

Physics Interdisciplinary Forum May 9

The School of Physics and Astronomy plans to run a series of events where members of the four different research groups: Astronomy Unit, CCMMP (Condensed Matter and Materials Physics), CRST (Strings), PPRC (Particles) get together to talk about Physics. The first event is on May 9. There will be four short talks (half hour each). A member of each group will present a talk about their research area, giving some background and communicating something exciting about their ongoing research. There will be plenty of time for interactions over coffee between the talks and over a meal afterwards.

The talks will be at a level accessible to 3rd year under grads and PhD students, who, along with Physics academics, will form the core audience. Members of the University with an interest in Physics and interdisciplinary activities are also warmly invited

The schedule is :

3.30-4.00 : Talk 1 – Astro (Richard Nelson)
4.00-4.30 : Talk 2 -- Strings (Rodolfo Russo)
4.30-5.00 : Coffee and snacks
5.00-5.30 : Talk 3 -- CCMMP (Martin Dove)
5.30-6.00 : Talk 4 -- Particles (Steve Lloyd)
6.00- 8.00 : Dinner + Drinks. (SCR)

Title: Planet Formation and Extrasolar Planets (Richard Nelson)

Abstract: This talk will contain a brief review of the current status of research in extrasolar planets, followed by presentation of theoretical/computational work being carried out in the Astronomy Unit in the theory of planetary systems formation.

Title: Emergent geometry from string theory (Rodolfo Russo)

Abstract: Black holes represent a very interesting class of spacetime geometries. From the theoretical point of view there is a tension between two classical results in gravity: on the one hand these solutions are determined by few data, such as the black hole mass and charge, while on the other hand Bekenstein and Hawking proposed to associate a huge entropy to each black hole. String theory provides a microscopic understanding of the BH entropy at least for a very particular class of black holes. I will report on recent research whose aim is to clarify how the geometry corresponding to each black hole microstate emerges from the fundamental string description.

Condensed matter over many length scales (Martin Dove)

Abstract: One of our goals in condensed matter is to understand the relationship between structure and properties, and we are increasingly finding that we need to explore the structure of materials over a wide range of length scales. In this talk I will explore the range of phenomena that is interesting members of the Centre for Condensed Matter and Materials, and explain how we use a wide range of techniques to understand behaviour from the nanoscale down to the scale of the atom.

Latest from the Large Hadron Collider (LHC) (Steve Lloyd)

Abstract : A presentation will be given on the latest results from experiments at the LHC.

