Editorial

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Biographical notes: Jun Wang received a PhD in Mechanical and Manufacturing Engineering from the University of Melbourne, Australia, in 1993. He then worked in the same university as a Postdoctoral Research Fellow before moving to the Queensland University of Technology in 1995 and then to the University of New South Wales in 2005. He also held an Australian Academy of Science and Japan Society for the Promotion of Science Invitation Fellowship at Tohoku University in Japan from 2001 to 2002. His main research interests include machining and advanced manufacturing technologies, in particular multiscale abrasive jet machining, nano-machining/surfacing and microfabrication. He has had over 180 publications including some 100 refereed journal papers and a monograph. He is a Founder Member of the International Committee for Abrasive Technology and a Fellow of the Institution of Engineers Australia.

1 Introduction

Abrasive technology concerns the manufacturing processes that involve the use of abrasives in a variety of forms. It has a long history originating from the discovery of minerals. With the increasing requirements for the production of high precision and high surface quality components in various applications, such as silicon wafers in the semiconductor industry and optical lenses in the precision instrument industry, abrasive technology is becoming increasingly important in precision manufacturing.

The International Journal of Abrasive Technology (IJAT) is aimed to provide a prime forum and communication channel for the interchange of information among academic researchers and industrial practitioners on the science, technologies and applications associated with precision and abrasive processing engineering. It is a fully refereed journal that publishes original research papers, review papers, technical papers and notes, short communications, case studies and book reviews. Special Issues devoted to the development of important topics in abrasive technology will be published periodically to compile papers from prominent researchers.

The topics covered by *IJAT* include, but are not limited to, the following:

- grinding, finishing, deburring, lapping, polishing, honing, etc.
- truing, dressing and ELID for grinding
- abrasive jet (AWJ, AAJ, etc.) machining and other processes
- equipment and technology for abrasive jet machining/processing

- abrasive flow machining
- loose and suspended abrasive particle machining/polishing
- hybrid super-finishing processes: electro-abrasive processes, laser assisted abrasive processes, CMP, CMG, etc.
- in-process measurement and monitoring for precision/ultra-precision machining
- abrasives and tools for abrasive processes
- machine tools/equipment for precision/ultra-precision and abrasive machining
- micromachining
- super-finish/nano-surfacing
- silicon wafer and brittle material processing
- surface characterisation and evaluation
- metrology applied to precision/ultra-precision machining
- ecological and environmentally-friendly coolants and cooling techniques
- tribology in precision and abrasive processes and
- teaching and learning innovations in abrasive engineering and technology.

It is strongly believed that this journal provides a valuable source of references for academics, researchers, industrial practitioners and university students specialising in manufacturing processes, precision engineering, abrasive processes and related fields.

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