



Pacific Northwest
NATIONAL LABORATORY

Proudly Operated by **Battelle** Since 1965

Pacific Northwest National Laboratory Overview

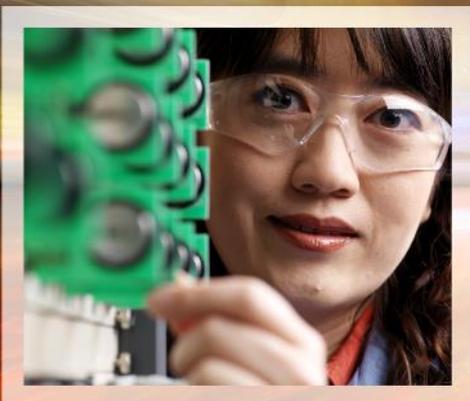
Welcome International Workshop on Heavy Quarkonium

STEVE ASHBY
Laboratory Director

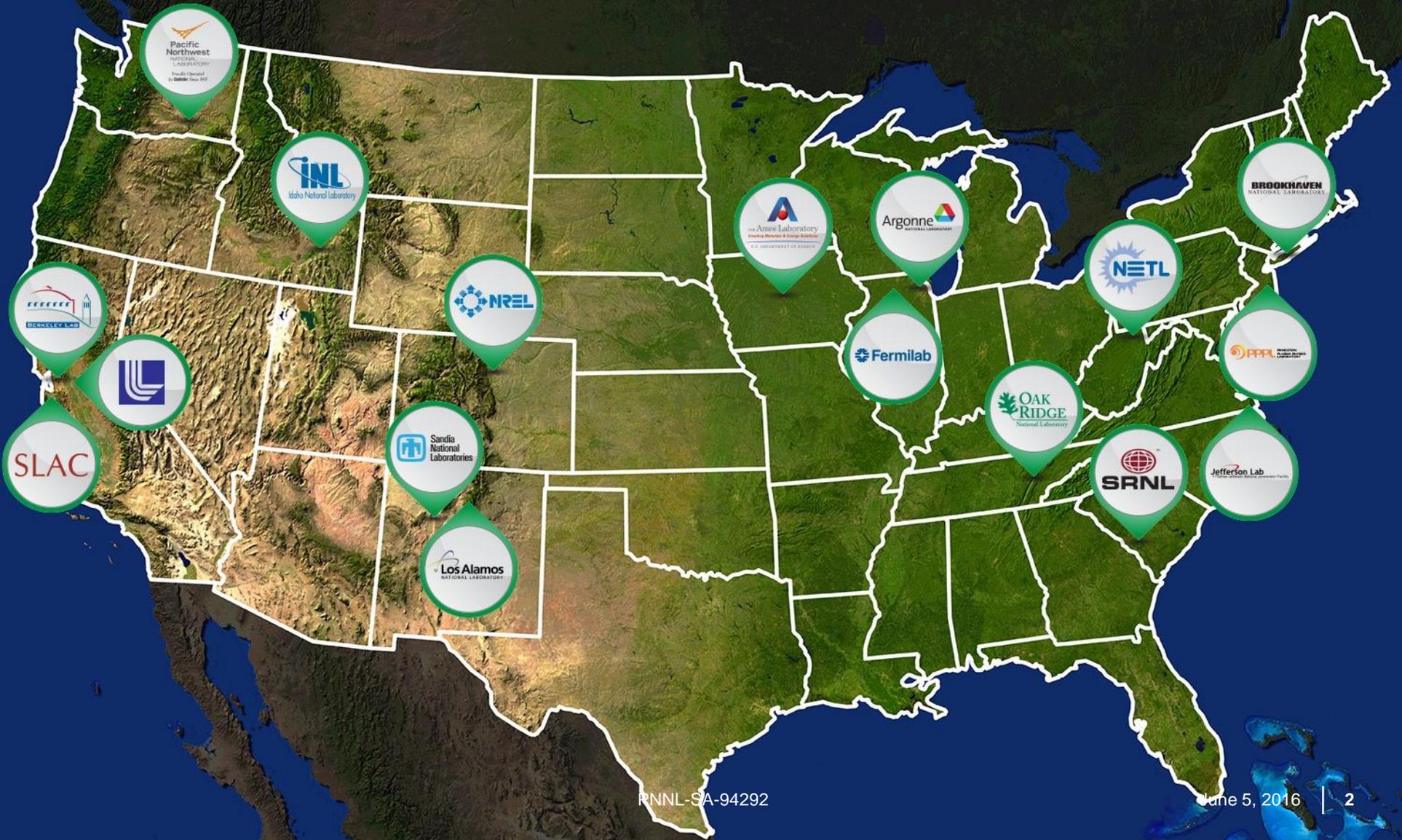
June 6, 2016

DISCOVERY

in Action



The Dept. of Energy national laboratory system addresses important challenges



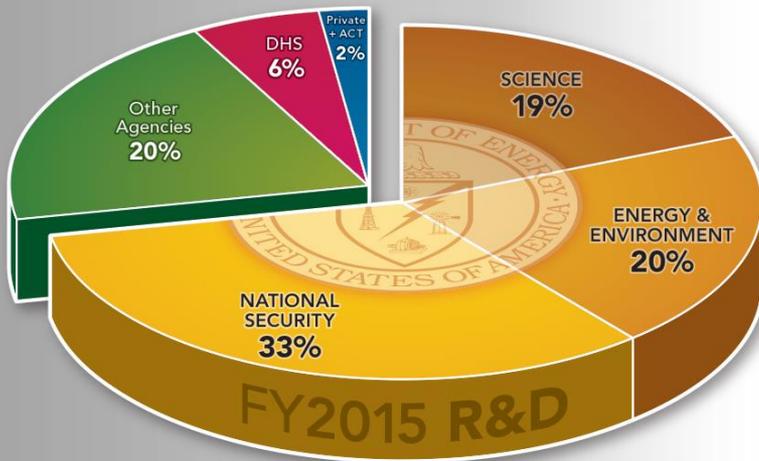


PNNL at a Glance

FY15 Facts

- ▶ \$955 million in R&D expenditures
- ▶ 4,400 scientists, engineers and support professionals
- ▶ 78 U.S. & foreign patents granted
- ▶ 2 FLC Awards, 5 R&D 100 Awards
- ▶ 1,048 peer-reviewed publications

- ▶ Mission-driven collaborations with government, academia and industry
- ▶ Operated by Battelle since 1965
- ▶ A premier chemistry, environmental sciences and data analytics laboratory



PNNL Science Vision: *Understand, Predict and Control the Behavior of Complex Adaptive Systems*

EARTH

Sustainability,
adaptation, resilience

ENERGY

Clean energy and
electricity management

SECURITY

Global threat detection
and protection

Scientific discovery and technological innovation

PNNL leverages a strong science base to provide national leadership



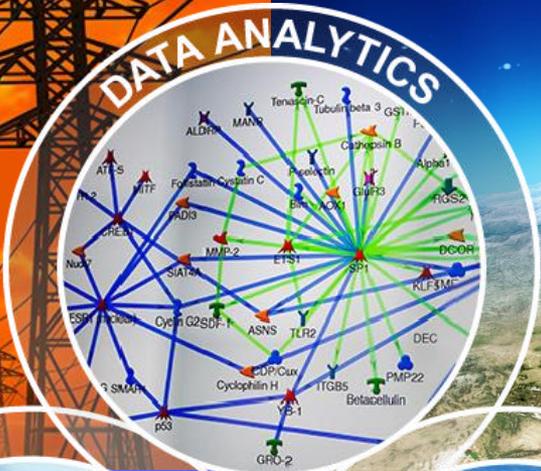
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Grid

Climate



Nonproliferation

Remediation

Unique and diverse facilities are key to delivering national and global impact



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**Environmental Molecular
Sciences Laboratory**



Physical Sciences Facility



Systems Engineering Building



**Marine Sciences Laboratory
(Sequim Bay)**



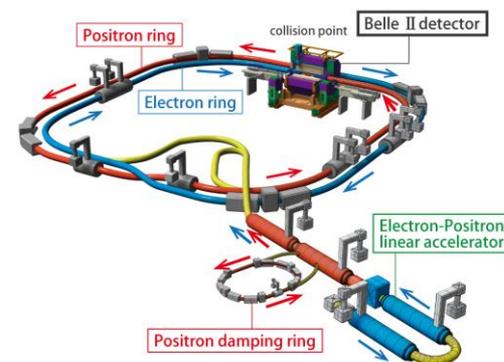
**Radiochemical Processing
Laboratory**



**Bioproducts, Sciences, and
Engineering Laboratory
(WSU-TC campus)**

Belle II – an unprecedented experiment

- ▶ Goal: discover new particles and phenomena beyond the Standard Model of particle physics
- ▶ Belle II detector will record electron-positron collisions from Japan's SuperKEKB accelerator
- ▶ Collaboration among 600+ physicists from 99 institutes in 23 countries
- ▶ 50x the data volume, 40x rate of collisions relative to previous Belle experiment
- ▶ PNNL led U.S. (DOE) contribution to Belle II detector construction – now complete
- ▶ Largest ever U.S. science investment in Japan
 - More Ph.D. physicists (50) and more institutions (14) than any other country



SuperKEKB accelerator



Belle II detector



We Welcome You!