

Science.
Technology.
Innovation.

Science to Solutions: Technology Transfer

Pacific Northwest National Laboratory (PNNL) – with its main research campus in Richland, Washington – is a Department of Energy Office of Science research facility that conducts fundamental research into complex chemical, physical and biological systems and provides science-based solutions to critical issues in national security, energy and environmental quality. The laboratory employs more than 3,800 scientists, engineers, technicians and support staff, and has an annual budget of nearly \$600 million. Battelle, based in Columbus, Ohio, operates PNNL for the federal

government. PNNL staff have published thousands of papers, have authored over 1000 patents, and have more than 250 patents pending. Currently, PNNL has over 200 active patent and copyright licenses with a wide variety of industrial partners.



PNNL recognized for commercializing technologies

Since it was created in 1965, PNNL has earned national and international recognition for its scientific excellence and the frequent transferring of innovative technologies to the marketplace for industrial and human health benefits. More than 30 years ago, PNNL was pioneering the development of a technique called optical digital recording. This innovation serves as the critical design element for compact discs and disc players that are manufactured and marketed worldwide today.

In the 1980s, PNNL scientists developed a material that prevents unwanted root growth and vegetation from invading septic tanks, roadways, sidewalks, and buried gas pipes, potentially saving millions of dollars in maintenance costs. PNNL also has developed radio frequency tags that can track and monitor everything from clothing to pharmaceutical products to computer equipment. Most recently, PNNL has been recognized for award-winning technologies that will enhance drug discovery, treat cancer with fewer side effects, and advance the capabilities of sophisticated analytical instruments for biological and biomedical research.

The Federal Laboratory Consortium is honoring PNNL with three 2004 Excellence in Technology Transfer Awards for these technologies, which are among 24 awards being issued nationwide by the FLC this year. With a total of 57 awards, PNNL has been honored by the FLC more than any other federal laboratory since the recognition program began in 1984.

**Pacific Northwest
National Laboratory**
Operated by Battelle for the
U.S. Department of Energy



For almost 40 years, *R&D Magazine* has honored inventors by identifying the 100 most technologically significant products and advancements each year and recognizing the winning innovators and their organizations. Pacific Northwest National Laboratory has received 62 of these coveted R&D 100 Awards since the lab began submitting entries in 1969.

Avenues for partnering with PNNL

PNNL has a variety of contract vehicles in place to facilitate businesses working with the laboratory. Battelle, operator of PNNL, can also work directly with industry from the Richland, WA site.

PNNL maintains an active intellectual property licensing program. Each year approximately 250 invention disclosures are received from laboratory R&D staff, many of which are converted into patent applications and software copyrights. With an array of technologies available in portfolios ranging from biomedical materials to renewable energy sources, PNNL's intellectual property portfolio reflects the lab's signature areas of research: systems biology and biotechnology, chemical science and catalysis, high-end computing, environmental sciences, integrated energy systems, radiological and nuclear science, and information analytics.

| Type of Agreement | Description | Protection of Information | Intellectual Property |
|---|---|---|--|
| CRADA - Cooperative Research and Development Agreement | Cost-shared collaboration with industry for R&D activities of mutual benefit | May protect information for up to 5 years; proprietary data protected | Each party retains title to own inventions. Option for royalty-bearing exclusive license to industry |
| Contract Work with Battelle | Permits industry, government agencies, and non-profits to directly sponsor work | Data rights negotiable, but generally fully proprietary | Negotiable, but for contracts >50K an option to negotiate is usually provided |
| User Facilities Agreement | Provides access to certain dedicated DOE laboratory facilities | Proprietary and nonproprietary agreements possible | User inventions go to the user |
| License Agreements | Granting of rights to practice IP | Confidentiality commonly included in agreements | Both non-exclusive & exclusive rights generally available |
| Small Business Assistance | 1-week of PNNL funded labor support | Partner's information can be protected | Option for partner to license provided |

Moving science from the national laboratory to commercial use is one mission of PNNL. Battelle (which operates PNNL and co-manages three other national laboratories) has formed an independent venture capital fund, Battelle Ventures, which is focused on taking promising Battelle-affiliated technologies to the marketplace. Battelle and these national labs are at the leading edge in many areas of science and technology, and Battelle Ventures is focused on making these early-stage technologies accessible to the marketplace.

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