

Pacific Coast Undergraduate Mathematics Conference (PCUMC)

On March 14, 2015, over six hundred students and faculty from colleges and universities across southern California and Nevada descended on the campus of California Lutheran University in Thousand Oaks for the tenth annual Pacific Coast Undergraduate Mathematics Conference (PCUMC). This particular installment of the annual PCUMC was special for at least two reasons. First, it was held on “Super Pi Day,” the date of which can be written as 3.14.15, representing the first five digits of π . Second, in recognition of the one-hundredth anniversary of the Mathematical Association of America (MAA), the conference was held jointly with the MAA's Southern California-Nevada Section. In addition to screenings of the MAA Centennial video, the PCUMC featured π -themed plenary lectures, student poster and talk sessions, and panel discussions, as well as more light-hearted events like the “pi-athon” session in which participants recited the digits of π for the sheer fun of it.



Photo courtesy of Ernie Solheid

outstanding role models and raises awareness about career options and advanced study in the mathematical sciences. In the friendly, supportive atmosphere of the PCUMC, students can make presentations about expository mathematics or about their own work, get to know others who share their interest in mathematics, hear high-quality lectures by senior mathematicians, and attend panel discussions about graduate school and careers. In addition, the PCUMC makes a special attempt to reach out to younger students by including special freshman and sophomore talk sessions.

The granddaddy of all undergraduate mathematics conferences is no doubt the Hudson River Undergraduate Math Conference, which started in 1994 and nowadays draws around four hundred participants each year. In 2003, with a grant from the National Science Foundation (NSF), the MAA started a program called RUMC (Regional Undergraduate Mathematics Conferences), to seed new undergraduate mathematics conferences around the nation. PCUMC got started with funding from this program. Since then PCUMC “has lived up to our expectations and in fact has far exceeded them,” wrote Colin Adams of Williams College in a letter supporting PCUMC for the Mathematics Programs That Make a Difference award. Adams

Since its establishment in 2006, the PCUMC has become an annual event eagerly anticipated by students and faculty in the greater Los Angeles area. The number of participants has grown from 86 in the first year to a high of 650 in 2012. The goal of the PCUMC is to provide support and mentoring to undergraduate students who are the future members of the mathematical community. The conference brings the students into contact with

is a co-principal investigator on the above-mentioned NSF grant and a founder of the Hudson River conference. The high of 650 PCUMC participants in 2012 was to his knowledge “the largest number of participants in any undergraduate mathematics conference that has yet occurred anywhere.” In addition to the support from the MAA, PCUMC has received its own grants from the NSF, as well as funding from the National Security Agency and the Raytheon Company.

Held on the second Saturday of March, PCUMC rotates around institutions in the greater Los Angeles area and has been held at Occidental College, Loyola Marymount University, Pepperdine University, UC Riverside, Cal Poly Pomona, and California Lutheran University. Since its inception, the PCUMC has attracted over 2,400 participants and featured almost 400 student speakers representing 123 different institutions.

The conference puts special emphasis on bringing in women students and students who are members of underrepresented minorities. Close to 1,000 PCUMC participants have been women, 582 have been Latino/a or Hispanic, and 82 have been black or African American. PCUMC has developed strong ties with Hispanic-serving institutions and community colleges in southern California. One of the most important benefits of PCUMC is that it allows students to forge bonds with others who share their interest in mathematics—and such bonds can be especially important for students from underrepresented minorities. Often these students come from backgrounds where there is little support for pursuing higher degrees and where they are seen as unusual for their interest in mathematics. For such students to attend PCUMC and make contact with others like themselves causes a profound change in their outlook—they really view themselves as part of the mathematical community.

PCUMC not only has a direct positive impact on the students who attend. It also brings benefits to their institutions. Dana Clahane of Fullerton College first participated in PCUMC in 2010, when he brought a group of thirty students. “The response was nothing but long-lasting enthusiasm by the students who attended,” he wrote in a letter supporting PCUMC’s nomination for the award. “Attendance at our colloquia has ballooned since then ranging from ten to one hundred students and faculty each week, usually averaging approximately twenty-five.... PCUMC should be thanked for this miracle.” Since 2010 Fullerton College has been a major participant in PCUMC. A majority of Fullerton students attending the conference have been women and members of underrepresented minorities. Most Fullerton participants are actually not mathematics majors. And this points to another positive feature of PCUMC: It helps cultivate in those who do not specialize in mathematics an appreciation of the beauty and usefulness of the subject.

PCUMC Directors: Alissa S. Crans, Loyola Marymount University, and Kendra Killpatrick, Pepperdine University