UC San Diego
UC San Diego News Center

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# SDSC Announces Summer Supercomputing Program for Undergraduates

## May 18 Application Deadline; Students to Use 'Gordon' Supercomputer

The San Diego Supercomputer Center (SDSC) at the University of California, San Diego has announced a 10-week computational science program to provide a limited number of undergraduate students with paid, hands-on experience using *Gordon*, the center's new data-intensive supercomputer.

Called "*Gordon*: A Data-Intensive Computing Research Experiences for Undergraduates (REU)," the program will focus on application performance analysis and high-performance computing (HPC) systems deployment. Selected students will have the opportunity to work closely with SDSC staff with a range of technical backgrounds (computer science, physics, chemistry, and engineering) and will be expected to actively participate in team meetings. Students also will assist a national allocations committee in deciding which projects should be awarded computer time on *Gordon*.

The ideal REU student should have completed coursework in Electrical Engineering, Computer Science, or a related field at a college or university in the United States. Priority will be given to students who have some programming background in C/C++, FORTRAN, Perl, or Python, and have experience working in a UNIX or Linux environment.

Successful student applications will receive a stipend of $7,500 for a 10-week, full-time summer position, with a start-date to be arranged upon selection. Ideally, students should begin within a few weeks after completion of spring finals to allow sufficient time for completion of the REU project. Selected students also may opt to begin their experience during the academic year. Such arrangements will be coordinated with the mentor upon selection.

Applications are due by Friday, May 18. Interested applicants are asked to send a letter of interest, a resume, and recommendation letter to Diane Baxter, Education Director, San Diego Supercomputer Center at the University of California, San Diego, 9500 Gilman Drive, La Jolla,

CA 92093-0505. Applicants with specific questions about the program can contact Diane Baxter via email at dbaxter@sdsc.edu.

Mentors include Robert Sinkovits, *Gordon's* Applications Lead and director of the REU program. Sinkovits holds a Ph.D. in physics and has been a computational scientist at SDSC for almost 15 years. His work focuses primarily on the development of parallel and highly optimized applications in a variety of domains including computational fluid dynamics, astrophysics, quantum electrodynamics, high-energy physics, structural biology, mass spectroscopy, and molecular dynamics. Sinkovits has authored or co-authored approximately 40 peer-reviewed journal publications plus a number of book chapters and conference proceedings. He is the primary author of the software packages auto3dem and IHRSR++, which are used to determine the structures of icosahedral viruses and helical particles, respectively, from electron microscopy data.

REU students will also work with Pietro Cicotti, a computational scientist at SDSC. Cicotti holds a Ph.D. in computer science from UC San Diego and is a member of both SDSC's Performance Modeling and Characterization Lab (Lab (http://www.sdsc.edu/pmac/) and the *Gordon* Applications team. His primary research interests include aspects of the design of large-scale hardware and software systems for HPC and scientific computing. He is the author of Tarragon, a library for data-flow execution on distributed memory machines, and contributed to the SuperLU DIST package for sparse linear systems and the BOINC platform. Cicotti works with domain experts on the development and optimization of applications in a wide variety of scientific domains.

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