TEQIP workshop on

Application of X-Ray Diffraction on Thin Films and Bulk Materials

4th to 9th July 2016

IIT Hyderabad is organizing one week faculty development program on **"Application of X-Ray Diffraction on Thin Films and Bulk Materials"** during July 4th to 9th, 2016; supported by TEQIP. Young Faculty members and Research Scholars of Colleges and Universities, R&D organizations and industry personnel are invited to attend this workshop.

About the workshop

X-ray diffraction has been a potential tool to characterize the geometric nature of the atomic arrangements inside a solid. X-ray diffraction studies have evolved as a potential material characterization technique and mostly the first step for any material characterization in the field of materials research. It offers understanding of various engineering materials like metals, alloys, ceramics, clay, cement, electro-optic crystals, photonics, electronic materials and devices etc.

This workshop is aimed at popularizing the potentials of X-ray diffraction experiments and its strength. Apart from just detecting the presence of crystalline compounds or phases or determining the type of crystals; this alone technique can extract a sea of information from any given solid material, such as determination of grain size, residual strains and stresses, also nature of stress whether it is tensile or compressive, thickness of thin films which are grown over different substrates, estimation of surface roughness, and approximation of compositions of various phases, etc.

As we all know, most of the institutes, colleges, universities and the research centers are equipped with x-ray diffractometer, as a primary tool to characterize the material across various domains; however extracting the information or accuracy of information, largely limited to the experienced faculty or researchers only; and therefore many of young researchers might not be able to exploit its full potential. Keeping this fact in mind, present workshop has been designed particularly for the young faculty and researchers, to familiarize them, the basic principles, and to demonstrate them the various measurement techniques. The various modes of analysis like rocking curve, phi-scan will also be discussed using test samples with various crystallographic orientations. Introduction to planar diffraction will also be dealt with in this workshop. More importantly, how to analyze the as-received scan data, which is a key of any measurement, will also be elaborated.

Registration FEE

- TEQIP Faculty & Research Scholars*: FREE
- Non-TEQIP Participants: Rs. 10,000/-
- Students: Rs. 6000/-

Please Note:

Above mentioned Fees include service tax. Amount to be sent through DD in the favour of "Registrar Indian Institute of Technology Hyderabad" or through the Bank Transfer (account details can be obtained through email). Registration fee includes breakfasts, lunches and dinners for one week and registration kit. *Requested to bring valid ID cards from respective college.

Interested participants are requested to kindly visit website to fill online form at http://www.iith.ac.in and send the completed registration form through the email to teqip-pms@iith.ac.in.

Last date for receiving Registration form: **June 30th, 2016**

Conveners:

Dr. Ranjith Ramadurai & Dr. Bharat B Panigrahi

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