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FOR IMMEDIATE RELEASE

ECU Physics Department Awarded \$868,000 NSF Grant for New Particle Accelerator

GREENVILLE, N.C. (Sept. 11, 2009) — On Sept. 1, Dr. Jeff Shinpaugh and Dr. Larry Toburen, East Carolina University physics professors, were awarded a National Science Foundation grant in the amount of \$867,982. The NSF grant will be used to replace a 1970's model particle accelerator and supporting instrumentation located in the ECU Accelerator Laboratory in the Department of Physics.

“Jeff Shinpaugh deserves enormous credit for his initiative in deciding to apply for this grant and for all the hard work required to prepare the proposal to the National Science Foundation,” says John Sutherland, chair of the Department of Physics. “The new accelerator will benefit ECU by providing more research opportunities for our students and faculty in the area of biomedical physics.”

For nearly four decades, the ECU Accelerator Laboratory has provided the facilities for productive experimental atomic physics and radiation physics research. In addition to basic and applied physics research, the laboratory will continue to support interdisciplinary research with the Departments of Anthropology, Biology, Geological Sciences, and the ECU Brody School of Medicine.

Shinpaugh, director of the ECU Accelerator Laboratory, says, “The new system will provide stable, energetic light and heavy ion beams in an energy range of 300 keV to 8 MeV, perfectly suited for continuing and expanding our studies in radiation physics, atomic collisions, and trace element analysis.”

The new equipment will consist of a 2-million-volt tandem ion accelerator and supporting components that include a focusing magnet, analyzing magnet, and beam transport and diagnostic instrumentation necessary for delivering ion beams to existing and new experiments.

Research based on the new accelerator includes studies of radiation effects in biological systems, fundamental processes in ion-atom and ion-molecule collisions, and atomic interactions in solids. Interdisciplinary research is supported through elemental analysis studies for applications in biology, geology, anthropology and medicine. The Radiation Physics group in the Department of Physics at ECU has received funding for over three million dollars over the last decade from NASA, the National Institutes of Health, the U.S. Department of Energy, and the National Science Foundation.

Currently, the old accelerator is housed in the east wing of the Howell Science Complex, with very little space available for faculty and students to conduct their laboratory experiments. The new accelerator, which costs roughly \$700,000, will be approximately 32-feet-long and weigh more than 12,000 pounds, or six tons. Alternative locations providing greater flexibility for accelerator operations are currently under discussion.

For additional information about the particle accelerator and the NSF grant, contact Shinpaugh at 252.328.1852 or shinpaughj@ecu.edu.