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The project was announced Wednesday by university officials, U.S. Rep.
Charlie Wilson and representatives of the endeavor's other partners. The university's Center for Advanced Materials Processing, part of the Russ College of Engineering and Technology, will work with GrafTech International, the Ohio Aerospace Institute and Air Force Research Laboratories to develop the exchangers.

According to Khairul Alam, the university's Moss Professor of Mechanical Engineering and researcher in charge of its part in the project, these heat exchangers represent an exciting new technology because they have the potential to increase efficiency and decrease emissions in military planes.

Heat exchangers are used on military and commercial aircraft in many ways, including as oil coolers and fuel heaters. Because the exchangers under development are made from carbon foam, they will weigh up to 40 percent less than the metallic ones now in use. This will conserve energy, save money and increase aircraft lifespans.

"This is the next generation of heat exchangers that will allow people to make more energy-efficient products," Alam said. The technology, he said, eventually could be adapted for commercial uses in jetliners and even home heating systems and refrigerators. "I am really excited and very grateful that we have the funding to bring this forward."

Alam will work with several Ohio University graduate students to develop models to test various configurations of the foam. This will allow them to determine how to make it both conductive and cost-effective.

A 24-year member of the Ohio University faculty, Alam also will work closely with GrafTech, a world leader in manufacturing carbon and graphite products. GrafTech, based in Parma, Ohio, ultimately will design and manufacture the heat exchangers.

Wilson, who worked closely with U.S. Sen. George V. Voinovich to secure federal funding for the project, is optimistic the research will be at the forefront of modernizing heat exchange technology for the military. He also noted the potential to increase jobs and spur economic development in Ohio.

"We have research and technology for our military going on right here in Athens, Ohio, and that makes me proud," he said.

Ohio University President Roderick J. McDavis said he was pleased the university will play such a key role in developing technology that will have an impact in the United States and around the world.

"We are a center of innovation, and that innovation leads to economic development, which leads to jobs," he said. "This type of collaboration is exactly what a public university should be all about."