



# NUKE NEWS

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## ANS Fall Retreat

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The ANS Fall Retreat was held this past Saturday, September 29, at the Ichetucknee River from 9:00 to 2:00 pm. Around 25 students attended the event. The day started off with numerous “ice-breaker” activities, including a game in which everyone provided a few fun facts about themselves for the group. Among other things, we discovered that Pat Moo used to have a pet alligator (named Albert, of course), Daniel Siefman has a terrible sense of direction, and Kent would like to go to Germany. Aaron and Pat grilled hotdogs and hamburgers for lunch, after which mentor and mentee’s were assigned based on applications ANS members had submitted. As a wrap up to the retreat, the entire group floated down the river before heading back to Gainesville and the never-ending studying that is nuclear engineering life.



### Upcoming Dates and Events

#### Southern Co. Info Session

- October 4, 2012 (5:00 pm, L007 Turlington)

#### ANS Winter Conference Funding Application

- October 4, 2012

#### ANS General Body Meeting

- October 17, 2012 (5:30 pm, NSC 227)
- October 31, 2012 (5:30 pm, NSC 227)

#### ANS National Winter Conference

- November 11-15, 2012 (San Diego, CA)

## Nuclear Fun Fact by John Hester

In 1972, mass spectrometry at a French uranium enrichment facility revealed an unusual lack of Uranium-235 in ores from the Oklo and Okelobondo mines in Gabon. While the abundance was only a few thousandths of a percent less than the usual 0.720%, this was enough to spark an investigation into the matter. After comparing several samples of ore from Oklo, the commission came to the conclusion that 1.7 billion years ago something remarkable was happening in what is now the forested interior of eastern Gabon. A natural fission reactor, moderated by groundwater and fueled by the then 3.1%  $^{235}\text{U}$ , periodically reached criticality in three hour cycles until its fuel was mostly exhausted and conditions were no longer favorable. The rock reached temperatures of several hundred degrees C, eventually boiling off the groundwater and making fission impossible until the water flowed back into the  $^{235}\text{U}$  rich ores.

While this is the only known instance of a natural nuclear reactor on Earth, some suggest that it is possible elsewhere, particularly on the red planet Mars. Gamma ray spectrometry done by the Mars Odyssey orbiter indicated that the planet is rich in fissile materials such as Uranium and Thorium. While the uneven distribution of these ores may have mundane explanations, William Boynton, the primary investigator for the spectrometer experiment, was not too quick to dismiss claims of possible natural reactions on Mars. While he expressed doubts in an interview with Space Daily, he says that the existence of natural extra-planetary reactors is "all but impossible." The advanced fission reactors of this industry may well have natural parallels throughout our solar system and beyond.



## Member Spotlight

Congratulations to Jennifer Musgrave on her recent job offer from AREVA Inc! Jennifer has accepted a position as Licensing Engineer at AREVA, America's largest vendor of nuclear energy products and services. Her responsibilities include governing and planning regulatory activities, interacting with the NRC and NEI, and executing licensing functions related to digital controls systems. Jennifer remarked, "I have always been interested in licensing, and this position will allow me to fuse my technical background with my passion for regulatory affairs. It is truly my dream job."

Jennifer recently volunteered for AREVA at the 2012 Republican and Democratic National Conventions alongside five other UF ANS members. "I fell in love with the company after working so closely with them at the conventions. I'm excited to officially be a part of the team," she said. Jennifer plans to graduate in Fall 2012 with a major in Nuclear Engineering and a minor in Leadership. She will relocate to Lynchburg, VA, to begin working at AREVA in January 2013.





## Announcements



ANS members tailgating for the UF vs. Kentucky game on September 22.



**Crystal River Power Plant Tour:** Kent Hippler and the External Events Committee are planning a tour of the Crystal River Power Plant in late October. If you're interested in attending, please join the Facebook event on the ANS at UF group page or RSVP to [jkenthippler@ufl.edu](mailto:jkenthippler@ufl.edu) as soon as possible! More information will be provided at the October 17 ANS General Body Meeting.

**ANS National Winter Conference:** The 2012 ANS National Winter Conference will be held in San Diego, CA, from November 11-15 this fall. To register to become an ANS National member and for more information concerning the conference, please go to [www.ans.org](http://www.ans.org).

**Navy Nuclear Info Session:** There will be a Navy Nuclear Info Session at the next ANS General Body meeting on October 17.

**ANS Tailgate:** ANS Tailgates for the home games are being held at Sarah Sarnoski's house (1924 NW 1<sup>st</sup> Ave). Stop by to hang out with your fellow nukes before the football games!

**ANS on Facebook:** Join the ANS at UF group on Facebook to stay updated on all ANS at UF's activities and events. Dr. Baciak has also created a Facebook page for the Nuclear Engineering Program at UF to update students and alumni on the NE Program at UF.

**Go Gators.  
Go Nuclear.**

## About ANS @ UF

*The American Nuclear Society Student Chapter at the University of Florida is an organization of Nuclear and Radiological engineering students dedicated to the promotion of nuclear science and technology for the benefit of humanity. This chapter is instrumental in informing the public of everyday radiological applications.*

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If you would like to join ANS or have questions or comments, please contact Chelsea T. Collins, Secretary, at [ufl.ans.secretary@gmail.com](mailto:ufl.ans.secretary@gmail.com).

