



## DEPARTMENT OF CIVIL ENGINEERING

## SEMINAR

**Think out of the Box - Need for interdisciplinary teaching and research in AEC  
(Architecture, Engineering and Construction)**

Prof. Frank Petzold  
TUM School of Engineering and Design

Date: September 15, 2023 (Friday)

Time: 3:30 p.m. to 4:30 p.m.

Venue: Room 612B, 6/F Haking Wong Building, The University of Hong Kong

**Abstract**

Shaping a future-oriented livable eco-system is a major challenge of construction industry. On one hand, it is responsible for a large proportion of CO<sub>2</sub> emission and raw material consumption. On the other hand, built environments must be designed and built to meet the challenges of e.g., climate change and urbanization. Data sciences are transforming our societies very fast. These are allowing the formation of intelligent built environments while providing unprecedented opportunities that can support the reduction of CO<sub>2</sub> emissions, the decrease of material consumption and the improvement of work performance. All that have been possible due to the advancement of digital technologies and their appropriate adoptions. Therefore, digitization in AEC industry requires fusion of various skills and knowledge such as architecture, urban planning and civil engineering blended with the field of computer science. Prof. Frank Petzold will talk about the importance of research-oriented teaching and interdisciplinary research to construct our built environments using data, and related technologies to achieve the goal of future oriented sustainable development. In addition to necessary institutional environment, he will also present current interdisciplinary research and teaching projects on the topics of Building Information Modeling and Urban Information Modeling in early architectural design stages, such as Additive Manufacturing in Construction, Knowledge supported Design and Collaborative Design Platform.

**About the Speaker**

The Chair of Prof. Petzold (\*1968) investigates to answer the questions relating to the information technology support in architectural design processes in both research and teaching. Research at his chair involves analyzing activities of architects, formulating requirements for digital tools and – based on novel and future oriented technologies – creating concepts, developing and evaluating prototypical solutions. Findings of Professor Dr. Petzold's research have been published in more than 200 internationally recognized scientific journals and conferences' proceedings. After studying computer science, with a specialization in architecture and civil engineering, at the HAB Weimar (today Bauhaus University Weimar), he worked there as a research assistant at the Chair of Computer Sciences in Architecture. After completing his doctorate in 2001, he assumed the position of junior professor (assistant professor) of architectural informatics in Weimar before being appointed as a full professor at TUM in 2009. In 2014, Prof. Petzold was a co-founder of the LOC - Center of Digital Methods for the Built Environment. Since 2017, he is an associate member of the School of Information, Computing and Technology and core member of the Munich Data Science Institute. He is a founding member of the Association of Architectural Informatics in German-speaking regions and a member of the German Association of Computing in Civil Engineering, as well as various international bodies. Since 2015, he has been Vice President of the DARL (German Federal Association of Deans and Directors of Architecture, Regional Planning, and Landscape Architecture) and member of the task force AKIM (Task force information management) of the Federal Association of the German Construction Industry. In 2020, Prof. Petzold became spokesperson for the " Innovative construction - sustainable and digital " topic platform at Z.DB (Zentrum Digitalisierung.Bayern - Bayern Innovativ). At TUM, he is active in various committees, such as the task force "Digital Administration", TUM-IAS Advisory Council and in the scientific advisory board of the Georg Nemetschek Institute.

- ALL ARE WELCOME -