

# T<sub>c</sub>SUH Bi-Weekly Seminar

Texas Center for Superconductivity  
University of Houston



## Dr. Wei-Kan Chu

Department of Physics and T<sub>c</sub>SUH  
University of Houston

### Ion Implantation, Past, Present, and Future: The Future is in the Area of Material Modification for Biology Research

**Friday, September 04, 2009**

Room 102, University of Houston Science Center  
12:00 Noon – 1:00 p.m.

#### Abstract

Ion Implantation is the injection of energetic ions into a solid, thereby changing the physical properties of the solid by impurity doping, and/or by radiation damage. It is mostly used in semiconductor device fabrication and in metal finishing as well as in various applications in materials science research and technology.

In this talk, I will briefly review the process of ion implantation, its characteristics, and its applications in material modification. I will give a few examples of our current activities using ion implantation.

More importantly, I will be proposing applications related to ion beam modification of soft materials for biological applications. Although ion implantation has been around for more than forty years, biological applications of ion implantation have come of age gradually in the last decade or so. I will be discussing some recent developments in ion implantation modification of polymers and ion beam modification of surface hydrophilicity for applications in protein pattern printing and subsequent living cell adhesion. The intention of this talk is to seek feedback, interaction, and collaboration from the biology, biochemistry, biophysics, and biomedical communities.

#### Bio

Wei-Kan Chu is a Professor of Physics, with research in the area of ion beam characterization, and ion beam modification of materials. He received a B.S. degree from National Cheng Kung University in Taiwan, and a Ph.D degree at Baylor University. He did post-doctoral research at CALTECH on ion beam physics, and later working as senior engineer at IBM before teaching at UNC-Chapel Hill, and University of Houston.

*Persons with disabilities who require special accommodations in attending this lecture should call (713) 743-8210 as soon as possible.*



TEXAS CENTER FOR  
SUPERCONDUCTIVITY