

Functional Material Processing Lab

Starting from the era of stone-age to the existing era of semiconductors, every civilization is known by the 'materials' and most important is how these materials are processed so they retain certain specific properties or exhibit some new and interesting properties. Materials have been and will continue to be key components for almost all technologies, devices and systems that mankind has been exploiting ever since human beings came into existence on the earth. We cannot imagine this world without the materials, right from the items for our day to day use to highly complex technological systems. Here, it is important to mention that it is not only development of new materials but also their processing is equally or sometimes far more important, from the application point of view. Processing of materials play very vital role in achieving the desired phase, crystallinity, stoichiometry, quality and performance for a given application. Materials properties and performances are greatly influenced by a host of parameters including composition, length scale, internal ordering, microscopic and macroscopic arrangement, morphology, etc. Hence, advanced processing infrastructure plays very important role in the success of any research group working on development of advanced materials and devices. Keeping in view the rapid pace of developments in the materials domain and also considering the diverse nature of materials and their functionality, Department of Physics has established a dedicated "Functional Material Processing (FMP)" lab to carry out research on the processing and fabrication of functional materials. FMP Lab has been conceived and designed to work in close association with the other materials science thematic labs of the department. The lab is equipped with several advanced equipment such as Arc Melting, High Energy Ball Milling, Pressure

Machine, Plasma Etcher, a wide range of Furnaces, Glove Box, etc. The facilities will be further augmented with a number of state-of-the-art high-end process equipment for device fabrication.