

UNIVERSITY OF NOTRE DAME
DEPARTMENT OF PHYSICS

SPECIAL NUCLEAR SEMINAR

Monday, May 14

Nuclear physics for neutron-rich nucleosynthesis

Dr. Matthew Mumpower
Los Alamos National Laboratory

Last August marked the first observation of gravitational waves and electromagnetic signals from the merging of two neutron stars sending ripples through the astrophysics, atomic physics, nuclear physics and gravitational wave communities. I will briefly overview the GW170817 event including the resultant kilonova, or electromagnetic transient powered by the radioactive decay of freshly produced heavy nuclei. Since some amount of heavy nuclei were created, the rapid neutron capture process or r-process nucleosynthesis is likely to have ensued. I will discuss this possibility and then focus the talk on recent nuclear physics work performed at LANL that is relevant for the inclusion in nucleosynthesis calculations.

4 pm – 5 pm

**Nuclear
Science
Laboratory
124 Nieuwland
Science Hall**

~~~~~

All interested  
persons are  
cordially invited  
to attend

~~~~~

Refreshments will be
served prior to the
seminar in room 124