

**Tuesday,
Sept. 17th
At 3:45 pm**



Nuclei, Neutrinos, and Neutron Stars

Abstract:

Nuclei are fascinating strongly-interacting quantum many-body systems. It is an exciting time for studying nuclei as they play a critical role in understanding our universe. Large-scale neutrino experiments including double beta decay and accelerator experiments extract neutrino properties from their interactions with nuclei. Dense neutron-rich matter forms the bulk of neutron stars, whose properties are being probed for the first time using gravitational waves. It is important to tie together these phenomenon with nuclear experiments through an accurate underlying picture of nuclear interactions and currents. I will describe present large-scale calculations of nuclei, their interactions with neutrinos, and the properties of dense matter, describing what we have learned to date and what we hope to achieve in the future.

**Cyclotron
Colloquium**

—

**Dr. Joe
Carlson**

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**Nuclear,
Particle,
Astrophysics and
Cosmology
Group Leader**

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**LANL
Theoretical
Division**

—

Los Alamos
National Laboratory

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**CYCLOTRON
INSTITUTE**
Room 228

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Refreshments will be
served at 3:30 pm



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UNIVERSITY