

## **Pacific Northwest National Laboratory Delivering Transformational Science and Technology**

**Intro:** *Narrator speaking in a firm, authoritative tone.*

*(Images of people walking and wearing masks to protect themselves from an avian flu virus, man at airport getting scanned by security personnel, high prices at gas pumps, and fuel truck)*

*(Images of security camera, windmill farm, agricultural sprinkler, scientist working in lab)*

**Narrator:** We live in a time of many challenges and we are standing at a crossroads.

*(Images of outline of Washington State on map with the location of Tri-Cities, aerial view of the Cable Bridge, housing communities next to the river, aerial view of the Yakima river, view of desert hill tops, housing community)*

**Narrator:** We live in a time of many challenges and we are standing at a crossroads. As a nation we must find the resolve to focus on outcomes--threat reduction, energy independence, environmental sustainability, science and technology to keep the nation competitive.

*(aerial views of Pacific Northwest National Laboratory, PNNL sign, Auditorium and cooling ponds, Laboratory staff talking, researchers addressing scientific matters at computer )*

**Narrator:** Cutting through Eastern Washington's diverse landscape, the Columbia, Snake, and Yakima Rivers present the ideal setting for the communities that line their shores.

This region has attracted scientists and engineers from around the globe, not only for its natural and scientific characteristics but for the high quality lifestyle it provides.

*(Researchers next to their technology looking at camera, picture of technology equipment, researcher crouching on ground looking at robotic technology)*

**Narrator:** Here, as part of the Department of Energy's national laboratory system, Pacific Northwest National Laboratory cultivates interdisciplinary collaborations to advance scientific frontiers and lead the world in discoveries and solutions to address the most complex challenges of our time.

*(Head shot of Steve Ashby with windows in background)*

**Steve Ashby—Deputy Director, Science & Technology:** If you really want to have an impact and do something that's nationally important that is going to matter there's very few places that you can make that kind of difference and this is one of them. I think our ability to contribute is limited only by our imagination.

*(Image of (oil rigger moving, smokestacks, dam )*

**Narrator:** The Laboratory is helping to develop ways to reduce the environmental impact of today's energy sources while helping shift our nation to more domestic, renewable energy resources.

*(Head shot of Mike Davis with metal stairwell in background)*

*(Images of researcher working with solution, researcher studying images of cells on computer)*

*(Back to head shot of Mike Davis with metal stairwell in background)*

**Mike Davis—Associate Laboratory Director, Energy and Environment Directorate:** Imagine a world where we have abundant, home-grown energy, all in a way that's sustainable for our environment. We're doing work that will in fact enable that future.

*(Different shots of person standing inside glass machine called "Intellifit," researcher with monitoring equipment with handheld device, close-up of handheld device)*

**Narrator:** Today, innovative systems developed at PNNL are being applied throughout the world, protecting our nation, our communities and our families.

*(Head shot of Jim Thomas with screen in background portraying visual analytics on screen)  
Image of military personnel outside with computer and technology devices, close-up of military personnel geared up, close-up of technology device)*

**Jim Thomas—Director, National Visualization and Analytics Center:** One of the things that I'm working on now is developing a whole new field of science called visual analytics. We're building technology to both help the first responders and work on natural disasters as well as help prevent terrorism here in the U.S.

*(Person holding device and scanning train cargo)*

*(Full shot of Bill Cliff standing at RPMP)*

*(Head shot of Bill cliff with RPMP equipment in background)*

*(Staff member conducting training in classroom)*

*(Back to head shot of Bill Cliff)*

**Bill Cliff—Manager, International Border Security Training:** Our tools, technology, and the materials that we provide are used around the world as the basis for training in the foreign countries. We're making the world safer, and that's a good feeling.

*(Image of technology equipment capturing people walking at an event, images that show the analytics of the technology)*

*(Image of Barry Merrill sitting in chair turned and facing camera inside the coliseum)*

**Barry Merrill—Associate Laboratory Director, National Security Directorate:** We work on things that are impactful, taking on the challenges of today and the threats of tomorrow.

*(Image of researcher collecting data with equipment along the river, close-up of researcher, another researcher with desert and building in background, PNNL plane, sky with clouds and sun peeking through)*

**Narrator:** Environmental research at the Laboratory is being used to protect water sources, clean-up underground contamination, and reduce greenhouse gases in the atmosphere in an effort to reduce the impact of energy consumption on the planet.

*(Image of instrument, researcher standing with instrument turned toward the camera)*

*(Ruby Leung, outside with desert background)*

**Ruby Leung—Laboratory Fellow, Fundamental & Computational Sciences:** At PNNL we really have a great team of people working on both instrument development as well as people doing extra modeling and we work very closely together. I hope that in the future we can understand this much better so that we can provide information for decision makers.

*(Brad Fritz examining water sample in container)*

*(Another image of Brad with desert and building in background)*

*(Brad Fritz and two other researchers talking)*

**Brad Fritz—Engineer, Energy & Environment:** I think the opportunity to work on things that are really advancing the frontiers of science makes it exciting and makes it worthwhile to wake up every day and come in to work.

*(Image of instrument, researcher at equipment, molecular image, biological image, two researchers at computers turned facing camera)*

**Narrator:** Through fundamental research, PNNL scientists generate new insights and tools in the molecular, environmental, biological, and computational sciences.

*(Head shot of Douglas Ray, subtle background inside)*

*(Researchers in lab, turned facing camera)*

*(Researcher sitting in front of round, glass scanning machine)*

**Douglas Ray—Director, Fundamental & Computational Sciences:** We look for people who have a passion behind building and developing new transformational tools to further advance science and to discover new solutions to the challenges of the future.

*(Head shot of Karin Rodland, stairwell background)*

*(Researcher holding small piece and placing inside equipment)*

*(Image of a mass spectrometer)*

**Karin Rodland—Laboratory Fellow, Fundamental & Computational Sciences:** In biology there is always a question that you want to answer but you can't because you don't have the tool. What we do at PNNL is we invent the tool to answer the question.

*(Longer distance shot of Mike Kluse, standing next to cooling ponds)*

*(Closer shot of Mike Kluse standing next to cooling ponds)*

*(Mike Kluse inside, soft background)*

**Mike Kluse—Laboratory Director:** This Laboratory provides tremendous opportunity to new scientists who really want to do world class science and then see that science be applied to some of the country's most significant challenges.

*(Two researchers standing in a glass stairwell, Steve Ashby standing with arms folded with large paned window in background, Douglas Ray standing in rooms of multiple stations that construct the supercomputer, staff collaborating in a meeting, Bill Cliff with arms crossed, RPMP equipment in background, staff members standing next to PNNL airplane, staff in collaborative environment looking at camera )*

**Narrator:** In this time of grand challenges, Pacific Northwest National Laboratory is advancing the science and technology to solve the complex problems of our time through our constant focus on outcomes. We're finding solutions to make the world a better place—now—and for our future.