



**Professor Keith Burnett,
Vice-Chancellor, University of Sheffield**

**Seminar Monday 6th October 2008 4-5pm
Yorkshire Bank Lecture Theatre, Business School**

“Quantum Fluctuations and Correlations in Cold Matter”

It is now possible to study a wide range of many-body phenomena using evaporatively cooled atoms. Some of the most exciting developments are the new techniques for producing strongly correlated states, where quantum fluctuations dominate the behaviour of the atoms. Experimental groups around the world are working on ways to produce and probe these strongly correlated atomic assemblies. In my talk I will describe how strong quantum fluctuations arise and how they are related to correlation and entanglement in cold atom systems.