

## **Students' Annual Seminar**

### **Effect of fragility on yielding transition under cyclic shear deformation**

**Roni Chatterjee**

We study the effect of fragility on yielding transition under oscillatory shear through computer simulations. Employing sphere assemblies interacting with a harmonic potential as our model glass former, we tune fragility by changing the system's density—higher density corresponds to large fragility. Our study reveals significant differences in the yielding transition between strong and fragile glass formers with annealing. The yield point shifts significantly to higher values with annealing for fragile glasses but remains nearly constant for strong glasses. We rationalise our results by introducing a new elastoplastic model, which qualitatively reproduces the simulation results and provides valuable insight to interpret these results.

***Friday, Mar 15<sup>th</sup> 2024***

***14:00 Hrs (Tea / Coffee 13:45 Hrs)***

***CR-4, TIFR-H***