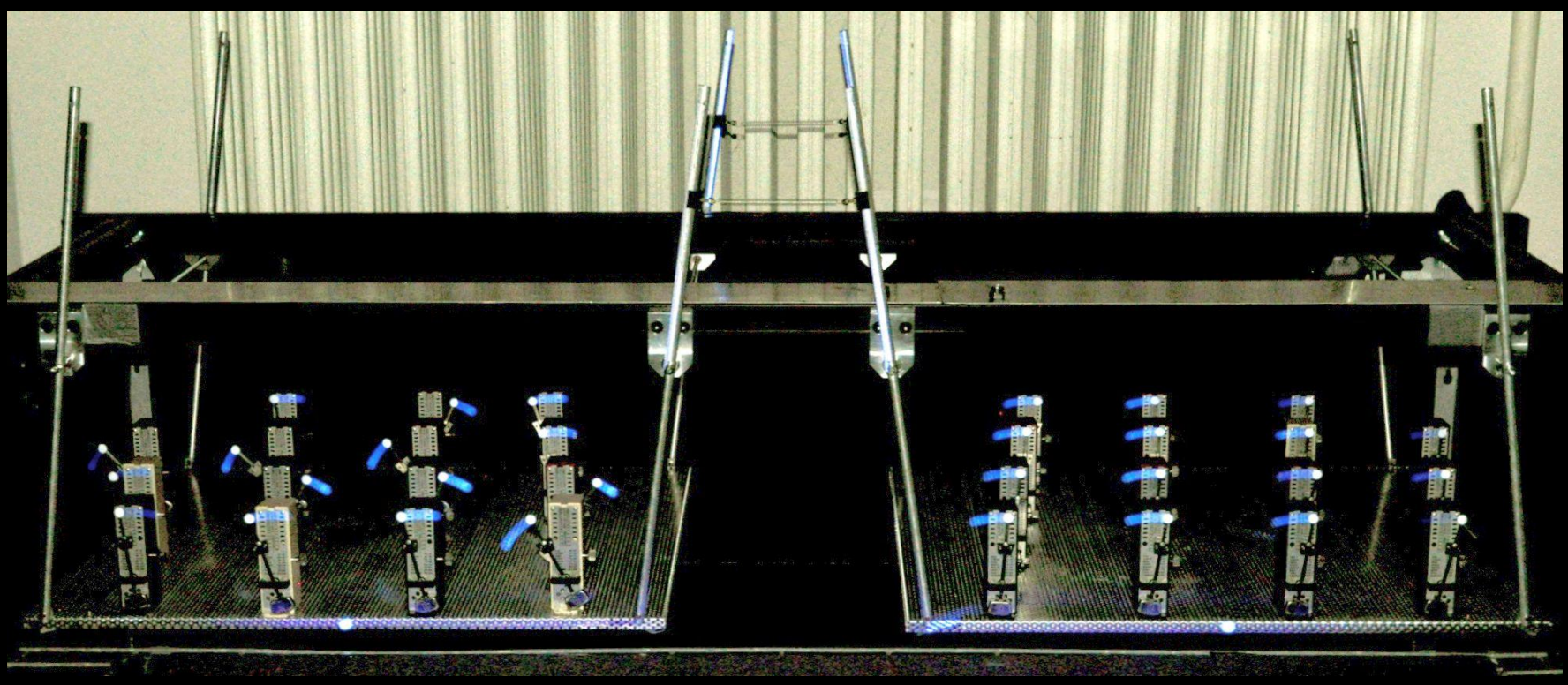
TATA INSTITUTE OF FUNDAMENTAL RESEARCH

Public Lecture

The Physics of Synchrony: from Huygens to Higgs, via Kamerlingh Onnes, Bose and Einstein

Prof. Peter Littlewood,
University of Chicago and Argonne National Laboratory



Prof. Peter Littlewood is a Professor of Physics in the James Franck Institute at the University of Chicago, and the Associate Laboratory Director for Physical Sciences and Engineering at the Argonne National Laboratory. He is well known for his work on dynamics of collective transport, on microscopic theories of high-temperature superconductors and transition metal oxides, and on optical properties of highly excited semiconductors. He is a Fellow of the Royal Society of London, the Institute of Physics, the TWAS, Trinity College Cambridge and the American Physical Society.

Spontaneous synchronisation is at the heart of many natural phenomena. Your heartbeat is maintained because cells contract in a synchronous wave; some species of cicadas avoid predators by synchronising their emergence to repeat in a cycle of prime number years. Unplanned synchrony can lead to wobbly bridges or epileptic seizures. Quantum synchronisation is responsible for laser action and superconductivity, and is the accepted theory for the existence of mass in our universe. This lecture will explore some of the wide range of synchronisation phenomena from the classical to the quantum worlds.

Friday, 27th September 2013

5.15 p.m.: Main Lecture Theatre AG 66
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