

UC San Diego

UC San Diego News Center

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SDSC to Host “Summer Institute” Supercomputer Workshop August 6-10

Applicants Asked to Apply by June 8



San Diego Supercomputer Center. Photo: Alan Decker

The San Diego Supercomputer Center (SDSC) at the University of California, San Diego, is expanding upon its successful Gordon Summer Institute program to include both its *Gordon* and *Trestles* supercomputers, with participants invited to focus on specific challenges in their areas of data-intensive research.

The ‘SDSC Summer Institute’ will be held August 6-10 at SDSC. The five-day workshop is designed to familiarize current or potential users with *Gordon’s* unique capabilities for high-performance, data-intensive computing, as well as *Trestles*, a smaller high-performance computing (HPC) cluster which is designed for more modest data-intensive applications.

All current and potential users of SDSC resources are invited to apply, but experience working in a UNIX/Linux environment is essential. Preference will be given to those applicants who have some programming experience (e.g. C/C++, Fortran, R, Python) and a particular computational problem they are trying to solve.



The registration fee for the SDSC Summer Institute is \$150. Scholarships are available to cover on-campus room and board for participants from U.S. academic and non-profit institutions (excluding travel to or from the UC San Diego campus). Applications submitted prior to June

8 have priority for scholarships; notification of acceptance will be provided by June 15. Applications submitted after June 8 will be reviewed and accepted based on availability.

Full details of the workshop and application forms can be found [here](#).

“Participants will have ample time for both hands-on lessons that complement the lectures and opportunities to work on their applications together with SDSC staff,” said Bob Sinkovits, *Gordon’s* applications lead and technical chair of the SDSC Summer Institute.

Topics to be covered in the SDSC Summer Institute include:

- Overview of the *Gordon* and *Trestles* architectures
- Introduction to data-intensive computing
- Developing shared memory applications
- Overview of software, libraries, tools, and compiler options for achieving optimal performance
- Improving I/O performance with flash storage
- Using vSMP (virtual symmetric multiprocessing) nodes for large memory applications
- Visualization
- Developing Science Gateways
- XSEDE allocations process and writing a strong proposal

While both *Gordon* and *Trestles* are fully capable of handling traditional MPI-based, distributed memory workloads, the large physical memory per compute node, fast solid state storage devices and access to a powerful Lustre-based parallel file system make them ideal for data-

intensive and shared memory applications. *Gordon*, the result of a five-year, \$20 million award from the National Science Foundation (NSF), entered production earlier this year. *Trestles*, the result of a \$2.8 million NSF award, went into production in early 2011.

Both systems are part of the NSF's XSEDE (Extreme Science and Engineering Discovery Environment) program, the most advanced collection of integrated digital resources and services in the world.

MEDIA CONTACT

Warren R. Froelich, 858 822-3622, froelich@sdsc.edu

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