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## **Seminar**

### **Re-equilibration by crossing entropy barriers: Athermal martensite models**

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Entropy barriers and ageing states appear in martensitic structural-transition models, slowly re-equilibrating after temperature quenches, under Monte Carlo dynamics. Concepts from protein folding and ageing harmonic oscillators turn out to be useful in understanding these nonequilibrium evolutions. We show how the athermal, non-activated delay time for seeded parent-phase austenite to convert to product-phase martensite, arises from an identified entropy barrier in Fourier space. In an ageing state of low Monte Carlo acceptances, the strain structure factor makes constant-energy searches for rare pathways, to enter a Brillouin zone ‘golf hole’ enclosing negative energy states, and to suddenly release entropically trapped stresses.

***Friday, Mar 20<sup>th</sup> 2015***

***4:00 PM (Tea/Coffee at 3:45 PM)***

***Seminar Hall, TCIS***