



# Institute Colloquium

14 September 2016

12:00 hrs.

Fermion

**Speaker:**

**Biman Bagchi**

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**Title:**

**Kinetics of First Order Phase Transitions: Nucleation, Ostwald Step Rule and Spinodal Decomposition**

**Abstract:**

Kinetics of first order phase transitions have returned to focus as a result of a recent surge of interest in understanding synthesis of nanomaterials and also due to the development of imaging techniques that allow study of transient structures in alloys and multicomponent systems.

In this talk we shall first discuss nucleation which shall be followed by an in depth study of the Ostwald Step Rule (OSR). Lastly we shall discuss spinodal decomposition where phase separation kinetics exhibit exotic spatio-temporal features in nano scale.

**REFERENCES**

1. Prabhakar, Chakraborty and Bagchi, "Nucleation at large supersaturation" PRL (2007,2008).
2. Santra, Singh and Bagchi, "Ostwald Step Rule" JPC (Wolynes Festschrift SPL Issue) (2014)
3. Sarkar and Bagchi, Phys REv E (2014)

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