

The positive slope of mathematics in SACNAS

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The number of mathematics participants at the SACNAS annual conference has been on the rise in the last few years. This increase has been the result of several factors coming together. One of the contributing factors is the availability of summer research programs for undergraduate mathematics students with emphasis on minority students. Programs like the Mathematical and Theoretical Biology Institute (MTBI), the Summer Institute of Mathematics for Undergraduates (SIMU), the ... (RUSIS), and the newly created Applied Mathematical Sciences Summer Institute (AMSSI) have offered research opportunities for minority students over the last 10 years. SACNAS has been involved in facilitating the participation of those students as poster presenters. In 2005, several of the summer research alumni have completed their Ph.D. degrees and are Postdoctoral researchers and assistant professors.

This situation created the perfect environment to increase the number of mathematics participants at the SACNAS annual conference. There was a need to find ways to bring all of those students to SACNAS and to bring a larger number of advanced students, postdocs and professionals to serve as mentors and resources to them. Also, the number and variety of mathematics activities available at the conference had to be increased. Recognizing this need, Dr. Ivelisse Rubio (University of Puerto Rico at Humacao) and Dr. Ricardo Cortez (Tulane University) began a campaign to increase the representation of mathematics at the conference.

The central idea was to complement the commitment of the SACNAS Board members by establishing an effort to raise funds for mathematics activities, maintain a network of participants in previous conferences, and to approach national mathematics organizations to sponsor mathematics activities at the SACNAS conference. The approach is summarized below.

- Dr. Rubio and Dr. Cortez wrote proposals to several funding agencies to sponsor students and speakers. The funding includes membership and registration fees, travel and lodging for at least 75 participants in addition to the ones supported directly by SACNAS. The funding includes grants from the National Security Agency and the National Science Foundation. Professional organizations such as the American Mathematical Society, the Mathematical Sciences Research Institute, and the American Institute of Mathematics were approached to support SACNAS activities through small grants or exhibitor booths.
- Mathematics sessions are organized consistently every year following the rule that at least half of the speakers must be new to SACNAS. This guarantees that the number of mathematics participants increases every year while including familiar faces. Through direct communication using contact lists of summer research programs, participants from previous years were contacted and encouraged to participate in subsequent years.
- The pre-conference activity “Mathematics Institutes” was created to bring students early to the conference and showcase the role of mathematics in areas like bioinformatics, music, coding theory and biology.

- New sessions outside the traditional scientific symposia and professional development have been offered with the purpose of increasing the networking activity, mentoring, and to provide information relevant to participants at the graduate and postgraduate levels. These sessions were organized as special interest forums or receptions.

As a result of these efforts, the number of mathematics participants has increased substantially in the last three years, easily doubled since 2002. In addition, the participants now cover the entire spectrum from undergraduates to graduates to professionals in a more uniform way, providing larger cohorts and a renewed desire to participate actively in traditional and novel activities.