

INL News Release
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NEWS MEDIA CONTACTS:

Teri Ehresman, 208-526-7785, teri.ehresman@inl.gov
Misty Benjamin, 208-351-9900, misty.benjamin@inl.gov

Two Idaho researchers honored for work related to nuclear fuel cycle

IDAHO FALLS – Troy Unruh and Cathy Riddle of Idaho National Laboratory were both prize winners in the Department of Energy 2014 Innovations in Fuel Cycle Research Awards Program.

These awards are given annually to graduate and undergraduate students who have completed significant research in nuclear science or engineering.

Unruh, who is currently pursuing his Ph.D. in nuclear engineering from the Idaho State University, won second place in the Advanced Fuels Category. His winning paper, entitled "In-core Flux Sensor Evaluations at the ATR Critical Facility," is part of a joint INL-ISU-French Atomic Energy Commission project. The paper documents results from tests of a new capability that Unruh helped to establish that measures neutron flux in a nuclear reactor.

Unruh has worked at INL since 2008 as an engineer in the High Temperature Test Laboratory. His research efforts center on the development of various in-reactor detection systems, which give detailed information on the performance of fuel and material samples within a nuclear materials testing reactor.

Riddle, who received her Ph.D. in radiochemistry from the University of Nevada, Las Vegas, in May, won first place in the "Competition for Students Who Attend Universities with less than \$600 Million in 2012 R&D Expenditures." Her winning paper was entitled "Characterization of Bismuthate Oxidized Americium (V, VI) in Acidic Solution using X-ray Absorption Fine Structure Spectroscopy" and formed one of three research chapters in her dissertation.

Riddle has worked for 15 years in the Aqueous Separations and Radiochemistry Group at INL. Her research focuses on finding a better way to separate americium from the lanthanides, a process that could factor into possible recycling methods for used nuclear fuel. She is an active member of the American Nuclear Society, and since July 1, she has been chair of the Idaho Section of the organization.

INL is part of DOE's complex of national laboratories. The laboratory performs work in each of the strategic goal areas of DOE: energy, national security, science and environment. INL is the nation's leading center for nuclear energy research and development. Day-to-day management and operation of the laboratory is the responsibility of Battelle Energy Alliance.

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