



# PHYSICS COLLOQUIUM

## What's so Cool about Ultra-Cold Neutrons

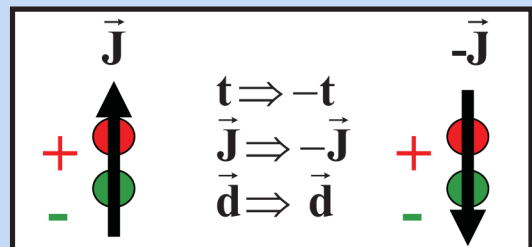


### Professor Brad Filippone

California Institute of Technology

Host: Ramsey-Musolf

**Abstract:** Ultra-Cold Neutrons (UCN) are neutrons with small enough kinetic energy that they can be trapped in material bottles or by modest magnetic fields. With kinetic energies below 300 nano eV, UCN are ideal for studying the fundamental properties of the neutron. Precision studies of neutron decay can explore physics beyond the Standard Electroweak Model. In addition, highly sensitive searches for an Electric Dipole Moment of the neutron probe possible new sources of CP violation (Charge-conjugation and Parity) which could be responsible for the dominance of matter over antimatter observed in the Universe.



2241 Chamberlin Hall • Friday, April 10, 2009 • 4:00 P.M.

cookies & coffee served at 3:30 p.m.