



International Journal of Advanced Manufacturing Technology

Special Issue on 'Non-traditional and hybrid processes for micro and nano manufacturing'

Guest Editors: Dr Atanas Ivanov and Professor Kai Cheng

Micro and nano manufacturing processes have gained steady place on the manufacturing market and some have achieved special attentions from industrial companies due to their unique capabilities. However, many developments still remain on the stage of R&D experiments and lab demonstrators. The established micro/nano manufacturing processes already on the market showed their limitations and process capabilities they can achieve. It is needed to have a new fresh approach to developing new processes which can bridge the gap between semiconductor manufacturing and multi material micro/nano manufacturing processes. This includes development of novel non-traditional processes in new dimensions and combinations of already existing processes with the idea of achieving new process capabilities for the needs of micro and miniature products. Commercial companies are very sensitive in choosing a specific non-traditional or hybrid method and investing money and time in either developing in-house technology or equipment, or purchasing new manufacturing facilities of utilising such technology. The investment risk for the companies is still high in these cases.

The aim of this special issue is to provide a forum for researchers and practitioners to review the recent developments in the area of non-traditional and hybrid processes for micro and nano manufacturing and identify possible trends for further developments as well as to attract industrial partners interested in application development with a new dimension. Special issue on '*Non-Traditional and Hybrid processes for micro and nano manufacturing*' invites papers that deal with the theoretical, implementation, and/or applied aspects of one or more of the following topic areas, but not limited to:

- Micro EDM and micro ECM processes
- Micro and nano manufacturing with lasers
- Vibration assisted methods for micro/nano machining
- Micro additive Manufacturing
- Nano and micro machining using SPM (Scanning Probe Microscopy)
- Abrasive flow machining (AFM) and abrasive water jet (AWJ) machining
- Hybrid machining for micro/nano manufacturing
- Micro/nano metrology methods and practices
- On-machine tool preparation and on-machine measurement
- Micro/nano feature recognition techniques and assessment
- Micro/nano surface texturing and characterization
- Micro and nano cutting mechanics
- Multiphysics modelling and analysis of micro/nano processes
- Multiscale modelling and analysis for high precision machines, processes and tooling
- Equipment development for *non-traditional or hybrid* micro/nano manufacturing

Key words: Micro manufacturing, nano manufacturing, non-traditional manufacturing processes, hybrid machining, multiphysics modelling and simulation, multiscale modelling and analysis, micro metrology, micro/nano texturing.

Contributions will be reviewed by at least two referees. The manuscripts should normally be within 25 pages of A4 paper, printed on one side only and double-spaced, and inclusive of figures and tables. Interested authors are welcome to send in their tentative titles and abstracts through email. Full electronic manuscripts (MS-Word, or PDF file) should be sent to the guest editors at atanas.ivanov@brunel.ac.uk or kai.Cheng@brunel.ac.uk by 18 March 2018. They must be prepared using the Instructions to Authors of IJAMT. Publication of the special issue is tentatively scheduled in the spring of 2019.

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Important dates:

Express of interest (Title + Abstract + Date) through email	As soon as possible
Submission of full papers	March 18, 2018
Notification of reviews to authors	June 1, 2018
Submission of revised paper manuscripts	September 1, 2018
Final notification and re-reviews	October 31, 2018
Final submission and decisions	December 18, 2018
Publication	Spring 2019