

For More Information Contact:  
Federal Laboratory Consortium,  
Mid-Atlantic Region  
Support Office  
Phone: 407-947-6443  
Fax: 812-256-4492  
E-mail: [jeichelberger@pendulumsite.com](mailto:jeichelberger@pendulumsite.com)  
[www.flcmidatlantic.org](http://www.flcmidatlantic.org)

November 2, 2005

### **NASA Goddard Space Flight Center Scientists Win Award**

The Mid-Atlantic Region of the Federal Laboratory Consortium this year presented the Regional Excellence in Technology Transfer Award to a group of scientists led by Dr. James D. Spinhirne, Senior Scientist, NASA Goddard Space Flight Center for their work on "Micro Pulse Lidar (MPL) and the MPL Network (MPLN)." Other team members included

Dr. Ellsworth J. Welton, Physical Scientist, NASA GSFC, Mr. V. Stanley Scott, III, Research Scientist, NASA GSFC, Mr. James R. Campbell, Research Meteorologist, Science Systems and Applications, Inc., Mr. Timothy A. Berkoff, Research Engineer, University of Maryland, Baltimore County, Mr. Luis A. Ramos-Izquierdo, Research Scientist, NASA GSFC, Mr. Dennis L. Hlavka, Research Scientist, Science Systems and Applications, Inc., Ms. Sandra C. Valencia, Research Scientist, Science Systems and Applications, Inc., Mr. Daniel Hopf, Research Scientist, ITT Industries, Advanced Engineering and Science, Mr. Brent N. Holben, Research Scientist, NASA GSFC and Dr. Si-Chee Tsay, Research Scientist, NASA GSFC.

In the late 1960s, lidar (or laser radar) revolutionized observations of clouds and haze in the atmosphere; however, lidar was extremely difficult to employ. The Micro Pulse Lidar (MPL) technology was developed to fill NASA's need for a practical ground-based tool for calibrating and validating satellite-based measurements of clouds and aerosols as well as to conduct basic research. Prior to MPL's development in the early 1990s, lidar systems were not eye-safe; were not reliable; and were large, complex, and costly. The MPL device used then offered vast improvements, providing the only means for continuous, routine lidar monitoring, particularly in remote areas. MPL offered simple, remote, and autonomous operation; long-term (>2-year) reliability; and accurate and comprehensive data gathering in an eye-safe, small, inexpensive, low-power package. Because MPL operates autonomously, personnel costs for lidar system operations decreased dramatically. MPL was first made commercially available in 1994. Sales worldwide created the possibility for a global network of systems, and in 2000 MPLNET was formed. Coordinated by NASA, MPLNET combines the MPL data gathered by the network's members and makes the data available free to scientists and researchers around the world.

For MPLNET to continue to grow, an additional commercial source for MPL devices was needed. Another license was established in October 2004, and that company (Sigma Space Corp.) refers its customers to the MPLNET, encouraging them to become members. The data being processed by MPLNET are available to researchers around the world at no cost. More than 170 researchers have registered to use the data, many of whom have published in more than two dozen articles in *Science*, the *Journal of Geophysical Research*, and the *Journal of Atmospheric and Oceanic Technology*, and other periodicals and presented at more than 50 conferences. The site has had more than 15,000 hits since being launched in 2000. MPL has been and continues to be one of the key cloud-monitoring instruments for the Atmospheric Radiation Measurement (ARM) Program,

the largest global change research program supported by the U.S. Department of Energy (DOE). MPL also has been used in many other experiments and research projects.

The MPL device and the data made available through the MPLNET have opened the door to a previously inaccessible realm of research, allowing Earth's atmosphere to be safely studied with lidar. MPL has enabled atmospheric aerosol and cloud data to be obtained safely, continuously, and less expensively than was previously possible. And as MPLNET has demonstrated, MPL also has the potential to be used as part of a vast network of monitoring devices for environmental protection or homeland security applications.

One of the most coveted awards in the field of technology transfer, the FLC awards for Excellence in Technology Transfer recognize laboratory employees who have accomplished outstanding work in the process of transferring Federally-developed technology to the marketplace. The award was made on September 15 at the region's annual meeting.

The Federal Laboratory Consortium is comprised of the technology transfer offices of all of the Federal laboratories throughout the country while its Mid-Atlantic Region focuses on the 70 Federal laboratories in DC, DE, MD, PA, VA and WV.