# Resources – Nathan Baker

## Laboratory

Battelle Memorial Institute (BMI) is the world's largest independent research and development organization. Battelle operates the Pacific Northwest National Laboratory (PNNL) in Richland, Washington, for the U.S. Department of Energy. This DOE National Laboratory is operated under a public/private partnership between the federal government and Battelle that permits DOE access to some Battelle facilities for government work and permits Battelle access to some government facilities for private work. This project is computational; please see Office and Computer for relevant facilities.

## Clinical

Not applicable.

## Animal

Not applicable.

## Computer

PNNL has extensive computational capabilities and tools that are available to all aspects of research proposed for the project. A support staff is immediately available to help with computer-related issues (i.e., troubleshooting, and computer resource availability). All offices have full-time and direct access to dedicated computer resources. Additional high-level capabilities include the Graphics and Visualization Laboratory; multimedia, and video production capabilities, and numerous UNIX and PC-based servers. A hierarchical data storage management system specifically designed to store and archive the massive amounts of data produced by researchers and collaborators is also available within PNNL. Additional resources are available as required.

This specific project has several different types of computers available for research. For storage purposes, we have two 5 TB Xserve/XRAID systems which provide redundant copies of lab data. For long-term computational runs, we have a 128-core Intel Xeon cluster with Gigabit interconnect. There are 5 workstations (4 Mac Pros, 1 Mac Mini) for use on software development, data analysis, and simulation setup. Finally, the group has several laptops for use with manuscript preparation and presentations. All computer resources are managed and backed up by central IT services.

## Office

Office space for researchers, collaborators, staff, and postdoctoral fellows is located within the SIGMA complex and Information Sciences Building I (ISB1). Secretarial, word processing, and other support capabilities (e.g., graphics and photography) are available within the buildings and can be utilized on an as-needed basis.

## Other

*Scientific Library, Scientific Journals, Facilities, and Access*. The Hanford Technical Library (HTL), part of PNNL, provides a broad suite of library and information services. Many of the services are provided on-line directly to the offices and laboratories. HTL services include: on-line library catalog, electronic journal access, and on-line subscriptions-based database searching. Electronic journals access is through the DOE shared access to electronic journals; access is shared across PNNL, Los Alamos National Lab, Oak Ridge National Lab, and others. As a result, many hundreds of current journals are available for immediate electronic access. Library searching capabilities are provided either on-line or in person at the HTL located one-half mile from the main PNNL campus.

*On-Site Conference Capabilities*: Research, Dissemination, and Training. PNNL has multiple onsite conference capabilities, including an amphitheatre lecture auditorium (seating ~100 persons) with advanced video and projection capabilities. These facilities can be utilized on an as-needed basis.

*PNNL User Housing Facility*: Collaborative Research and Service. To strengthen its commitment to collaborative research and service, PNNL has completed (May 2001) construction of the Guest House at PNNL; an on-campus centrally located housing facility that is open to collaborators, students, university faculty, researchers, and PNNL staff. The Guest House provides 82 private rooms, and all accommodations provide desks and full computer network access.

## Major equipment

Major equipment in the Baker lab includes the cluster listed above.

The Statistical & Quantitative Science laboratory supports a wide variety of data and information analysis activities. In addition to a variety of analysis software packages and toolboxes, the lab contains server and workstation hardware that provides high-performance computing.

The Visual Analytics laboratory is a special-purpose facility that offers a configurable, multi-platform development, test, demonstration, and production analysis environment, serving both users and developers of visualization and interaction tools being researched and developed at PNNL.

The William R. Wiley Environmental Molecular Sciences laboratory provides substantial parallel computing resources and talents, including a 4,620-core Linux cluster available as needed upon request.