2021 Mathematics Programs That Make a Difference Award

The American Mathematical Society, through its Committee on the Profession, is pleased to recognize **MSRI-UP** with the 2021 Mathematics Programs That Make a Difference Award.

MSRI-UP directors Duane Cooper, Suzanne Weekes, Federico Ardila, Maria Mercedes Franco, and Rebecca Garcia at the Joint Math Meetings 2020.

MSRI-UP is a pioneering program that introduces undergraduate students from historically underrepresented groups to mathematical research, with the longer-term goal of increasing their participation and success in graduate programs. Funded by the National Science Foundation and, more recently, the Sloan Foundation, MSRI-UP has been active since 2007, and over 200 alumni have completed the program. During this period, MSRI-UP has forged a community for the participants, and many students have continued on to success in graduate school and beyond. MSRI-UP meets all three criteria for the Mathematics Programs That Make a Difference Award: It is contributing to an increase of students from historically underrepresented groups that receive advanced mathematical degrees, has had documented success, and is a replicable model.

The MSRI-UP program is centered around a six-week immersive summer program designed to expose and introduce undergraduate students to mathematical research. Each summer program is focused on an advanced topic in mathematics, and activities include lectures and colloquium talks by leading researchers, working together in small groups on specific research topics, writing a technical report, and ultimately presenting the findings to the group and research staff. To create a strong community, the students live together on the University of California, Berkeley, campus during the summer program. More informal activities during the summer program include lunch meetings with researchers and alumni for career advice and mentoring. After the summer program is over, the students are offered an opportunity to attend a national mathematics or science conference with the possibility of presenting their work. MSRI-UP also has a peer mentoring program, and alumni of the program are offered the chance to join a network of mentors. The students that are selected for MSRI-UP often lack role models who are active in mathematical research and would have been unlikely to pursue advanced mathematical degrees without their participation in the program. MSRI-UP has had remarkable success in having their alumni go on to graduate school, with a percentage that significantly outperforms the national average.

MSRI-UP, with its inspirational lectures and committed research staff and leadership, has had a significant impact on its alumni's career choices and trajectories. Alumni comments (from the nomination) include: "My experience at the MSRI has made an immeasurable impact on my career as well as the career of many of my colleagues. … I was completely unaware of the opportunities that were available to me until I met my mentors at the MSRI." "MSRI-UP has been a career-changing program for me. I first participated in it as an undergraduate student and met many colleagues and mentors that motivated me to go to graduate school and become a professor." "MSRI-UP was a great experience for me. … Being at MSRI made me feel

like a real mathematician—here I was, doing mathematical research at a prestigious math institute where many of the greatest minds have done work. The mentorship I received there has been invaluable."

The AMS commends MSRI-UP for its success in bringing more persons from historically underrepresented groups into graduate programs and the mathematical profession.

About the Program

MSRI-UP is a program designed to increase the representation of historically underrepresented groups in the mathematical profession. It aims to introduce advanced undergraduate students from such groups to advanced topics in mathematics and mathematical research. The main component is a six-week fully immersive summer program for a cohort of eighteen students. The students form a community by living and having their meals together. In addition to lectures and research activities during the program, there is also ample opportunity for mentoring and networking with their peers and research mathematicians. In its thirteen-year history, a total of 205 students have participated; of these, 88% were from underrepresented minorities and 46% were women. Of the alumni that have graduated, 85% have continued on to a graduate program, a percentage that is well above the national average.

MSRI-UP was started in 2007 by R. Cortez (Tulane University), D. Cooper (Morehouse College), H. Medina (Loyola Marymount University), I. Rubio (University of Puerto Rico), and S. Weekes (Worcester Polytechnic Institute). The leadership has remained a total of five codirectors, but with shifting membership. The program has a rotating lead director with a one-year term chosen from among the codirectors. The current set of codirectors comprises F. Ardila (San Francisco State University), M. Franco (Queensborough Community College–CUNY), R. Garcia (Sam Houston State University), D. Cooper (Morehouse College), and S. Weekes (Worcester Polytechnic Institute).

About the Award

In 2005, the American Mathematical Society, acting upon the recommendation of its Committee on the Profession, established the Mathematics Programs That Make a Difference Award in order to profile those programs that are succeeding and could serve as a model for others. Specifically, the committee seeks to honor programs that:

1. aim to bring more persons from underrepresented minority backgrounds into some portion of the pipeline beginning at the undergraduate level and leading to an advanced degree in mathematics and professional success, or retain them once in the pipeline;
2. have achieved documentable success in doing so; and
3. are replicable models.

Preference is given to programs with significant participation by underrepresented minorities.

This recognition includes an award of US$1,000 provided by the Mark Green and Kathryn Kert Green Fund for Inclusion and Diversity.

For a list of previous recipients of the Mathematics Programs That Make a Difference Award, see the AMS website at `www.ams.org/make-a-diff-award`.

Credits

Photo is courtesy of Suzanne Weekes.