

## Sigma Xi Chooses Two UF Grad Students To Receive Prestigious Grants

Sigma Xi, the scientific research society, has selected two University of Florida graduate students to receive funding under its highly competitive Grant In Aid of Research program.

Psychology doctoral student Sara Jill Rotter and geology master's student Sarah Davidson Newell were among only 300 out of 1,300 applicants to receive funding through the program.

Rotter intends to use her \$800 grant toward her research at UF's Cognition & Aging Laboratory. The laboratory conducts research on a wide range of topics in memory, language and aging.

"In general, we are interested in exploring the typical changes that occur with aging, disproving the myths of aging and finding practical solutions to common age-related memory problems," Rotter says.

Rotter says studies have shown that effortful recollection, like what you ate last night, declines with age, while unconscious recollection, like how to play golf, does not necessarily decline with age.

"I hope to integrate my findings into the rest of the literature about older adults' cognitive functioning so that we can better advise our older community on what will happen as they age," Rotter says.

Rotter also hopes her research can provide insights into how older people can maintain cognitive function well into their golden years.

Rotter's experiments compare how young adults (18-26 years) and older adults (60-80 years) perform on four tasks.

The first task asks subjects whether a string of letters make up a real word or not. The task tests whether older adults can recognize spelling when they aren't thinking about spelling.

In the second task, participants listen to a word and write a short sentence using that word. This can show if older adults can produce a spelling if they aren't thinking of it.

For the third task, subjects are shown a word on a computer screen and asked whether it is spelled correctly.

In the last task, participants have to spell words they hear on a computer. Rotter hopes this will also replicate past results that show older adults have difficulty with spelling production.

Rotter, an undergraduate psychology major and mathematics minor at UF, says it was an undergraduate cognitive psychology class that attracted her to the work she is doing now.

"The more I read about it and the more older adults I met, the more I knew that this was where I wanted to be," she says.

Rotter expects to earn her degree in 2007, and hopes to find a faculty position at a large liberal arts college where she can conduct research, teach and interact with students.

Newell was awarded the maximum grant of \$1,000 for her research on historic changes in vegetation.

Working with geology Professor David Hodell, Newell is studying core samples from the bed of Lake Sacnab in Guatemala to determine how vegetation in the region has changed over the last 3,000 years.

Millennia of seeds and other organic material that blew onto the lake and settled to the bottom are visible in thousands of layers of sediment in the core



*Sara Jill Rotter (left) and Sarah Davidson Newell were selected by Sigma Xi out of 1,300 applicants for funding.*

samples. Researchers can date the samples by their relative location, like tree rings, and by measuring their carbon isotopes.

Through these samples, Newell is constructing a more precise record of changes in vegetation in the region.

Newell says a greater understanding of the rate and process of reforestation following the collapse of the ancient Maya civilization may provide valuable information for future forest management in Guatemala and other tropical regions.

Also, findings about the timing and process of deforestation may help archaeologists better understand the agricultural practices of the Maya.

"I've always been interested in the human influences on environmental change, and so when Dr. Hodell suggested a project like this one, I was eager to become a part of it," says Newell, who earned her bachelor's degree in geology at Union College in Schenectady, N.Y.

Newell expects to finish this project in August and will begin pursuing a doctorate in the fall, also in geochemistry.

"I hope to work at a smaller liberal arts college where I can both teach and continue my research," Newell says.

*Christine Marinelli*