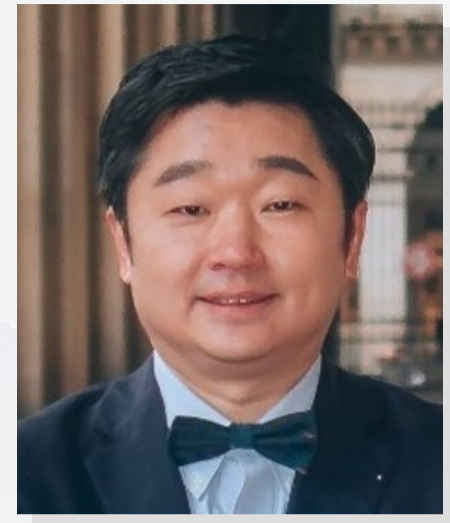




Department of  
Systems Engineering

香港城市大學  
City University of Hong Kong

## Data-Driven Innovation



**10 Jul 2023 (Mon) | 10:30 am**

**Seminar Link:** <https://cityu.zoom.us/j/96327958940>

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### Abstract

Traditional engineering design innovation relies on human expertise and intuition and is highly uncertain and serendipitous. Meanwhile, the increasing digitalization of our work and lives generates a growing amount of digital footprint data. If we can intelligently mine, analyze and make sense of such data to inform design and inspire designers, we will be able to reduce uncertainty and augment creativity in the engineering design process for innovation. The rapid advances in artificial intelligence further empower data-driven innovation (DDI). This talk will focus on the ontology, theories, methods, tools, expert systems, and digital knowledge infrastructure for DDI that have been developed at the SUTD Data-Driven Innovation Lab. The DDI Lab's convergent research has seamlessly fused design, system, and data sciences together with engineering knowledge to push the frontier of creative artificial intelligence (CAI) for engineering design innovation.

### Bio

Jianxi Luo is a tenured Associate Professor with the Singapore University of Technology and Design (SUTD), where he directs the Data-Driven Innovation Lab and led the SUTD Technology Entrepreneurship Programme. He is also an adjunct faculty member with the Schwarzman College at Tsinghua University. He serves as the Managing Editor of the Journal of Engineering Design, Associate Editor of Design Science, Associate Editor of Artificial Intelligence for Engineering Design, Analysis and Manufacturing, Engineering Design Field Editor of IEEE Transactions on Engineering Management, editorial board member of Research in Engineering Design, and executive committee member of The Council of Engineering Systems Universities (CESUN). In 2021, Stanford and Elsevier recognized him as the 13th most cited scientist globally in the field of Design Practice & Management. In 2022, the G20 Organizing Committee named him a "G20 Professor" for his pioneering work on data-driven innovation (DDI). He co-invented several DDI expert systems that have been widely adopted by global industry leaders such as Lockheed Martin and Autodesk and been granted two US and three China patents. Prof. Luo has co-authored more than 150 articles, delivered over 100 invited talks at over 70 firms, governments, and universities, and received over 20 research or design awards from ASME, INFORMS, Design Society, Complex System Society, etc. Previously, he served as a faculty member at New York University, a visiting scholar at Cambridge University and Columbia University, and Chair of INFORMS Technology Innovation Management & Entrepreneurship Section. He also had work or consulting experience with EDF, WEF, ADB, and Toyota. He holds a Ph.D. in Engineering Systems and S.M. in Technology & Policy from Massachusetts Institute of Technology, and an M.S. and B.E. in Mechanical Engineering from Tsinghua University.