turn driven by fundamental research advances. I will present a few examples of how our community and our laboratory in particular are currently contributing to those advances and their implementation. Examples include research in construction automation, augmented reality, infrastructure computer vision, adaptive reuse, and biomechanical applications in the construction trades.

Carl Haas is the Chair of the Department of Civil and Environmental Engineering at the University of Waterloo, Canada. His research, teaching and consulting are in the areas of construction engineering and management systems. He has received several research and teaching awards. He serves on a number of editorial boards and on professional committees for organizations such as ASCE, NSERC and IAARC. His research has been supported by numerous companies including: Aecon, PCL, KLA Tencor, Coreworx, SNC Lavalin, OPG, GSE&C, Software Innovation, Dupont, Hilti, Houston Lighting and Power, Fluor, Crafco, EPRI, the Construction Industry Institute (CII) and their member companies, as well as agencies such as TxDOT, MTO, NSERC, NSF, and CRC. He is a member of the Canadian Academy of Engineering and a Fellow of the ASCE. He was elected to the US National Academy of Construction in 2013. In 2014 he received the CSCE Walter Shanly Award for outstanding contributions to the development and practice of construction engineering in Canada. In 2015 he received the ASCE Peurifoy Construction Research Award, the premier North American award in construction research. In 2017, he received the University of Waterloo Award of Excellence in Graduate Supervision.