
Editorial

James Uhomoibhi*

University of Ulster,
Jordanstown, UK
E-mail: juhomoibhi@ulster.ac.uk
*Corresponding author

Waqar Ahmed

University of Central Lancashire,
Preston, UK
E-mail: wahmed4@uclan.ac.uk

Mark J. Jackson

Purdue University,
West Lafayette, USA
E-mail: jacksomj@purdue.edu

Biographical notes: James Uhomoibhi is a Lecturer and Faculty E-learning Coordinator at the University of Ulster, UK. He is also the European coordinator of the African Laser Centre. The African Laser Centre, a virtual centre of excellence focusing on laser research in Africa, was established in 2002 to provide a platform through which Africa can pool its resources to become globally competitive.

Waqar Ahmed is the Chair of Advanced Manufacturing and Nanotechnology at the University of Central Lancashire. His area of research is chemical vapour deposition of thin film nano structures especially nanocrystalline diamond. He was educated at the University of Salford and has held academic positions at the University of Northumbria and Manchester Metropolitan University, UK.

Mark J. Jackson is an Associate Professor of Mechanical Engineering at the College of Technology of Purdue University, USA. His research interests include micromachining and the design of nanomachine tools. He was educated at Liverpool and Cambridge Universities and is a Faculty Associate at the Birck Nanotechnology Center and the Center for Advanced Manufacturing at Purdue University.

An interesting variety of papers are presented in this Special Issue of the *IJNP*. These papers represent recent developments in laser nanomanufacturing and nanoparticles. These include femtosecond dressing of grinding wheels and plasmon-based lithography. A brief summary of some of the contributions is presented in this paper. Surface plasmon-based nanolithography by Alex Heltzel, Senthil Theppakuttai, Shaochen Chen and John R. Howell describes how surface plasmons are used to lithographically etch

materials in preparation of secondary deposition processes. A paper on the synthesis of tungsten oxide nanostructures by laser pyrolysis that shows how tungsten oxide nanoparticles are created by laser pyrolysis is presented by Bonex Wakufwa Mwakikunga, Andrew Forbes, Elias Sideras-Haddad, Rudolph Marthinus Erasmus, Gift Katumba and Bathusile Masina. A paper on femtosecond laser dressing of the surfaces of porous alumina grinding wheels by M.J. Jackson and G.M. Robinson describes how intense laser pulses are used to restructure alumina abrasive materials on the surface of a grinding wheel prior to machining engineering materials. This paper is followed by one on pulsed laser liquid–solid interaction synthesis of Pt, Au, Ag and Cu nanosuspensions and their stability by M. Maaza et al., which explains how liquid–solid interactions can be used to create nanosuspensions of particles. Rajeev Kumar and Vinod Yadava apply finite elements to the thermal analysis of micro-EDM processes. Finite elements are used to calculate the effect of heat on the micro electro-discharge machining process. The computational analysis of machining laser hardened D2 Tool Steel is discussed by M.J. Jackson and M.D. Whitfield. They conclude that Loewen and Shaw’s method to calculate thermal effects in machining hardened tool steels can be used when there is insignificant frictional interactions between cutting tool and workpiece material. We thank the authors for their efforts to submit papers in a timely manner. Peer reviewers who are experts in their respective fields have refereed each paper. We wish to thank them for their efforts and insightful comments. Finally, we thank Professor Mohammed Dorgham, Editor-in-Chief of the *International Journal of Nanoparticles*, for publishing this Special Issue.