PEAPT 2009

Process Engineering Applications of Plasma Technologies

DST sponsored workshop on

Process Engineering Applications of Plasma Technologies

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Department of Chemical Engineering,
Indian Institute of Science, Bangalore - 560012

Purpose and Scope

Plasma based technologies have played a critical role in the semiconductor microfabrication industry. The ability of plasma to enable otherwise infeasible reactions at moderate temperatures/pressures and the ability to impart anisotropic energy transfer have been exploited fully in the semiconductor industry for deposition and etching processes. This success has led to a surging interest about the use of plasma technologies in other processing industries. Presently, there is significant research interest in utilizing the capabilities of low energy ("cold") plasma for developing novel processing capabilities, viz. the ability to modify surface wetting properties on polymeric substrates at different length scales, the ability to selectively remove organic materials from nanostructured surfaces, the ability to form nanoparticles of varying compositions etc.

The field of chemical engineering is spreading across many new frontiers including nanotechnology and bio/materials engineering, where surface processing and interface manipulations play a key role. Plasma based processing techniques are the leading enabling-tools for control and manipulation of surfaces. The objective of this one day workshop is to expose the chemical/process engineering community to the basics of plasma science and engineering, and to highlight research on plasma processing carried out in India. The goal is to foster interaction amongst such research groups and seed further research activities in this area.

Who should attend

Researchers from various institutions, and faculty members from universities and colleges working/interested in the area of bio/nano-materials processing. Graduate students and young researchers working on applications of plasma processing to bio/nano-materials processing are actively encouraged to attend the workshop. Engineers and scientists from bio/nano-materials processing industries and plasma equipment manufacturers will also find the workshop useful.

Program information

The workshop will have two three hour sessions. The morning session will have invited lectures by leading researchers in the area of plasma science and engineering applications. These lectures will be introductory in nature and will provide an insight into the basics of plasma science and their technological applications. The afternoon session will consist of research presentations on plasma enabled processing and its application in the fields of nanotechnology and bio/material processing by graduate students & young researchers.

Information on registration and fees

There is no fee for attending the conference, however, online registration is required and selected participants will be intimated by email. The last date for registration is 7th August, 2009. Please fill the online registration form and we will get in touch at the earliest. T.A. for invited speakers and presenters from academia will be reimbursed as per DST norms. Accommodation will also be provided for speakers and presenters. There is also a limited number of scholarships (to cover TA and accommodation) for participating in the conference. This is limited to research scholars and young faculty members from colleges. For other academic participants, accommodation can be arranged upon payment of boarding charges (depending on availability). Participants from industry will have to arrange for boarding and lodging on their own.

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Organizing committee — Prof. Sudarsan Neogi, Dr. Upendra Bhandarkar, Dr. S. Venugopal