



Kate Jones Wins Outstanding Junior Investigator Award; Second for UT Physics in Three Years

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Assistant Physics Professor Kate Jones is one of three nuclear physicists to receive a prestigious Outstanding Junior Investigator (OJI) Award from the U.S. Department of Energy. The Office of Nuclear Physics OJI program recognizes exceptional scientists early in their careers by supporting development of their individual research programs. The honor brings with it a total of \$300,000 over the next three years for her research proposal: "Spectroscopic Studies Close to ^{100}Sn and ^{132}Sn Using Direct Reactions and Gamma Ray Measurements." This is the second Outstanding Junior Investigator award for UT's nuclear physics program in just three years: in 2007 Assistant Professor Thomas Papenbrock also won an OJI award for his proposal, "Structure of Rare Isotopes."

Jones is part of UT's experimental nuclear astrophysics group, which investigates the workings of the subatomic nucleus and the role it plays in how elements are created. The natural elements found in our world—hydrogen, helium, carbon and oxygen, for example—can trace their origins to either the Big Bang or nuclear reactions in stars and supernovae. Nuclear astrophysics experiments reveal clues about the required conditions for this nucleosynthesis. The UT group's efforts are more keenly focused on nuclei close to the nuclear shell closures, where their structure has the greatest impact on element production. "Magic nuclei" have either protons or neutrons in certain "magic" quantities (2, 8, 20, 28, 50, 82, and 126); Jones' research program will focus on nuclei close to the doubly-magic isotopes tin-132 and tin-100. She will conduct experiments at the Holifield Radioactive Ion Beam Facility at Oak Ridge National Laboratory and the National Superconducting Cyclotron Laboratory at Michigan State University. As part of her OJI award, she will take on a graduate student to study rare isotopes of tin to explore how the nuclear structure changes as fewer and fewer neutrons are present.

Jones earned her Ph.D. in experimental nuclear physics at the University of Surrey, England, in 2000. In 2003 she won a Lindemann Trust Fellowship, an honor awarded to graduates of exceptional promise who have shown a talent for original research. She joined the physics faculty at UT in 2006. Along with Jones, the two other nuclear physicists recognized this year with OJI honors were William Detmold of the College of William and Mary and Anna Statso of the Pennsylvania State University.