

## Workshop Announcement

# Deformation Mechanisms, Processes and Fabric Analysis in Earth Materials from the Global to the Nano Scale - Methods And Applications



26-28 February 2024

Department of Geology & Geophysics  
Indian Institute of Technology Kharagpur

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In the past few decades, a lot of studies have been done to understand fabric development in deformed rocks using a variety of methods. Field measurements, anisotropy of magnetic susceptibility (AMS), light microscopy (petrography), electron microscopy (SEM, EBSD and TEM) amongst other tools have been used to evaluate the fabric of rocks at various scales (global to nano), and infer deformation mechanisms and processes. This has helped gain considerable knowledge about rock anisotropy, its influence on physical properties and rheology of earth materials. In addition, experimental studies and numerical simulations of structures developed at various scales have helped evaluate distribution of parameters like stress, shear strain etc. and model fabric evolution and deformation textures. This knowledge helps in geodynamic studies as well as to forward-model microstructure evolution. Moreover, understanding principles of rock deformation, processes and anisotropy is also critical for aspects related to mineralization and its potential, natural disasters like landslides, geotechnical works, deep-seated waste disposal repositories, energy storage, geothermal energy etc.

The above wide scope for fundamental as well as applied studies has prompted this workshop entitled ***“Deformation Mechanisms, Processes And Fabric Analysis In Earth Materials From The Global To The Nano Scale - Methods And Applications”*** in the Department of Geology and Geophysics, Indian Institute of Technology (IIT) Kharagpur (India). The workshop will be held from 26-28 February 2024 and the targeted audience will be young geoscientists (students, doctoral researchers, post-doctoral fellows, and early career academics), who will be the torch bearers of Structural Geology and Tectonics in the coming decades. Upto 15 lectures by globally renowned senior academics (guest speakers) in the field of Structural Geology/Tectonics will be presented in the workshop. The workshop will cover the above mentioned aspects of fabric analysis and techniques, deformation mechanisms and processes, global tectonics, geodynamic modelling, microstructural simulation, structural control on mineralization and energy related studies. Upto 300 young geoscientists (participants) will be accommodated, who will be given the opportunity to present their research work in the form of posters (elaborate poster sessions are planned). This will provide a wide exposure to youngsters to interact with well-established international geoscientists.

Interested persons may contact Prof. Manish A. Mamtani (E-mail: [mamtani@gg.iitkgp.ac.in](mailto:mamtani@gg.iitkgp.ac.in) ; Mob: +91-9434758963) with an “Expression of Interest” to participate providing details of their affiliation, academic position (e.g., post-doc, PhD scholar, M.Sc student etc.), and contact details (email id and phone number). Registration details will be communicated shortly.