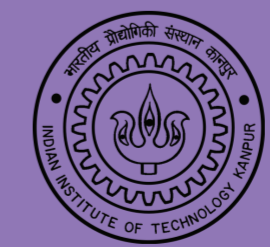


Mechanics and Multiscale Modeling for Nuclear Industry

Mechanics aims to understand, follow, and predict macroscopic parameters of mechanical systems spread across a wide range of length scales – from cellular machines to space stations, and time scales – from impact duration to the Solar System’s formation time.

Advanced material processing is making it possible to design materials tailored to specific needs. Knowledge of their micro-mechanics is essential for design. **Multiscale material modeling** attempts to relate macroscopic material response to its microstructure.

IIT Kanpur has expertise in multiscale material modeling, sharing a robust relationship with a strong tradition in mechanics, making us advantageously placed for futuristic research. This is the basis of the collaboration of the **Indira Gandhi Center for Atomic Research (IGCAR)**, Kalpakkam and **IIT Kanpur** on research related to indigenous design and development of **Fast Breeder Reactors (FBR)**.



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