

Chinook – A New Supercomputer Living Life in the Fast Lane

Chinook—a new \$24-million HP supercomputer cluster—is now available to researchers at EMSL, the Environmental Molecular Sciences Laboratory, a Department of Energy national scientific user facility located at Pacific Northwest National Laboratory in Richland, Washington. Through a peer-reviewed proposal process, researchers from around the world can access Chinook in combination with other state-of-the-art instruments housed at EMSL, such as microscopy, mass spectrometry, nuclear magnetic resonance spectroscopy, and subsurface flow and transport capabilities.

The new supercomputer, which replaced EMSL's 11.8-teraflop system in August 2008, will help EMSL users advance research in areas such as aerosol formation, bioremediation, catalysis, climate change, hydrogen storage, and subsurface science to support DOE's missions in energy, environment and national security. Some quick specs on Chinook:

- 163-teraflops of peak performance
- 2,310 computing nodes
- 4,620 Quad-core AMD Barcelona 2.2-gigahertz processors
- 36.96 terabytes of memory
- InfiniBand DDR Interconnect
- 1.3 petabytes of scratch disk space
- 924 gigabytes per second of local disk bandwidth
- 250 terabytes of global file system
- 40 gigabits of network connectivity.



EMSL staff members (from left to right): Gary Skouson, Doug Baxter, and Donyou Wang stand next to Chinook.

Five Easy Steps to Becoming an EMSL User

Want to become an EMSL user and be part of the user facility's unique collaborative environment? All it takes is five easy steps:

1. Contact the EMSL staff member associated with the instrument you wish to use to learn more about the instrument and EMSL. See <http://www.emsl.pnl.gov/capabilities/instrumentList.jsp> for a list of instruments and contacts.
2. Set up an account and submit a proposal via EMSL's User Portal at <https://eusi.emsl.pnl.gov/Portal/>.
3. Stand by while your proposal is processed by EMSL staff.
4. Upon notification of acceptance, visit EMSL to conduct your research or arrange remote use.
5. Following your visit, close out by identifying for disposal or returning to your home institutions any chemical or biological samples, and submit a project summary and any products (e.g., publications or patents) as part of EMSL's terms and conditions. For more information, see <http://www.emsl.pnl.gov/access/process.jsp>.