



**Announcing a Special Issue of the IEEE Transactions on Plasma Science
Plasma-Based Surface Modification and Treatment Technologies
(Scheduled for July 2009)**

Plasma-based surface modification and treatment is a burgeoning area and has attracted much attention in a wide variety of research and commercial applications in aerospace, biomedical engineering, metallurgy, polymers, semiconductors, and so on. By using the appropriate techniques, surface properties such as wettability, hardness, mechanical properties, biocompatibility, and bioactivity can be selectively enhanced while retaining the favorable bulk attributes of the materials such as strength and inertness. This rapidly evolving field is a point of focus in many international conferences such as Ion Beam Modification of Materials (IBMM), Surface Modification by Ion Beams (SMMIB), Plasma Surface Engineering (PSE), and particularly the biennial Plasma-Based Ion Implantation and Deposition (PBII&D) workshop, and IEEE International Conference on Plasma Science (ICOPS) has seen an increasing number of papers in this area as well. Therefore, we invite members of IEEE and other scientists and engineers working in this field to submit manuscripts to this Special Issue dedicated to plasma-based surface modification and treatment technologies.

The intent of this Special Issue is to present new results and developments as well as novel methods and studies in this exciting and technologically important area that has tremendous industrial relevance. Contributions are solicited in, but not restricted to, the following topics:

- Physics and modeling of plasma – surface interactions
- Plasma instrumentation such as plasma sources and power modulators
- Plasma-based deposition techniques
- Plasma immersion ion implantation and hybrid implantation - deposition technologies
- Medical, biological, metallurgical, aerospace, and environmental applications
- Plasma surface treatment of insulators and large industrial components
- Characterization of plasma-treated surfaces
- Fabrication of novel microelectronic and photonic structures and devices using plasma-based techniques
- Plasma-based doping of semiconductors
- Plasma treatment of nanomaterials and nanostructures

All contributions should reach the Guest Editors **no later than October 1, 2008** at the IEEE Transactions on Plasma Science IEEE Manuscript Central website at <http://mc.manuscriptcentral.com/tps-ieee>. Questions regarding the Special Issue on Plasma-Based Surface Modification and Treatment Technologies can be addressed to the Guest Editors:

Prof. Ken Yukimura
Department of Electrical Engineering
Faculty of Engineering
Doshisha University
Kyotanabe, Kyoto 610-0321, JAPAN
Tel: [81]-774-65-6266
Fax: [81]-774-65-6816
E-mail: kyukimur@mail.doshisha.ac.jp

Prof. Xiubo Tian
State Key Laboratory of Advanced Welding Production and Technology
School of Materials Science & Engineering
Harbin Institute of Technology
Harbin 150001, CHINA
Tel: [86]-451-86418695
Fax: [86]-451-86416186
E-mail: xiubotian@163.com

Prof. Paul K Chu
Department of Physics and Materials Science
City University of Hong Kong
Tat Chee Avenue, Kowloon
Hong Kong, CHINA
Tel: [852]-27887724
Fax: [852]-27889549 or [852]-27887830
E-mail: paul.chu@cityu.edu.hk