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By Barry Ray
Feb. 17, 2009

STATE-OF-THE-ART MATERIALS RESEARCH BUILDING OPENS ITS DOORS

TALLAHASSEE, Fla. -- With the cutting of a ribbon, The Florida State University today ushered in a new era for the development of composite materials that promise a wide variety of commercial and industrial uses.

Florida State President T.K. Wetherell officially opened the university's new, 45,000-square-foot Materials Research Building during a ceremony on Florida State's Southwest Campus in Tallahassee's Innovation Park. With the opening of the building, The Florida State University is prepared to vault to the very top of the list of American universities conducting state-of-the-art research on cost-efficient, high-performance composite materials.

"This building affords us research opportunities that most other universities simply don't have," said Kirby Kemper, Florida State's vice president for Research. "I anticipate that the work done here in the coming years will lead others to acknowledge The Florida State University as one of the nation's best research centers in advanced composites. This truly marks the beginning of the next generation of lightweight, high-performance composite materials."

The \$20 million building is a two-story facility that houses 13 laboratories for the design, processing and characterization of advanced materials and systems. It will be home to Florida State's High-Performance Materials Institute, a world-class research center that has emerged as a leader in the development of "buckypaper," a film made with carbon nanotubes, which are incredibly lightweight but capable of making a composite material that is amazingly strong. Buckypaper also has other exceptional properties, such as electrical and thermal conductivity.

While currently difficult to produce in large amounts, buckypaper holds tremendous potential for use in a wide variety of applications. Among them, it could be used to illuminate computer and television screens in a more uniform and energy-efficient manner; allow for the development of heat sinks that would allow computers and other electronic equipment to disperse heat more efficiently, which in turn could lead to even greater advances in electronic miniaturization; shield computers and aircraft from electromagnetic interference; and offer lightning-strike protection to structures such as airplanes or large windmill blades.

Already, Florida State researchers are working with the U.S. military to utilize buckypaper to develop more-effective body armor and armored vehicles.

"Up until recently, we have had labs spread out over three locations," said Ben Wang, the Simon Ostrach Professor of Engineering at the Florida A&M University-Florida State University College of Engineering and director of the High-Performance Materials Institute. "Thanks to the Florida State University Research Foundation, which has funded the building, we can now have

everything under one roof, which will allow us to be far more productive.

"This building will help us toward furthering our mission of developing and placing advanced composite materials into the marketplace to create more affordable, safer and energy-efficient products," Wang said.

The Materials Research Building is located on Levy Avenue, adjacent to Florida State's Applied Superconductivity Center and Center for Advanced Power Systems, the National High Magnetic Field Laboratory and the FAMU-FSU College of Engineering. The new facility's proximity to those facilities is seen as one of the advantages of its location.

"The future of scientific research is not chemists working with other chemists or engineers working with other engineers," Kemper said. "It is experts from different fields coming together and combining their unique skill sets and knowledge in ways that promote innovation. With its proximity to researchers from a number of other disciplines, I would expect that the Materials Research Building will be a hub where scientists and engineers from a variety of backgrounds can work together to make scientific and technical advances that wouldn't be possible otherwise."

To learn more about the High-Performance Materials Institute and the Materials Research Building, visit www.hpmi.net.

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