
*Quality research now
– well-trained
employees later*

Do you or your business have a problem in the applied mathematical sciences that you've always been interested in, but never had the time to really look into?

Sponsoring a CAMCOS project is a low-cost, low-risk way to get good work on your problem from a team of some of our best students and a faculty supervisor. As a bonus, when those students graduate, they'll already be trained and ready to go to work for you.



What is CAMCOS?

The Center for Applied Mathematics, Computation, and Statistics (CAMCOS) is the student industrial research program in the Department of Mathematics at San José State University.

When you sponsor a CAMCOS project, you get a team of students and a faculty supervisor to work on a problem of interest to you for as many semesters as you want to support. In the short term, you get quality work done on your problem; in the long run, you get a source of talented potential employees who are already trained in your business.

Recent sponsors include the NASA Ames Research Center and the Intel Corporation. Previous sponsors have included IBM and Hewlett-Packard.

CAMCOS CENTER FOR APPLIED MATHEMATICS, COMPUTATION, AND STATISTICS

Department of Mathematics
San José State University
San José, CA 95192-0103
Email: camcos@math.sjsu.edu
www.math.sjsu.edu/camcos
Phone: 408-924-5071
Fax: 408-924-5080



*Center for Applied Mathematics,
Computation, and Statistics*

Department of Mathematics
San José State University

The CAMCOS Student Industrial Research Program



For more information, see:
www.math.sjsu.edu/camcos

What we do



The Center for Applied Mathematics, Computation, and Statistics (CAMCOS) is the student industrial research program in the Department of Mathematics at San José State University.

We seek local businesses and government agencies to sponsor student teams that will investigate problems arising from their work.

Our students get valuable industry experience and contact with potential employers. Sponsors get quality work done on their problems, and they also get the opportunity to meet some of our best students (and potential employees) before they graduate.

What you get when you sponsor a CAMCOS project

You supply: Modest financial support and time from a liaison person (a few hours every few weeks).

You get: A full semester's work from a team of 5-8 of our best students (master's degree students and advanced undergraduates), and a faculty supervisor working 40% time on your problem.

Deliverables: A public oral report, a more extensive private written technical report, and software or prototypes when appropriate.

Recent and potential project topics

include: Statistics of all kinds (including time series, regression and extrapolation, survival analysis, statistical bioinformatics, and microarrays); combinatorial optimization and combinatorial algorithm design; partial differential equations; numerical methods, both continuous and discrete; computational linear algebra; and machine learning.

Other faculty research areas include:

Discrete and continuous dynamics, linear algebra, graph theory, mathematical modeling, controls, abstract algebra, number theory.

Recent projects

- **Sponsor:** NASA Ames Research Center, 2002-2003. **Problem:** Given a sequence of discrete detection events ("radiation clicks") over time, partition events into groups of roughly uniform density ("bursts"). **Result:** Provably optimal algorithm that works in real time.
- **Sponsor:** NASA Ames Research Center, Fall 2005. **Problem:** Develop practical implementation of Bayesian methods for "intelligent instrumentation." **Result:** MATLAB prototype for controlling robot helicopter observations.
- **Sponsor:** Intel Corporation, Spring 2006. **Problem:** Extrapolate experimental results on design of heat pipes. **Result:** Several (statistically justified) parameter combinations that should produce improved heat pipes.
- **Sponsor:** NASA Ames Research Center, 2006-2007. **Problem:** Reduce or remove linear-algebraic bottleneck in training set (machine learning) method for finding galaxy redshift from limited data. **Result:** Bottleneck eliminated, allowing use of much larger training sets

