

# STUDY OF SHORT AND LONG LIVED RARE ISOTOPES

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**Monday, January 31, 2011**

**4:00 p.m. NSH 124**

The Holifield Radioactive Ion Beam Facility (HRIBF) at Oak Ridge National Laboratory, is a national user facility for research with radioactive beams (RIBs) produced via the Isotope Separator Online (ISOL) technique. HRIBF has demonstrated the ability to accelerate approximately 200 short-lived radioactive isotopes with tandem energies and high-beam quality for nuclear structure and reaction studies, astrophysics research, and interdisciplinary applications. As part of its infrastructure, HRIBF has available a variety of equipment for beam transport and analysis ideal to do Accelerator Mass Spectrometry (AMS), a field that by contrast deals with long-lived radioactive isotopes. Unique capabilities for performing the highest sensitivity measurements of AMS are: (i) the highest operating voltage in the world, and (ii) folded geometry with 180 degree magnet in the terminal. In this talk I make emphasis on how two frontier fields of research—AMS and RIBs—share some common challenges and complement each other in techniques. I will give a brief description of some of the experimental tools and specialized techniques developed with examples from selected topical areas with which I have been involved. Finally, I will highlight current approaches aimed at the study of environmental radioactivity (oceanography, rock erosion, climatic events and fuel cycles).

Nuclear  
Seminar

All interested  
persons are  
cordially  
invited to  
attend.