

ICTS Colloquium

- Title : Driven Granular Gases
- Speaker : R. Rajesh, The Institute of Mathematical Sciences,
Chennai
- Date : Monday, April 8, 2019
- Time : 3:00 PM
- Venue : Emmy Noether Seminar Room, ICTS Campus, Bangalore
- Abstract : The velocity distribution of a gas in thermal equilibrium is known to be a gaussian with a width proportional to temperature. What is the velocity distribution of an inelastic gas driven to a steady state through external driving? This question is central to the kinetic theory of driven granular systems, or in general dissipative systems. It is generally accepted that the velocity distribution, counterintuitively, decays slower than a gaussian, in particular $\ln[P(v)] \sim -a v^{3/2}$. In this talk, I will review experimental, theoretical and numerical data supporting/against this result, in addition to arguing why the question is relevant. I will then present an exact solution of a simple microscopic model for an inelastic gas whose conclusions for the velocity distribution run counter to the generally accepted results.