Editorial

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Biographical notes: Venkatakrishnan received his PhD in the Department of Mechanical and Aerospace Engineering, Nanyang Technological University, Singapore in year 2000. He has been working on fundamental and applied research in the areas of pulsed laser micro and nano fabrication and laser micro/nano measurement systems for more than ten years. His research during these years has since generated over 60 international journal publications, six granted US patents and two granted worldwide patents in his field of research. His main research interest is in laser material processing for nanotechnology, which includes, fundamentals of pulsed laser micro and nano processing, and its applications to micro/nano-electronics, MEMS/NEMS, photonics and biomedical device. He is currently an Associate Professor at Ryerson University, at the Department of Mechanical and Industrial Engineering, Toronto, Canada. Before joining Ryerson University he worked as a Strategic R&D Manager for Xsil Ltd., Ireland. He has also worked as a Research Fellow/Group Leader in Nanyang Technological University, Singapore.

Ongoing demand for miniaturisation requires the development of precise and cost efficient micro fabrication processes. Microtechnology is a fundamental technology with tremendous potential to impact the world economy. In order to realise the potential of micro technology, inexpensive fabrication techniques are required. On the other hand, the drive for miniaturisation in the fields of microelectronics, medical devices, and micro-electromechanical systems (MEMS) is spurring an ever-growing need for industrially viable, precise and efficient micro manufacturing processes. Lasers, electro discharge machining and abrasive techniques are effective material processing tools offering distinct advantages, including low capital investment, short process time, single step, ambient operation and locally confined structural modification. Other MEMS fabrication techniques such as ion etching and chemical etching techniques have gained popularity due to precision and mass production capabilities. This special issue deals with fabrication of micro devices using non-traditional manufacturing techniques with special emphasis on biomedical and MEMS application.