

A hand holding a pen over a molecular model. The background is a blurred image of a hand holding a pen over a molecular model, with a blue and yellow color scheme.

Asia Development Bank Partnership Forum: Innovation for Resilient and Smart Communities

Gerald Hane, Ph.D.

Collaboration for Innovation Success

May 20, 2015

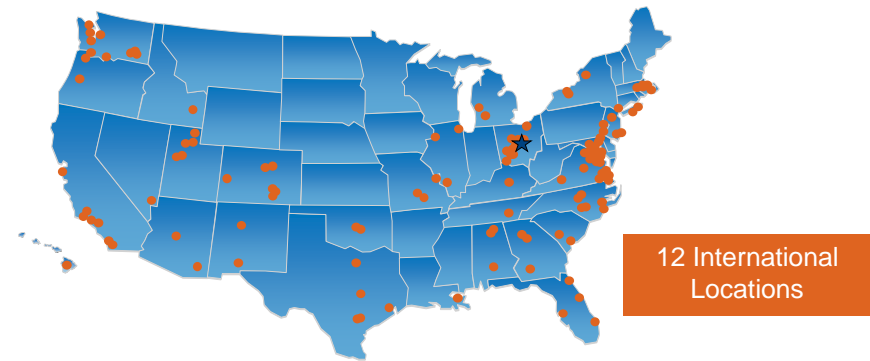
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Battelle Memorial Institute

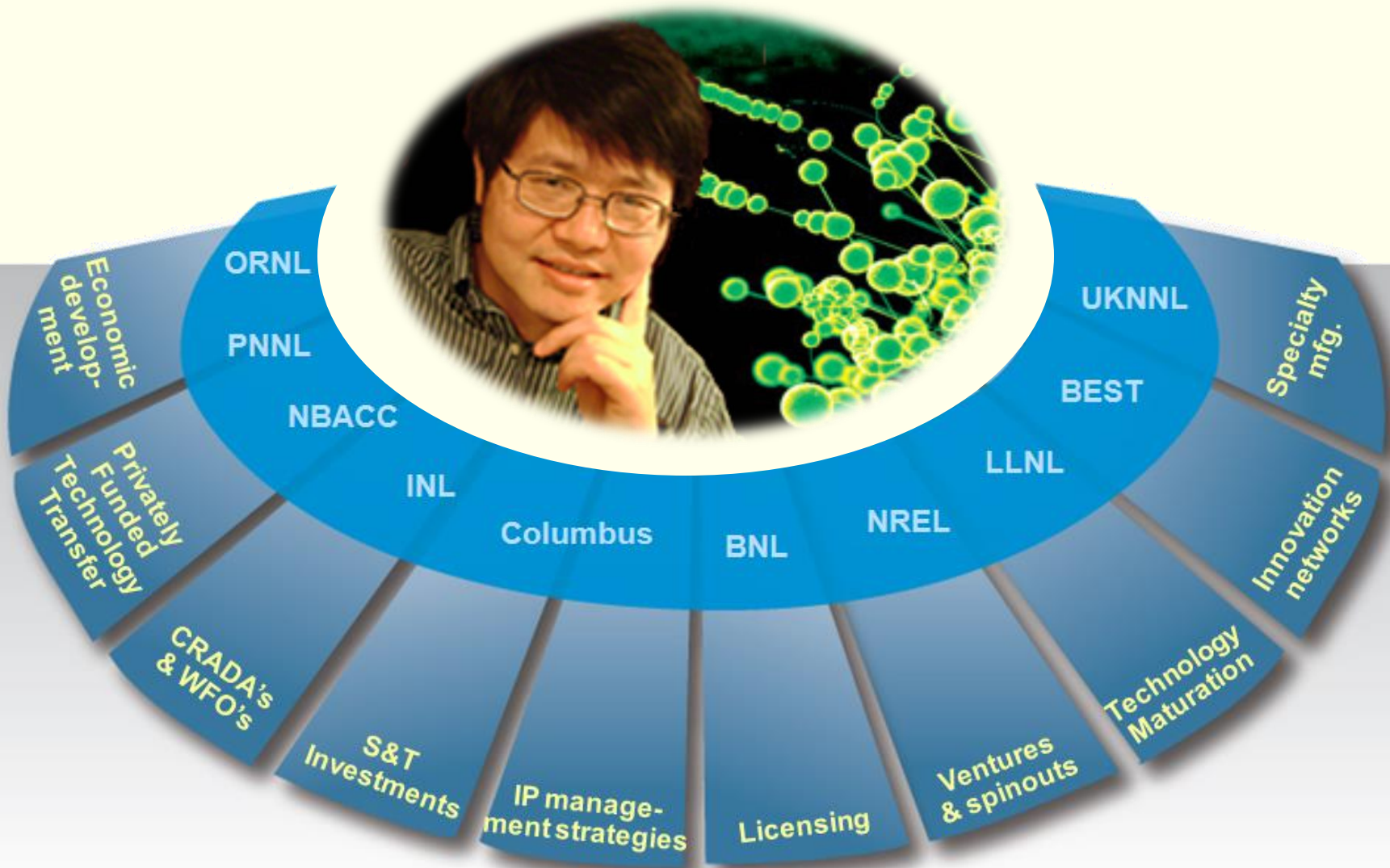
- Global enterprise
 - Applying science and technology to real-world problems
 - Managing machinery of scientific discovery and innovation
 - Creating commercial value by bringing new technologies to international marketplace
 - International leader in STEM education
- Non-profit, charitable trust formed by the Will of Gordon Battelle in 1929



- Generates \$6 billion annually in global R&D
- Oversees 20,000 employees in 130 locations worldwide



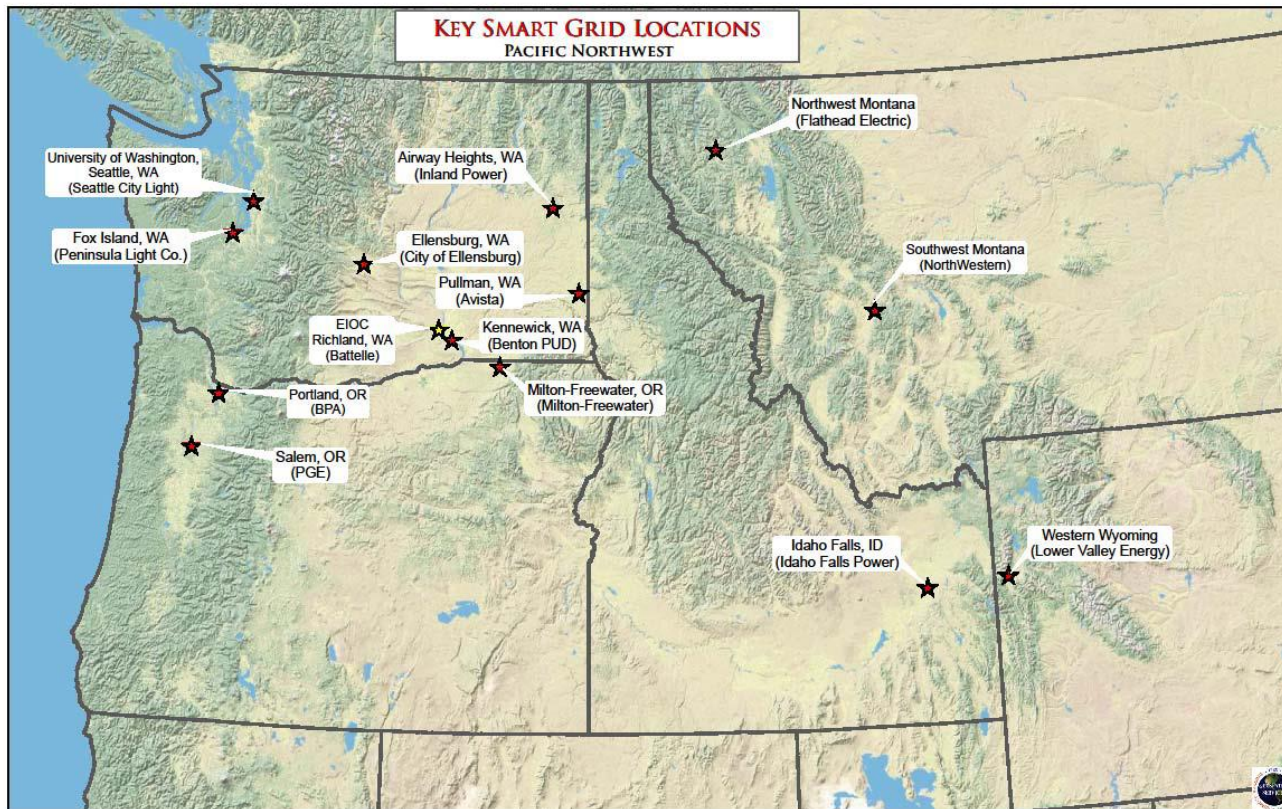
Bringing innovations to markets - surrounding inventors and inventions with an *innovation ecosystem*



Battelle Commercialization Council – Refining Best Practices at All Labs



Battelle – PNNL US DOE Smart Grid Demonstration Project



- PNNL - \$177.6 million (\$88.8 million DOE funding) PNNL led this project which involved 60,000 consumer sites to demonstrate two-way communications, storage, demand response, interoperability standards, cybersecurity



Pacific Northwest Smart Grid Demonstration Project SUCCESS STORIES

SEPTEMBER 30, 2014



AVISTA

Avista Corporation

Spokane, Washington

- Investor owned utility since 1889
- 30,000 square-mile service territory
- Serves population of 1.5 million in eastern Washington, northern Idaho and eastern Oregon
- Electricity and gas service
- 359,000 electric customers

Measure	Impact
Voltage optimization	2.5 percent savings
Capacitor bank controls – Automated distribution	42,000 MWH per year (3,500 homes equivalent)
Smart transformers	Reduced capital costs through size optimization
Customer thermostats and aps	Reduced consumption averaged 4.5 – 9 percent
WSU air handlers, chillers and generators	\$150,000 savings/year