



INSTITUTE OF PHYSICS BHUBANESWAR

POST DOCTORAL POSITIONS IN EXPERIMENTAL CONDENSED MATTER PHYSICS

I. We have a strong program on thin film growth and modification by energetic ion beams and their characterization. In addition, we use large area patterned substrates as templates for deposition of magnetic, ferroelectric, and optical thin films. Thin film growth for different applications would be possible by using UHV e-beam evaporation, DC/RF magnetron sputtering (with GLAD attachment), and pulsed laser deposition facilities. Presently, we have TWO postdoctoral fellow positions open for working on problems which will make use of the above facilities. One position is meant for working on “Materials research based on thin film growth for solar cells / TFTs”. The other position is meant for “Ion beam induced nanopatterning and growth of thin films on patterned substrates for magnetic/optical studies”. The candidates should have preferably Ph.D. degree in experimental Condensed Matter Physics/Chemistry/Materials Science. Experience in thin film/nanostructures and/or use of ion beams may be preferred.

II. A postdoctoral fellow position is also open in the field of “Electronic structure / band structure calculations using various computational methods”. The fellow in this position needs to work in collaboration with the experimental group working on the electronic structure / band structure studies. Previous experiences in working with strongly correlated systems are desirable.

III. A postdoctoral fellow position is available for working in the area of “Modification of Surfaces by Ion Beams”. Candidate should have a Ph.D. Degree in experimental Condensed Matter Physics or Materials Science or theoretical Condensed Matter Physics. Experience in some of the techniques related to surface-interface Physics, accelerator physics, and related theoretical simulations, AFM/STM, XPS, photoemission, ion scattering techniques, thin film growth, and growth of nanomaterials will be required.

IV. A postdoctoral fellow position is available for working in the areas of “Interaction between Surfaces and Biomaterials”. Candidate should have a Ph.D. degree in experimental Condensed Matter Physics / Materials Science / Chemical Engineering / Chemistry / Biology. Experience in some of the techniques related to growth of nanomaterials, handling of biomaterials (like DNA, Protein, cells etc.), interaction between biomaterials and nanoparticles or surfaces will be required.

V. A postdoctoral fellow position is available for working on “X-ray (Lab source and Synchrotron) scattering methods (high-resolution diffraction, reflectometry) in the area of thin films”. Candidates having experience in the above area(s) would be preferred for this position.

VI. Another postdoctoral fellow position would preferably be filled from applicants having experience in one of the following methods: STM (Scanning Tunneling Microscopy), UHV - MBE, TEM, STEM, SEM, FIB methods.

VII. One of our research interests has been the synthesis of nanoclusters in semiconductors through ion-implantation. We have been using TEM, Raman scattering, high resolution XRD for sample characterization, A laboratory for optical characterization with low temperature steady state and time-resolved fluorescence measurements is shortly going to be set up. The candidate is expected to join this activity and it is desirable that he/she should have the necessary working experience in ion beam research. Familiarity with electron microscopy Raman scattering, photoluminescence and XRD will be highly useful.

IOP PDF positions are initially for the duration of one year and is extendable for another year. Candidates who have submitted their Ph.D. thesis may also apply for a position. The amount of fellowship will be Rs. 21,000-24,000/- per month (depending on the experience of the candidate) apart from HRA and other admissible allowances.

Candidates must mention the position number and area of research for which she/he is applying. This should be clearly mentioned as the Subject of your e-mail (in case an application is sent by e-mail).

They should arrange two letters of reference, which should be sent by the referees directly to the following e-mail or postal address. A reference letter has to be either printed on official letter head and sent as an e-mail attachment or an unsigned but direct e-mail communication from a referee.

Candidates may send their application with CV and List of Publications to:

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The last date for sending completed applications is August 31, 2011.