



TOPIC: A Computational Digital-Physical Interface for Infrastructure Production: Automating the Transformation of Digital Information into Physical Artifacts

SPEAKER: Volker Mueller
Architect

WHEN: March 17, 2021 – 6:00PM

WHERE: Zoom Online Presentation
[RSVP](#) or call **312.861.1100**



Volker Mueller was trained as an architect. He has worked in the transitional zone between the digital and the physical. From 1993 to 1998 he was part of the development team for a 3d-modeling application that aimed at facilitating architectural design as a 3-dimensional activity. From 1998 to 2008 he supported an architecture firm which had the ambition to integrate the flow of knowledge about a design project from inception to construction and across all involved disciplines. From 2008 to 2019 he joined a software company in developing software for the infrastructure industry as computational design researcher and product manager, promoting the use of computational approaches in infrastructure design. Currently, he is the leader of the software development department of an equipment manufacturer for the steel fabrication industry.

Automation, Computation, and Construction

Aging and crumbling infrastructure is difficult to maintain. Additionally, the surge in urbanization and providing shelter for humans creates challenges on a global scale. These non-trivial problems may be transformed by the construction industry taking advantage of innovative computing technologies. This talk will look at the major obstacles to automation in construction and how that compares to other industries.

Progress in automation relies upon progress in computation. Computer professionals and researchers are uniquely positioned to effect progress in the construction industry.

The construction industry lags far behind other industries in terms of productivity gains. In most industries the main drivers of productivity increases have either been outsourcing or automation-driven reduction of the workforce.

Join Us As We Build a Framework for the Future

In this talk, Volker Mueller will review the obstacles to automation: for example location dependency or the materials used in construction with their behaviors, tolerances, and properties. Furthermore, we'll outline opportunities for computation seen in prototypical implementations and with practice innovations and examine the effect of automation on the infrastructure lifecycle: planning, design, supply chain and workforce considerations, construction logistics, maintenance, and any decommissioning and demolition.

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