

## PNNL continues on scientific 'voyage of discovery'

**T**wo hundred years ago this month, the U.S. government initiated one of the great voyages of discovery by funding the Lewis and Clark expedition. America's scientific voyage of discovery continues today, and the Department of Energy's Pacific Northwest National Laboratory plays a vital role in shaping the scientific innovations that will help ensure our national security, enhance our energy options and expedite ongoing environmental cleanup. PNNL is committed to delivering scientific solutions to these core DOE missions.

For this commitment and the dedication of its 3,800-member staff to operational and scientific excellence, DOE gave Battelle, which operates PNNL, its fifth consecutive outstanding performance rating in 2002.

Battelle has operated the laboratory for 37 years, from its early days as a nuclear energy laboratory providing research and development for the Hanford Site, to today's role as a multi-program national laboratory with an annual business volume of \$560 million. Battelle continues to invest heavily in maintaining the laboratory's state-of-the-art research facilities, encouraging development of spin-off technologies and supporting local and regional organizations through its charitable distributions.

"Neither the Department of Energy nor staff members at PNNL could sustain this growth and these accomplishments without the outstanding partnerships formed with our customers, who help create, support and effectively use the scientific contributions we are developing together," said Walter Apley, interim laboratory director.

In 2002, those partnerships led to the arrival at PNNL of the world's most powerful nuclear magnetic resonance spectrometer and the order of a new, advanced supercomputer. PNNL teamed with the Savannah River Technology Center to design a more efficient glass formula for vitrifying radioactive waste, which could result in \$1 billion in savings over the life of the project. PNNL works very closely with DOE's Richland Operations Office and the Office of River Protection, as well as their dedicated remediation contractors — Bechtel, Fluor Hanford and CH2M HILL Hanford Group — to help expedite cleanup at Hanford.

Working with local, national and international organizations, PNNL helps prevent the spread of weapons of

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"Fast glass" is a more efficient formula for vitrifying radioactive waste, developed by a team of researchers at PNNL and the Savannah River Technology Center.



Border officials from the Czech Republic learn to use detection technologies such as the acoustic inspection device developed at Pacific Northwest National Laboratory. They participated in a nonproliferation training program conducted by the U.S. Customs and PNNL at HAMMER last July.

## **PNNL continues on scientific 'voyage of discovery', cont.**

mass destruction. Its staff leads one of the world's largest and most important nonproliferation programs in Kazakhstan. Since 1997, in conjunction with the U.S. Customs Service, PNNL has used the Volpentest HAMMER Training and Education Center to train nearly 300 border officials from more than a dozen Eastern European countries to identify and intervene in potential smuggling of weapons of mass destruction.

Last summer, the 1,000th patent was granted for technologies developed at PNNL, for ultrabARRIER substrates. This patented technology contributed to the formation of Vitex, a Battelle spin-off company created to commercialize the ultrabARRIER coatings and substrates for flat-panel displays and devices.

PNNL researchers received an R&D 100 Award for the development of a data mining and visualization software tool called OmniViz. PNNL has received 59 R&D 100 Awards since 1969. ■