**Philosophy Department**

**Speaker Series 2013**

Welcomes:

Doreen Fraser**,** University of Waterloo

Topic: **What does the Higgs boson teach us about scientific realism?**

This past summer CERN announced with great fanfare that experiments at the Large Hadron Collider had confirmed the existence of a particle consistent with the Higgs boson.  For philosophers, this announcement provokes a set of metaphysical questions:  What is the Higgs boson?  If I am a scientific realist and there is sufficient evidence to commit me to the existence of the Higgs boson, what sort of entity do I believe exists? In this non-technical talk, I will survey two candidate answers to this set of questions, both of which appeal to analogies. For the purpose of explaining the Higgs boson to the public, the Higgs boson has been likened to Margaret Thatcher at a cocktail party. The formulation of the theory of the Higgs boson (the Standard Model of particle physics) was guided by an analogy to superconductors. I will argue that the application of analogical reasoning in the Higgs boson case carries some important morals which are, for the most part, absent from the contemporary debate about scientific realism.

**January 25 @ 3:30 PM**

MacKinnon Building, Room 228

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