

## UC DAVIS VIGRE PROJECT- MAIN COMPONENTS

- **Research Focus Groups**

Research Focus Groups provide the structure to organize the main activities of the program. Each year three or four groups of faculty members, postdocs, graduate students, and, mainly in the summer, undergraduates, participate in year-long research projects, supported by seminar series, mini-courses, mini-conferences, and discussion groups. The Research Focus Groups coordinate the bulk of the VIGRE activities. Research Focus Groups in 2002-2003 were in Combinatorics, Geometric Topology, Dynamics of Quantum Many-Body Problems, and Applied and Computational Harmonic Analysis. In 2003-4 the Research Focus groups will be Combinatorial Methods in Representation Theory, Applied and Computational Harmonic Analysis (continuing), String Theory and Geometry, and Random Matrices and Statistical Mechanics.

- **Recruitment of Graduate Students**

We are implementing a year-round recruitment plan for graduate students; this culminates in the several-day recruitment meeting at UC Davis for admitted students in April. This year we have over thirty graduate students coming to the April meeting.

- **Mentoring of Postdoctoral Fellows**

The VIGRE postdocs are intensively mentored in research and career development by their sponsoring faculty member. Each postdoc also has a teaching mentor.

- **Exam Preparation Workshops**

The VIGRE participants - faculty, postdocs and graduate students, coordinate a workshop in September (before classes start) for entering and first year graduate students. Workshops feature morning review lectures by faculty and afternoon problems sessions to prepare for preliminary exams.

- **Mini-Grants**

Continuing graduate students must apply for continuation of their VIGRE funding and for summer support. This serves a dual purpose. First, it gives students the opportunity to learn how to report progress on their projects and how to apply for

support. Second, it provides the VIGRE committee with important information about the activities of the RFGs and their participating students.

- **Conference Participation**

We fund VIGRE students and postdocs to travel to conferences to present their work, or just to attend relevant conferences.

- **Internship Facilitation**

We are beginning to implement an internship program for undergraduate, graduate and postdoctoral students.

- **Curriculum Review and Assessment**

Our curriculum review and assessment is ongoing at the undergraduate and graduate level. At the undergraduate level two new major tracks have been approved by the University, in Applied Mathematics and Mathematical and Scientific Computation. The graduate curriculum review is being informed by the feedback from the RFG participants.

- **Outreach and Interaction with Other Programs**

The Department of Mathematics has established ties with several programs that focus on increasing participation of underrepresented groups in the sciences and engineering, or that help members of underrepresented groups prepare themselves for graduate school. An outreach program with a slightly different focus is the COSMOS program, a program for talented high school students funded by the state of California. In summer 2003, one VIGRE graduate fellow will be a TA for the program, and we anticipate that several of the VIGRE undergraduates will participate as mentors as they did in summer 2002.