# CHALLENGES IN NUCLEAR ASTROPHYSICS

**A. Baha Balantekin, University of Wisconsin, Madison, 53706 WI, USA**

Studies of nuclear astrophysics with both stable and rare isotope facilities encompass a broad range of subjects including searches for the origin of elements, investigating rare isotopes present in explosive phenomena which occur in astrophysical settings, and understanding neutron star crusts. Recent developments providing state of the art instrumentation both for astronomical observations and nuclear experiments as well as recent theoretical and computational advances lead to a significant progress in nuclear astrophysics, but many challenges remain.

In this talk recent theoretical and experimental advances in nuclear astrophysics will be reviewed. The role of neutrinos as an intellectual bridge between many astrophysical phenomena and laboratory nuclear physics will be highlighted.