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## Paper Session II-C - NASA's Hydrogen Research at Florida Universities

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ABSTRACT  
to Space Congress 2004

NASA's Hydrogen Research at Florida Universities

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For the past two years, the State University System (SUS) of Florida has been conducting hydrogen research for NASA. The general objective of the hydrogen research is to support hydrogen utilization within NASA's space exploration and space launch activities. These research awards are slightly under \$8 million per fiscal year and are co-managed by the University of Central Florida and the University of Florida and, on the NASA side, by NASA's Glenn Research Center and Kennedy Space Center.

The hydrogen research is conducted by six universities within the Florida University System. These universities are the University of Central Florida, University of Florida, Florida State University, University of South Florida, Florida International University, and the University of West Florida. This unique research program teams Florida's talented university researchers with NASA Glenn, the nation's premier space research facility, and NASA Kennedy, the nation's premier space launch facility, to form a powerful partnership.

The specific research areas being investigated are densified propellant usage, hydrogen production and transport at Kennedy Space Center, development of hydrogen sensor and safety technologies, Pad A and B storage tank losses at Kennedy Space Center, hydrogen operating systems, and education and outreach. The research is extremely important to Florida because hydrogen is the fuel of space vehicles; it is important to Florida's spaceport activities, a \$ 5 billion dollar per year industry; and hydrogen will play an important role in Florida's and the nation's move towards a hydrogen economy. As a note to the nation's moving towards a hydrogen economy, Florida has already developed a cooperative partnership called the Florida Hydrogen Partnership to assist in this important activity.

This presentation will discuss the research program and the benefits of the research to NASA. It will also consider the spin-off technology benefits for terrestrial applications. The presentation following this one, by the University of Florida, will give additional and more specific details on the programs being conducted under this research.