# Editorial

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**Biographical notes:** Mark J. Jackson is Professor of Mechanical Engineering in the College of Technology at Purdue University and is faculty associate in the Birck Nanotechnology Centre and the Centre for Advanced Manufacturing. His research interests are in the area of machining and grinding at the micro and nanoscales. He was a Research Fellow at the Cavendish Laboratory, University of Cambridge and Lecturer in Engineering at the University of Liverpool, UK.

Grant Robinson is President and CEO of Micro Machinists LLC, and is directing the development of micro machining machine tools. His was educated at Liverpool and Purdue Universities and is currently serving as a Faculty Associate at the Centre for Advanced Manufacturing at Purdue University

There are significant challenges in the analysis of micro and nanomanufacturing processes at the present time that are being encouraged by the development of systems that link the micro and nanoscale with the macro and mesoscales. Owing to the rapid changes in consumer purchasing habits, there is a constant need to advance the knowledge required to manufacture micro and nanoscale products and systems. This special issue addresses a portion of that effort by publishing invited papers in the area of contemporary analysis of micro and nanomanufacturing.

The first paper by Wang et al., describes the issues concerned with ultra precision diamond turning of microstructures, whilst the second paper by Shilpiekandula and co-workers tackles the fusion of metrology data for the manufacture of polymeric microfluidic devices. The synthesis of palladium nanoparticles and yield improvements for lost foam rapid infiltration processes are discussed in the subsequent papers. Finally, the micro grinding process is analysed in the last two papers that are concerned with wear of micro abrasive wheels and their subsequent control at the microscale.

We hope that this special issue will serve as a reference volume consisting of high quality research papers especially for research workers and industrial engineers. Peer reviewers whom are experts in the field of micro and nanomanufacturing have refereed the papers presented in this volume. The referees have been extremely helpful and have returned reviews as per schedule. We wish to thank them for their reviews and the authors for submitting such high quality research papers.