



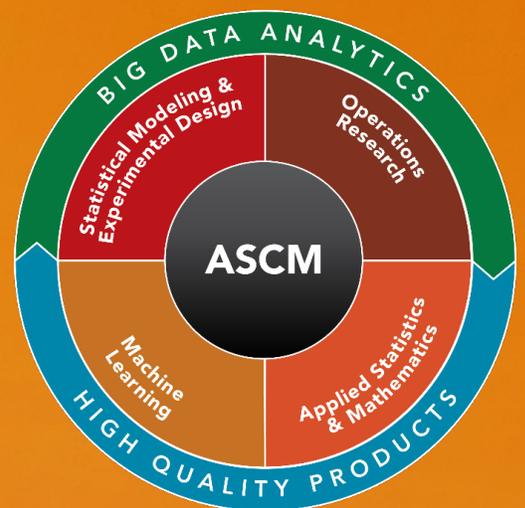
Pacific Northwest
NATIONAL LABORATORY

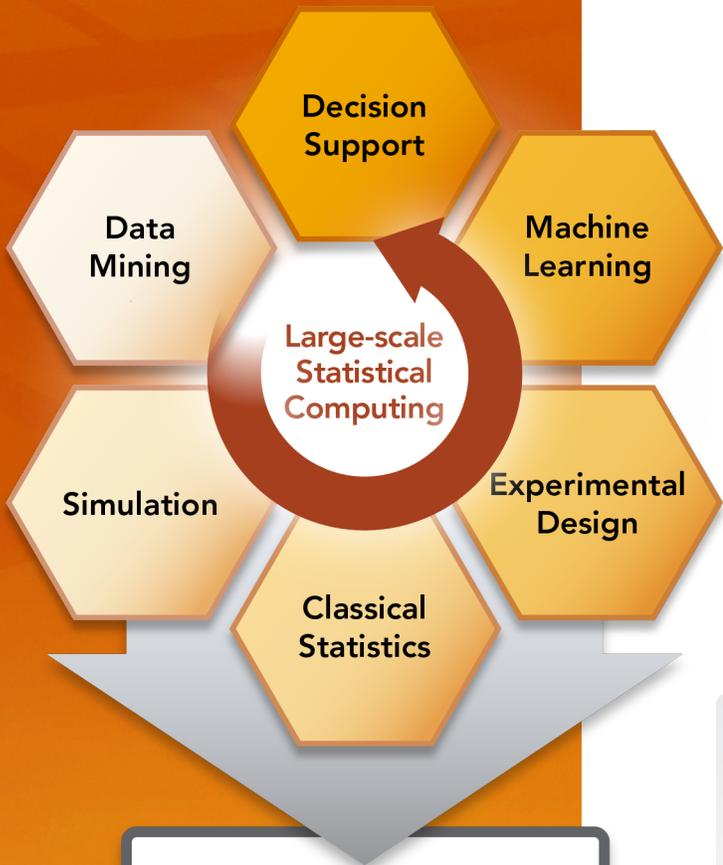
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Applied Statistics & Computational Modeling

Pacific Northwest National Laboratory (PNNL) is home to one of the largest and most accomplished teams of statisticians and computational modelers in the U.S. Department of Energy complex of national laboratories. The Applied Statistics & Computational Modeling (ASCM) group uses the foundations of statistical and mathematical theory to develop high quality and defensible methods and applications to address critical scientific challenges in national security, energy, environment and fundamental sciences. In many cases, our research is deployed across a variety of compute architectures (e.g., public/private clouds, as well as supercomputers) to support big data analytics problems.

- » **Applied Statistics & Mathematics:** Focusing on collecting and interpreting data in a manner that ensures defensible results through application of foundations of statistical and mathematical theory and the development of new methodologies.
- » **Machine Learning:** Advancing the field of machine learning through fundamental research in Bayesian and computational statistics, feature extraction, data integration, combinatorics, and game/control theory.
- » **Statistical Modeling & Experimental Design:** Developing statistical designs, models, and tools to ensure the right type, quality, and quantity of data are gathered to support confident decisions and accurate conclusions, even when faced with error-prone and uncertain data.





Science & Technology Leadership and Support

- Cybersecurity
- Portal Monitoring
- Biosurveillance
- Biomarkers
- Bio-remediation
- Bio/Chem-forensics
- Future Power Grid
- High-energy Physics

» **Operations Research:** Supporting data-driven policy and informed decision making through the development and application of mathematical programming and optimization, modeling and simulation, network analysis, and decision-support methods.

ABOUT PNNL

Interdisciplinary teams at PNNL address many of America's most pressing issues in energy, the environment and national security through advances in basic and applied science. Founded in 1965, PNNL employs 4,400 staff and has an annual budget of nearly \$1 billion. It is managed by Battelle for the U.S. Department of Energy's Office of Science.

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