

ICTS Condensed Matter Seminar

- Title** : Uncovering distinct contributions to the stress relaxation in dense packings of soft spheres
- Speaker** : Vinutha H A (Institute for Soft Matter Synthesis and Metrology Georgetown University, USA)
- Date** : Wednesday, 10th August 2022
- Time** : 03:00 pm (IST)
- Abstract** : In yield stress fluids, such as jammed suspensions of soft particles, the rate-dependent rheology is due to microscopic processes building up stress anisotropies. To investigate these processes we perform flow cessation simulations and experiments at various points along the flow curve. We combine experimental rheological tests with the analysis of microscopic stresses, structure, and particle displacements from simulations for different solvent viscosity and sample preparation protocols. Our study reveals a sequence of stress relaxation mechanisms: the first is associated with the elastic motion of particles, which relaxes the microscopic stresses accumulated along the compressive direction under flow, and the second is associated with a more collective reorganization of the particle packing. Our results show how these mechanisms for stress relaxation can emerge from the yielding of soft solid materials.
- Venue** : **Offline:** Emmy Noether Seminar Room
Online: Please click on the below link to join the seminar
<https://icts-res-in.zoom.us/j/83412240689?pwd=T2JlZDRoUjVpUDZHYUVyZU9DY3A5QT09>
Meeting ID: 834 1224 0689
Passcode: 101022