

## Andrew Swift



Office: HRC 405  
Mail code: 4009  
Phone: (321) 632-9692  
Fax: (702) 895-3094  
Email: [swifta2@unlv.nevada.edu](mailto:swifta2@unlv.nevada.edu)

### Biography

Andrew Swift is a 2<sup>nd</sup> year student in the UNLV Radiochemistry PhD Program. He received his Bachelor of Science in Chemistry from Huntingdon College Montgomery, Alabama.

### Research

#### Evaluation of Phases and Fuel Cladding Interactions of Uranium Metal Fuel Based on Burnup

Next generation fast neutron reactors utilizing uranium metal fuel currently under investigation may potentially reach burnup values previously unobtainable by current reactor technology. As the burnup of these reactors increases to levels outside of current understanding, the buildup of fission products and their interactions with materials needs to be understood. For this reason, simulated fission product alloys at different molar concentrations of fission products are to be developed. Once prepared, the simulated burnup alloys will provide information regarding the influence of burnup on the separate phases associated with the fuel and their fuel-cladding chemical reactions. In doing so, the maximum amount of fissile material loading into the fuel, while still allowing for phase stabilization, can be determined to achieve maximum energy utilization for next generation energy systems.

### Publications, Presentations and Awards

*Evaluation and Preparation of Uranium Alloys Based on Fuel Burnup*

ANS Student Conference

Boston, MA

Spring 2013

*TerraPower Internship*

Bellevue, WA

Summer 2013