



CENTER OF EXCELLENCE FOR  
RADIOACTIVE ION BEAM STUDIES  
FOR STEWARDSHIP SCIENCE



**Postdoctoral Opportunities  
in the  
Center of Excellence for  
Radioactive Ion Beam Studies for Stewardship Science**

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**Nuclear Structure and Astrophysics  
and  
Target and Ion Source Development for Radioactive Ion Beams**

Application materials can be downloaded from <http://www.orau.gov/orise/edu/needs/unirib.htm>

Rutgers University and Oak Ridge Associated Universities (ORAU) invite applications for TWO postdoctoral openings in the Center of Excellence for Radioactive Ion Beam Studies for Stewardship Science. This Center is a consortium of nuclear scientists focusing on experimental studies at Oak Ridge National Laboratory's Holifield Radioactive Ion Beam Facility (HRIBF) for nuclear structure, nuclear astrophysics and nuclear chemistry (developing new radioactive ion beams). Charged-particle transfer reactions with radioactive ion beams available at the HRIBF are the primary tool utilized. New techniques, detectors and beams are being developed which enable measurements of properties of nuclei inaccessible by current techniques. Two positions are open immediately and the successful candidates would become part of the team of scientists that will be using radioactive ion beams for nuclear structure and astrophysics studies.

**Nuclear Structure and Astrophysics (position UNIRIB-06-01).** The successful candidate for this position will become part of the team of scientists using light-ion transfer reactions to study properties of neutron-rich nuclei of interest to both nuclear structure and astrophysics. As part of these activities, a new array of silicon detectors is being constructed and commissioned for these experiments. Recent experimental efforts of this group include the measurement of the (d,p) reaction with radioactive ion beams of the doubly-magic  $^{132}\text{Sn}$ .

**Target and Ion Source Development for Radioactive Ion Beams (position UNIRIB-06-02).** The successful candidate for this position would concentrate on developing new radioactive beams and purifying or improving existing beams which are of particular interest for the Center's light ion transfer reaction experiments. Experimental tools available for target/ion source development include the online isotope separator, UNISOR, at HRIBF for online and offline tests of targets and ion sources using light ions or heavy ions. In addition, the successful candidate would be an active member of ORISE's RIA R&D target/ion source development group working on ISOL ion source techniques such as two-step targets, target holdup time measurements and proton induced fission yield measurements from various actinide targets. These groups also actively collaborate with the beam development group of the HRIBF whose task is to develop targets, ion sources and beam delivery techniques specific to the HRIBF.

The successful candidates would be members of a team formed by Professor Cizewski of Rutgers University, researchers from the U.S. universities in the UNIRIB consortium, and the HRIBF carrying out transfer reaction studies. The target and ion source development candidate would also be a member of the team of target/ion source researchers formed by Ken Carter working on radioactive ion beam development for the proposed U.S. Exotic Beam Facility. The position provides an excellent opportunity for an early career scientist to develop a research program as part of a Center of Excellence.

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A complete application file includes: a completed application form, résumé, publication list, three references, and written verification of doctoral degree award. These materials may be submitted electronically to [elizabeth.keko@orau.org](mailto:elizabeth.keko@orau.org) or by fax to (865) 241-2642, or mailed to: UNIRIB Stewardship Science Program, Oak Ridge Institute for Science and Education, Science and Engineering Education Unit, 200 Warehouse Road, MS 36, Oak Ridge, Tennessee 37830, attn: Elizabeth Keko. Applications will be evaluated on a continuing basis and competitive salaries and benefits are offered. Please reference the position title and number (**UNIRIB-06-01** or **UNIRIB-06-02**) when corresponding about these positions.

Questions concerning the positions should be directed to either:

Dr. H. K. Carter      ([carterk@orau.gov](mailto:carterk@orau.gov))  
Professor Jolie A. Cizewski: ([cizewski@rutgers.edu](mailto:cizewski@rutgers.edu))

This appointment is offered through the UNIRIB Stewardship Science Program and is administered by the Oak Ridge Institute for Science in Education (ORISE). The program is open to all qualified U.S. and non-U.S. citizens without regard to race, color, age, religion, sex, national origin, physical or mental disability, or status as a Vietnam-era veteran or disabled veteran.