Richland, Washington **February 2003**

New director named at PNNL

Dr. Leonard K. Peters was recently chosen to head Pacific Northwest National Laboratory. Dr. Peters, who will begin his duties on April 1, was most recently Vice Provost for Research at Virginia Polytechnic Institute and State University.

Since 1993, Dr. Peters has managed Virginia Tech's $230 million research program, ranging from biotechnology and materials to transportation and information technology. He has had a notable career as a researcher in atmospheric chemistry, including assignments with Alcoa Research Laboratories and PNNL. His commitment to community service resulted in a 1990 National Science Foundation Award for contributions to science and technology at state and local levels.

PNNL is operated by Battelle for the U.S. Department of Energy, employs about 3,800 staff and has an annual budget of $550 million. The Laboratory focuses on providing science-based solutions to DOE's mission of supplying energy, resolving the environmental legacy of weapons production and ensuring national security.

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Newsletter supports economic diversification in Mid-Columbia

Tri-Cities Tech Business Update, a free publication of Pacific Northwest National Laboratory, is celebrating its third year supporting tech businesses throughout the Mid-Columbia region. A monthly electronic newsletter, it shares information important to the growing tech sector in and around the Tri-Cities.

Editor Andrea McMakin says the goal is to support economic diversification within Southeastern Washington and Northeastern Oregon. "We share information about companies within the Mid-Columbia tech sector and let people know what is going on in their own backyard. By seeing what other businesses are doing, it helps each of them identify potential customers, partners and funding sources," said McMakin. The newsletter includes business news and opportunities, as well as information on seminars and events that help tech businesses succeed. The list of subscribers is near 1,000. To subscribe or see online issues, visit **www.pnl.gov/edo/newsletter/techbiz.stm** or call Andrea McMakin at 509-372-6013.

EMSL reaches milestone, looks to future

The William R. Wiley Environmental Molecular Sciences Laboratory (EMSL), a Department of Energy national user facility located at Pacific Northwest National Laboratory, recently celebrated five years of operation.

EMSL offers a wide range of state-of-the-art research instrumentation and this year it begins a series of "scientific grand challenges" to maximize the impact of the science produced at the facility. Currently, many scientists come to EMSL to use a specific instrument. Under the scientific grand challenges, EMSL staff will bring teams of users—the best scientists in the world—to EMSL to use the facility's full capabilities. The teams will focus on answers to major science questions, such as cell signaling, subsurface science and atmospheric chemistry. EMSL plans to launch two scientific grand challenges by October.

Fourier Transform Infrared Spectroscopy is one of the spectroscopic techniques used at EMSL.

Project with BPA saves energy at PNNL and Hanford

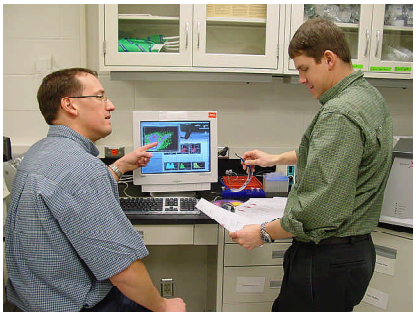
A project designed to reduce energy consumption at Pacific Northwest National Laboratory is expanding to include the Hanford Site.

The project, initiated last fall at PNNL, involves installation of a device known as the "Watt Stopper®" in staff offices. The device is a power strip with a motion-detecting capability that shuts off power to equipment and appliances—such as computer speakers, radios and non-networked printers—when the items are not in use. So far, about 2,300 of PNNL's 3,800 employees have requested the Watt Stopper®. It's estimated that the product can save about 800 kilowatt hours in each office annually, adding up to several million kilowatt hours across PNNL.

The project is jointly sponsored by PNNL, the Bonneville Power Administration and the Department of Energy's Richland Operations Office.

PNNL's involvement in the project led to interest from Fluor Hanford, Inc., the primary management contractor on the Hanford Site. Fluor plans to distribute more than 7,000 of the devices to offices across Hanford.

New antibody library speeds search for detection tools



Antibodies play an increasingly important role in industries like medicine and homeland security. Whether they're seeking out proteins on cancerous cells and targeting treatment or locating proteins as a way of identifying harmful agents—antibodies are an effective tool for recognizing specific molecules.

Scientists at Pacific Northwest National Laboratory have developed a new technology that identifies human antibodies much faster than before. By extracting part of the human immune system and reconstituting it in brewer's yeast, researchers have created a library of one billion human antibodies—the proteins produced by white blood cells as part of the immune response. This technology enables powerful machines to quickly identify new antibodies, an advance that could have major benefits for fundamental biology as well as industries that use antibodies for sensors, biodetectors, diagnostics tools and therapeutic agents.

The antibody library could replace the need to produce antibodies within animals, such as mice, and opens up new possibilities for rapidly designing medical treatments more acceptable to the immune system. For more information see **http://www.pnl.gov/news/2003/03-01.htm**.

PNNL wins three FLC awards

The Federal Laboratory Consortium honored Pacific Northwest National Laboratory with three 2003 Excellence in Technology Transfer Awards. The FLC annually recognizes federal laboratories and their employees who have made significant contributions in transferring important federally funded technology into the private sector.

With 54 awards, PNNL has been honored by the FLC more than any other federal laboratory since the recognition program began in 1984. Awards were given for the Acoustic Inspection Device, a device that uses ultrasound to examine and identify contents of sealed containers; the Engine Exhaust Aftertreatment System Based on Non-Thermal Plasma-Assisted Catalysis, a technology that converts harmful oxides of nitrogen (NO_x) and particulate matter in vehicle exhaust into components of clean air; and EMAdvantage©, an automated decision support system that supports emergency planning and response for local facility accidents or global disasters.

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