



Manufacturing III: Atomic and/or Close-to-atomic Scale Manufacturing

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Manufacturing is the foundation of a nation's economy. It is the primary industry to promote economic and social development. To upgrade the manufacturing technology from "precision manufacturing", "high performance manufacturing" to next generation of manufacturing, i.e, Manufacturing III, a new breakthrough should be made in terms of achieving a "leap-frog development". Different to conventional manufacturing, the fundamentals of "Manufacturing III" is beyond the scope of conventional theory. It is based on new principles and theories at the atomic and/or close-to-atomic scale, called ACSM. This keynote speech will address the key issues in ACSM from concept to main characterisations.

SHORT BIO:

Professor Fengzhou Fang has over 30 years' experience in working in manufacturing science and technology. He was responsible for setting up the Centre of Micro/nano Manufacturing Technology (MNMT) at Tianjin University in 2005. MNMT has been recognised as a leading manufacturing research organization in the world. He has managed a large number of national, international, and industry funded research projects. His specialist areas of interest include micro/nano manufacturing, optical freeform manufacturing, bio-medical manufacturing, ultra-precision machining and metrology. He is a fellow of the International Academy for Production Engineering (CIRP), the International Society for Nanomanufacturing (ISNM), and the Society of Manufacturing Engineers (SME). He served as a council member of CIRP, the chairman of the CIRP Manufacturing Curriculum Committee, and a board member of the Asian Society for Precision Engineering & Nanotechnology (ASPEN). He is the founding president of ISNM and the editor-in-chief of the Nanomanufacturing and Metrology (N&M).