

## Keynote Speech

### Current AI Challenges and Applications in Engineering Informatics

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**Photo:**



**Abstract: (100 words, used for the seminar poster)**

This presentation is about Artificial Intelligence (AI) challenges and applications in the context of e-engineering management, from an angle of informatics. Network based resources collaboration is becoming an essential business strategy in critical global projects. Keeping the industrial competitiveness depends on the emerging technologies over the big-data intelligence, algorithms, high speed internet, especially the cyber-physical systems, and deep-collaboration in ever more integrated and yet conflicting environment. Thematic review of modern AI technologies in engineering informatics field is presented. The contents will generate meaningful discussion about technology, business and education changes in the coming years.

**Keywords:** AI, Engineering Informatics, CAD/CAM/CAE, Feature-based Engineering, Knowledge Engineering, Advanced Semantics Modeling, Industry 4.0



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**Bio:**

Dr. Yongsheng Ma is a full professor with Southern University of Science and Technology, China (since 2021). Dr. Ma had been a full professor with the University of Alberta (2007 to 2021). He is a member of ASEE, SME, SPE, CSME and an Alberta P.Eng. His research focuses on engineering informatics for design and manufacturing. Dr. Ma received B.Eng. from Tsinghua University, Beijing (1986), both M.Sc. (1990) and Ph.D. (1994) from UMIST, UK. Before 2007, he had served as an associate professor with Nanyang Technological University (2000-2007), Singapore. Before that he also worked with Ngee Ann Polytechnic (1993-1996) and then Singapore Institute of Manufacturing Technology (1996-2000). Dr. Ma has had an established research profile with many research projects from different sources, and published more than 200 internationally recognized top journal and conference papers, and book chapters. Dr. Ma had been an associate editor of IEEE Transaction of Automation Science and Engineering (2009-2013). In 2012, he won the prestigious ASTech award sponsored by The Alberta Science and Technology Leadership Foundation together with Drader Manufacturing Ltd. Dr. Ma had also served as a senator of UA during 2014-2016. He has been serving as an Editorial Board Member of *Advanced Engineering Informatics* (Elsevier) since 2012, and became an associate editor since 2020. He is currently also an associate editor of *ASME Journal of Computing and Information Science in Engineering* (JCISE), *Frontiers in Mechanical Engineering - Digital Manufacturing*, and an editorial board member for *Scientific Reports* (Springer Nature).