John Adams Institute for Accelerator Science

John Adams Institute for Accelerator Science Lecture Series

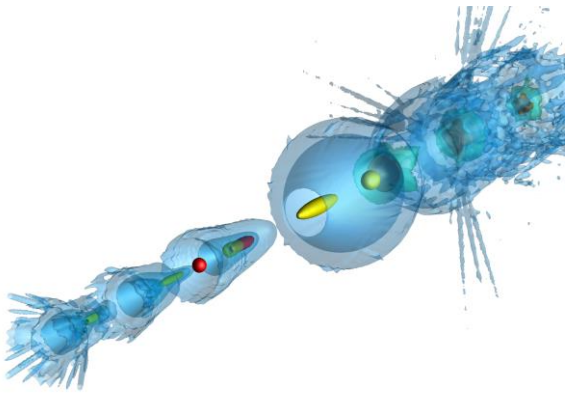
Tuesday 16th December 2014 at 11:00 am
Fisher Room, Denys Wilkinson Building

Electron and Positron Acceleration in a Plasma Wakefield Accelerator

The lecture will be delivered by

Chan Joshi,
UCLA

Abstract:
In a recent report, by the P5 subpanel the development of new technologies that will enable future e+e- colliders to be both more compact (high gradient) and cheaper (high efficiency) than colliders based on existing RF technology has been given a high priority. Plasma Wakefield Accelerator (PWFA) is one concept that is being aggressively pursued with this goal in mind. Most of the PWFA research is being carried out by the E200 collaboration on the FACET facility at SLAC. The physics of an electron beam-driven wake and by a positron beam-driven wake in plasma is qualitatively different. I will describe the richness of this interaction and present the latest results on the accelerated beam parameters that have been obtained using both the electron and positron bunches to excite wakes in meter-scale plasmas.



For further details contact Glenn Christian at g.christian1@physics.ox.ac.uk