

University of Chicago scientists still hopeful about Rare Isotope Accelerator

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University of Chicago scientists say they still hope that the U.S. Department of Energy will decide to build the \$1 billion Rare Isotope Accelerator in Illinois, despite a \$2.7 million cut in preliminary funding for the accelerator in this year's DOE budget.

"The Rare Isotope Accelerator provides an extraordinary opportunity to plumb fundamental issues about the origin of our universe as well as to develop the technology base of the nation," said Thomas Rosenbaum, the University of Chicago's Vice President for Research and for Argonne National Laboratory.

RIA was a priority in a 2003 DOE study, but in the current budget climate the department has asked its Nuclear Science Advisory Committee to reconsider its science facilities priorities over the next four months.

The University is developing a proposal to the DOE to build the accelerator at Argonne in south-suburban Chicago. When built, the new accelerator will be based on technology that Argonne played a key role in developing, said Robert Rosner, Argonne's Chief Scientist and the William Wrather Distinguished Service Professor in Astronomy & Astrophysics at the University of Chicago.

The scientists hoping to see RIA built say that they understand the budget pressures caused by the deficit, but they believe that RIA will be a vital investment in the nation's science and technology base.

Developing new treatments in nuclear medicine, improving the performance of semiconductors and new methods for monitoring environmental health are all potential outcomes of research at RIA.

RIA will produce high-energy atomic nuclei--the cores of atoms--that no longer exist in nature and that blink out of existence a tiny fraction of a second after their birth. These nuclei will open up new scientific territory in nuclear physics, environmental protection and nuclear medicine. There are fewer than 300 stable nuclei that are relatively easy to study. Scientists have obtained glimpses of another 3,000 nuclei, but they suspect that close to 7,000 may be possible and that RIA will be able to create most of them.

The University of Chicago has managed Argonne since it was established as the nation's first national laboratory in 1946. Argonne operates six national user facilities and centers for the Department of Energy, including the Atmospheric Radiation Measurement Climate Facility and the Center for Nanoscale Materials. Argonne also is the home of Alexei Abrikosov, who shared the 2003 Nobel Prize in Physics for his theory that explains how magnetic fields penetrate certain superconducting materials.

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