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Ohio University researchers full 'steam' ahead with new \$1.67 million educational grant

ATHENS, Ohio (April 7, 2006) -- Many middle school students rush home after classes so they can plop down in front of the TV, turn on their XBOX 360, Playstation 2, Nintendo Gamecube or computer, and spend countless hours playing video games.

While many adults might feel these kids are burning daylight, Chang Liu, assistant professor in the School of Electrical Engineering and Computer Science (EECS) at Ohio University's Fritz J. and Dolores H. Russ College of Engineering and Technology, actually wants to bring video games into the classrooms.

Liu and two other Ohio University professors recently won a \$1.67 million National Science Foundation grant to do just that. The three-year grant – one of the largest Ohio University has ever received – will enable Liu; David Chelberg, EECS associate professor; and Teresa Franklin, instructional technology associate professor in the College of Education; to develop engaging science curricula for middle school students.

The trio plans to use video games as instructional tools. "Instead of wasting their time with video games, let students learn by playing educational video games," Liu said.

The project, "Track 1, GK-12: Science and Technology Enrichment for Appalachian Middle-schoolers (STEAM)," will hire eight Russ College graduate students annually for the next three years to serve as science and technology teaching fellows in local K-12 schools. The fellows will use new technologies and their own cutting-edge research to convey concepts in the classroom.

"Students will see a younger person doing research who will hopefully serve as a role model and inspire them to pursue careers in science," Liu said.

According to Franklin, getting students involved in these topics early is crucial. "Developing a strong foundation in science, math and technology in the middle school grades is extremely important in supporting the continuation of the study of science in high school and college," Franklin said. "STEAM will provide opportunities for middle school students to improve their understanding of science, technology, math and engineering concepts. This digital curriculum containing simulations and real-world problems will lay the foundation to foster the development of future scientists."

While the Russ College will provide the graduate students, research and technology, the College of Education will be responsible for meeting national and Ohio science content standards and supporting the participating teachers and

graduate fellows, who will be trained in classroom management and teaching skills.

Because the graduate fellows will co-teach a class for an entire school year, Liu says the fellows will help teachers stay up-to-date on science and technology. In turn, the grad students will learn how to more effectively communicate about their research. "They will have to boil their research down to the simplest terms and answer the question, 'Why does this matter?'" Liu said.

"It is truly a wonderful day when a university collaboration can aid in the development of tomorrow's scientists, engineers and educators," Franklin said.

The Fritz J. and Dolores H. Russ College of Engineering and Technology at Ohio University in Athens, Ohio, educates well-rounded professionals with both technical and team-project skills. The Russ College offers undergraduate and graduate degrees across the traditional engineering spectrum and in technology disciplines such as aviation, computer science, and industrial technology. Strategic research areas include bioengineering, energy and the environment, and smart civil infrastructure. Named for alumnus Fritz Russ and his wife Dolores, the Russ College is home of the Russ Prize, one of the top three engineering prizes in the world. For more information, visit www.ohio.edu/engineering.

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Media Contact: Colleen Girton, Russ College Director of External Relations, (740) 593-1488 or girtonc@ohio.edu; Amy Robison, College of Education Public Affairs Coordinator, (740) 593-4465 or robisona@ohio.edu; or Jack Jeffery, Media Specialist, (740) 597-1793 or jefferyj@ohio.edu

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