

Announcing a Special Issue of the IEEE Transaction on Plasma Science on Nonthermal Medical/Biological Applications Using Ionized Gases and Electromagnetic Fields

(Scheduled for August 2012)

The low-temperature atmospheric pressure plasmas and high-power ultra-short electrical pulses represent emerging and rapidly growing fields for revolutionary advances in biology and medicine. The potential and promising application fields include chronic wound healing, cancer treatment, infection control, dermatology, and drug delivery. The growing interest in the research area is evident from the dramatic increase in the number of dedicated sessions at international conferences and an increased number of publications in journals across diverse fields.

Special issues of IEEE Transactions on Plasma Science devoted to “Nonthermal Medical/Biological Applications Using Ionized Gases and Electromagnetic Fields” have been published every two years since 2000. The special issues have attracted an enormous number of readers in a wide variety of fields from plasma science and engineering to medicine and molecular/cellular biology. The significant contribution of the special issues to our society is evident from the dramatic increase in the number of contributed papers over the past 10 years. The purpose of the upcoming special issue is to continue to provide the opportunity for researchers to report their progress in the exciting field. Individual researchers and multidisciplinary research teams investigating the following themes are invited to submit their new results to the upcoming special issue.

- Sterilization of biological/non-biological surfaces; characterization of altered surface chemistry
- Cancer treatment, wound healing, drug delivery, and other emerging biomedical applications
- Fundamentals of the interaction of low-temperature plasmas and bacteria, cell, and tissue.
- Plasma-generated ROS/RNS in gas phase and aqueous phase for biomedical applications
- Interaction of high-frequency electromagnetic fields with cells/tissues
- Ultra-short pulse-induced biomedical effects

All contributions should reach the Guest Editors by **February 15, 2012**. Detailed instructions for authors can be found inside the back cover of the IEEE Transactions on Plasma Science and the website: www.ieee.org/pubs/authors.html. Contributors are encouraged to submit their manuscripts through ScholarOne Manuscripts™ (<http://mc.manuscriptcentral.com/tps-ieee>). The standard journal policies (including page charges and reprints) will apply. Authors may also seek additional information by contacting anyone of the following Guest Editors:

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