

Northwest focuses on hydrogen future



With plenty of technology companies, a unique mix of renewable energy and hydro-power and a concern for the environment, the Northwest is poised to play a leading role in moving toward a hydrogen economy. About 150 people from industry, government and business gathered in Seattle to hear this message at the June 16 Hydrogen Production and Northwest Transportation Conference

sponsored by Pacific Northwest National Laboratory and the Northwest Energy Technology Collaborative.

The conference included appearances by Washington State Governor Gary Locke, above, and Steve Chalk, who leads the Department of Energy's Hydrogen, Fuel Cells and Infrastructure Program. It also featured presentations by technology companies, the Bonneville Power Administration and DOE funding programs.

Conference presentations will be available at www.pnl.gov/energy/hydrogen by

early July. An urban transit bus powered by a liquid-fueled proton exchange membrane fuel cell took the governor and other special guests for a ride and was on display for the public and conference attendees.

Short-term exposure to estrogen cuts fish fertility

Research at Pacific Northwest National Laboratory and the University of Idaho shows estrogen in our rivers and streams reduces the fertility of adult male fish. Data suggests when adult male fish are exposed to short-term and low concentrations of synthetic estrogen, their fertility can drop by as much as 50 percent. Previous research reported that high concentrations of estrogen could change sex organs, causing juvenile male fish to develop female organs. Estrogen is an active ingredient in most oral contraceptives and often finds its way into surface waters through sewer systems.

Irvin Schultz, the PNNL toxicologist who led the study, said the research reinforces that impacts of synthetic estrogen aren't limited to juvenile fish. "While other research has shown the visible change that can take place when young male fish are exposed to high levels of estrogen, we're suggesting that low and short-term exposure can have just as significant — but not physically observable — effects," Schultz said. The findings were published in the June issue of *Environmental Toxicology and Chemistry*.

Energy conservation efforts recognized

The U.S. Department of Energy has named PNNL Facility Manager Mike Moran an Energy Champion for his demonstrated leadership in implementing innovative activities that promote energy conservation, reduce energy consumption and save taxpayers' money. The prestigious award is part of DOE's "You Have the Power" program which recognizes individual leaders within the DOE complex. Over the past three years Mike has instituted a number of energy conservation programs, including installing power strips activated by motion sensors to turn off electrical devices not in frequent use. And most recently he was recognized for negotiating a favorable contract to purchase 8.8 million kilowatt hours of green power from the City of Richland supplied by a nearby wind farm. His leadership accomplishments include using alternative financing to implement energy conservation projects, implementing water conservation projects and introducing innovative energy awareness programs.

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New tool aids Hanford cleanup

A new comprehensive tool is now available to provide federal and state regulators with some of the critical information they need to help protect people and the environment. Systems Assessment Capability, or SAC, is an integrated system of computer models and databases that predicts the movement and fate of contaminants through the soil and groundwater of the U.S. Department of Energy's Hanford Site and the Columbia River. There are more than 700 waste sites at Hanford and they vary significantly in their inventories of radioactive and chemical contaminants. SAC allows regulators to prioritize the waste sites for cleanup. Instead of showing each waste site in isolation as has been done in the past, SAC shows each site in context. "It looks at all the waste sites at Hanford in relationship to each other and how they contribute to future impact," said Bob Bryce, SAC project manager for PNNL. "Using SAC, we can see which waste sites are making the greatest contribution to future impact and clean them up first."



Protecting the Columbia River Corridor is a major focus of Hanford Site cleanup activities.

Health Physics Society honors PNNL scientists



Darrell Fisher



Paul Stansbury

The Health Physics Society has named two scientists from PNNL as Fellows of the Society. Darrell Fisher and Paul Stansbury, both senior scientists, are being recognized for their "significant administrative, educational and scientific contributions to the profession of health physics." Fisher joined PNNL in 1978. He is a medical physicist with experience in nuclear science, environmental science, radiological protection, radiation biology and radiochemistry. Stansbury joined PNNL in 1990 and specializes in assessing and reducing radiation risks in the workplace and environment, locally and around the world. Both Fisher and Stansbury will be recognized for this honor at an awards reception and dinner in July at the society's annual meeting in San Diego, Calif. The Health Physics Society is an international professional scientific organization dedicated to promoting the practice of radiation safety.

PNNL speakers address audiences around the Northwest

Pacific Northwest National Laboratory is expanding its Speakers' Bureau to include audiences in Spokane, Seattle, Olympia and Portland.

PNNL speakers are nationally and internationally recognized leaders in a wide range of scientific disciplines and are able to address a variety of topics covering national security, fundamental science, information technology, environmental science, and energy science and technology. Speakers are available for professional, civic, business and other organizations at local, regional and national levels.

The Speakers' Bureau website <http://www.pnl.gov/speak/> is grouped by topic and highlights areas of research at PNNL that can be addressed by Laboratory speakers. For more information on Speakers' Bureau activities or to arrange for a speaker, please contact Rae Weil at 372-6333 or rae.weil@pnl.gov.

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