

The 2018 Mathematics Programs That Make a Difference Award

The COUGARS AND HOUSTON AREA MATH PROGRAM (CHAMP) is the recipient of the 2018 Mathematics Programs That Make a Difference Award. See a profile of the Program, its challenges and successes on page 572.

Citation

The American Mathematical Society is pleased to announce that the 2018 Mathematics Programs That Make a Difference Award goes to The Cougars and Houston Area Math Program (CHAMP).

CHAMP is a Mathematics and STEM outreach program for high school and middle school students from underserved communities surrounding the University of Houston (UH), directed by Dr. Mark Tomforde. Started in Fall 2013, CHAMP runs throughout the academic year and has three main goals: encouraging participating high school students to graduate from high school, attend college, and consider majoring in a STEM field.

Volunteer UH tutors, who include a mix of UH Math majors and prospective high school teachers in training, run these tutorial sessions. In addition, UH admission officers meet with CHAMP participants to encourage them to go to college, preferably in a STEM field.

The demographics of CHAMP participants in its first four semesters are impressive: 89 total, of whom 81 are African American and 8 are Hispanic; 58 are female.

Most of the early CHAMP participants are from Hope Academy, which was a high school in Houston's Third Ward district and had a student body that was 95% African-American. In the past two years, CHAMP has expanded to serve KIPP Sunnyside High School, KIPP Liberation Middle School, and Ryan Middle School in the Houston Independent School District. In addition to weekly tutoring for high school and middle school students, each semester CHAMP runs a Middle School Math Day that brings middle school students to the University of Houston campus for a Saturday of math activities combined with opportunities to learn about college.

The CHAMP program has also made an impact on the professional plans for its tutors, nearly half of whom are from under-represented groups. Former tutor Zachary Garvey (now a graduate student at Dartmouth) writes, "My participation in CHAMP greatly helped me to cultivate a passion for education and outreach (and even mathematics) that had previously been only cursory. This has also



Mark Tomforde, director and founder of the CHAMP Program.

naturally contributed to my decision to attend graduate school for mathematics."

About the Program

The program's director and founder, Dr. Mark Tomforde of the University of Houston's Department of Mathematics, made a counterintuitive choice when establishing CHAMP in 2013. Rather than seeking out significant grant or nonprofit support—with all the time-consuming administrative requirements and record keeping that entails—he elected to develop his program on a shoestring budget, relying on personal donations and unpaid volunteers at first and adding inputs from small grant programs as CHAMP expanded. This decision allowed CHAMP greater



A CHAMP volunteer working with a student at an in-school CHAMP meeting.

flexibility in determining activities and approaches. It also gave Tomforde the ability to focus his time and energy on identifying enthusiastic volunteer instructors and tutors to work one-on-one with the small groups of students from local schools.

This choice has an important short-term payoff: the volunteers themselves gain valuable experience and encouragement to develop their own path in mathematics and STEM by virtue of their contribution—and some make an immediate impact on the diversity of STEM fields. Of the 40 volunteers participating in CHAMP since 2013, 15 (9 men, 6 women) enrolled in graduate programs in mathematics, and 9 more (8 women, 1 man) became math teachers. Moreover, 6 of the volunteers who went on to become math teachers were ethnic minorities, enabling them to be role models to their minority students.

As it expands, CHAMP faces expenses related to supplies and transportation and will need additional exposure and financial support to continue its services. The American Mathematical Society is delighted to be able to provide both via this award, in recognition of the program's efforts in guiding Houston-area students toward further education and careers in mathematics.

About the Prize

The Mathematics Programs That Make a Difference Award is awarded by the AMS Committee on the Profession.

This Award for Mathematics Programs that Make a Difference was established in 2005 by the AMS's Committee on the Profession to compile and publish a series of profiles of programs that:

- 1) aim to bring more persons from underrepresented backgrounds into some portion of the pipeline beginning at the undergraduate level and leading to advanced degrees 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.

Beginning in 2018, this recognition includes an award of \$1,000.00 provided by the Mark Green and Kathryn Kert Green Fund for Inclusion and Diversity.

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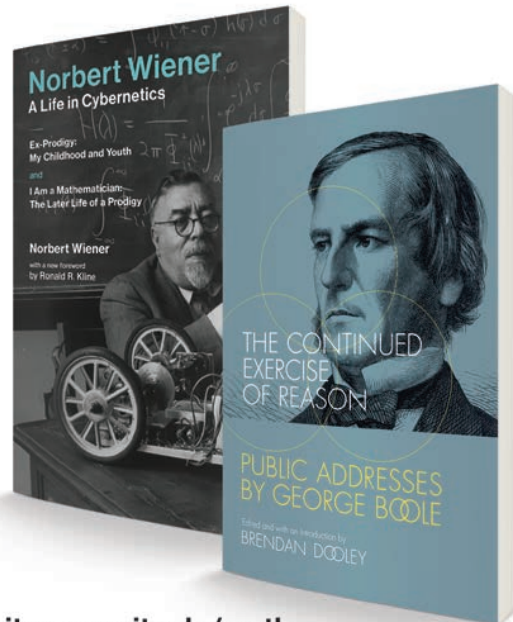
All article photos courtesy of Mark Tomforde.

The 2018 Mathematics Programs That Make a Difference Award is the thirteenth bestowed by the American Mathematical Society. Previous recipients include the National Alliance for Doctoral Studies in the Mathematical Sciences (2017), The Mathematics Department at Morehouse College (2016), and the Center for Undergraduate Research in Mathematics (CURM) at Brigham Young University / Pacific Coast Undergraduate Mathematics Conference (PCUMC) (2015).

For more information, see:

www.ams.org/make-a-diff-award.

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