News & Notes

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Unraveling the mysteries of the brain

(L-R): Sean Gay, Mark Gabriele and Isabel Lamb-Echegaray.

It's much too early to say whether their research will someday lead to better treatments for people who suffer from sensory processing disorders, but biology majors Sean Gay ('17) and Isabel Lamb-Echegaray are excited to be getting in on the ground floor of research that has the potential to help people.

The National Institutes of Health is excited as well, to the tune of $427,773.

The grant, awarded to biology professor Mark Gabriele ('95) and Lincoln Gray, professor of communication sciences and disorders, will fund the research through March 2020, and comes on the heels of a $320,000 NIH grant they received in 2012 to do research in a related part of the brain.

Gabriele said the 2012 grant involved study of a midbrain structure, the inferior colliculus, and a subregion that processes sound. The new grant is funding research in an adjacent area of the inferior colliculus that processes touch and visual cues in addition to auditory information. And unlike the focus of the earlier research, where much is already known, very little is known about this neighboring multisensory center.

"This is what was most exciting to me in writing the grant," Gabriele said. "I was learning as I was going. This was the first grant where I got interested in an area that I knew little about and had to really school myself."

Gray and a team of undergraduate and graduate students in communication sciences and disorders will perform physiological and behavioral testing of the neural circuits of interest and their specific roles in processing multisensory information. Their work will be concentrated in year three of the grant.

The NIH is interested because the research could help understand some underlying causes for sensory processing disorders such as tinnitus, commonly called ringing in the ears, and eventually lead to better interventions that are noninvasive and available to a larger segment of the population.

New accelerator lab energizes research

The Madison Accelerator Laboratory, located on the first floor of the newly renovated Madison Hall, will be fully operational this fall. More than 10 years in the making, the laboratory will be capable of performing low-energy experiments in nuclear physics, nuclear astrophysics, nuclear engineering, nuclear forensics and homeland security.

Physics and astronomy professor Adriana Banu said being able to do beam research at JMU is significant. Such research previously required making reservations at places like Jefferson National Laboratory in Newport News, Virginia, or the Triangle Universities Nuclear Laboratory in Durham, North Carolina.

Students also will benefit from working with the equipment, which will prepare them for a wide range of careers.

PHOTOGRAPHS BY MIKE MIRIELLO ('09M)