

Abstract of the Talks

1) **Inter University Accelerator Centre (IUAC) - An Overview of Experimental Facilities**

P. Sugathan

Scientist, IUAC - New Delhi

The heavy ion accelerator facility at Inter University Accelerator Centre (IUAC) consists 15UD Pelletron tandem accelerator and superconducting LINAC providing wide range of stable beams. Many experimental facilities are available for performing research experiments in the fields of nuclear, atomic, materials and accelerator mass spectrometry. Nuclear physics research focuses on heavy ion reactions around Coulomb barrier energies and study a wide range of phenomena, namely, decay of excited states in nuclei, shapes and structure of nuclei, dynamics of fusion-fission reactions etc. This talk will provide an overview of the major experimental facilities and highlights of some recent research works.

2) **Ion beam investigations in Materials and Some Potential Applications**

K. Asokan

Scientist, Inter University Accelerator Centre
Aruna Asaf Ali Marg
New Delhi-110 067

Energetic ions have been used as a tool for modifying the physical properties of materials. The interaction of these energetic ions with materials enhances the localized temperature for a short duration and modifies the properties of the materials. In this talk, I will present an overview about ion beam facilities for materials Science at IUAC and discuss three specific cases wherein ion beams have been used to demonstrate the (i) formation novel phases, (ii) tunability of hydrophobic to super-hydrophobic nature of materials and (iii) enhancement of sensing properties of biomaterials. Some of these results are more relevant in materials science and in the field of medicine.

