



PHYSICS AND ASTRONOMY COLLOQUIUM

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“Spinors, Strings and Superconductors: Challenges of new era in Condensed Matter Physics”

Abstract

Physics thrives on the convection of ideas between the lab, the blackboard and the cosmos, yet each new generation of physicists is surprised as it rediscovers the forgotten fact that discovery cuts across the boundaries of our specialities. Here, I shall argue that recent discoveries in particle, condensed matter and astronomy place us again at extraordinary juncture for a new convection of ideas.

I shall illustrate this outlook from a condensed matter physics perspective, using some modest examples drawn from my work and others. How some elegant equations from string theory and gravity led us to discover a novel phase transition in two dimensional Heisenberg magnets and how a discussion with a particle physicist suggested a new way of understanding heavy electron superconductors.

Wednesday, March 30, 2016

3:00 p.m.

Bob Wright Centre

Room A104