



PRIMES



MIT PROGRAM FOR RESEARCH IN MATHEMATICS, ENGINEERING, AND SCIENCE
FOR HIGH SCHOOL STUDENTS (WEB.MIT.EDU/PRIMES)

CUMULATIVE REPORT



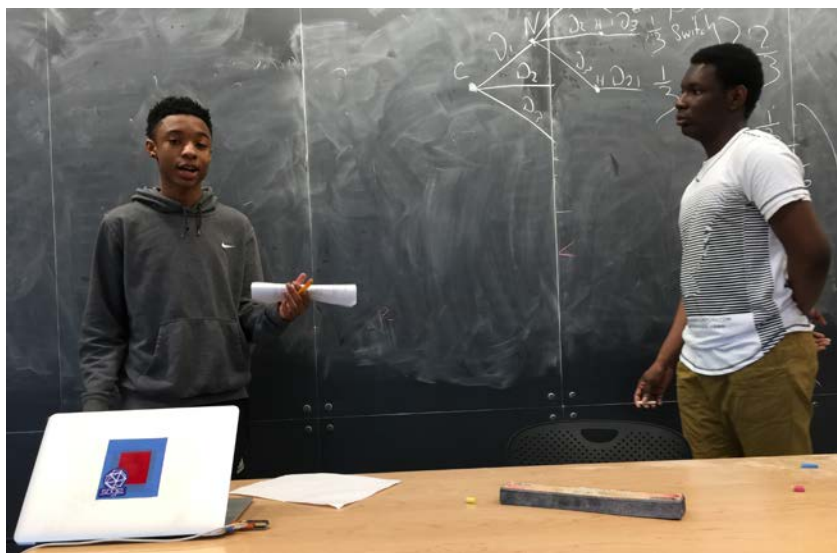
PRIMES students at the Eighth Annual PRIMES conference at MIT, May 2018

MIT PRIMES is a free, year-long after-school research program for high school students, offering projects in mathematics, computer science, and computational biology. This is the only program in the United States that gives students an opportunity to pursue serious research in a university setting at a natural pace, over the period of one year, under the guidance of academic mentors.

- In 2011-2017, **226 research projects** completed by PRIMES students;
- All projects presented at **eight annual PRIMES conferences**;
- **153 research papers** posted online and **29 already published** in *Representation Theory*, *Journal of Algebra*, *J. of Algebraic Combinatorics*, *J. of Combinatorics*, *J. of Integer Sequences*, *Electronic J. of Combinatorics*, *Int. J. of Game Theory*, *Transactions of the AMS*, *College Mathematics Journal*, *Involve*, *Math Horizons*, *Cell Reports*, *Letters in Biomathematics*, *Phys. Rev. E*, and *PLoS Computational Biology*;
- **12 students** received **Outstanding Presentation awards** at MAA Undergraduate Student Poster sessions of Joint Mathematics Meetings;
- **1st, two 3rd, and two 4th Grand Awards** at Intel International Science and Engineering Fair;
- **1st Prize** (\$100K scholarship), **four 2nd Prizes** (\$50K), **two 4th Prizes** (\$30K), **two 5th Prizes** (\$20K), **two national finalists** (\$25K), **28 regional finalists**, and **57 semifinalists** in the Siemens Competition in Math, Science & Technology;
- **1st Place** (\$150K), **three 2nd Places** (\$75K/\$175K), **two 3rd Places** (\$35K/\$50K), **4th Place** (\$40K), **6th Place** (\$80K), **7th Place** (\$70K), **10th Place** (\$20K), **17 national finalists**, and **52 national semifinalists/scholars** in Intel/Regeneron Science Talent Search;
- **4 Davidson Fellow Laureates** (\$50K), **6 Davidson fellows** (\$25K/10K), and **3 honorable mentions**.

PRIMES IN 2018

Currently 56 local PRIMES students are working on individual and group research projects and studying in reading groups in mathematics, computer science, and physical and computational biology. PRIMES-USA, a distance-mentoring research section for out-of-state students, has expanded to 21 students. We have established partnerships with CUNY – City College, Penn State, the University of Illinois at Chicago, UMass Amherst, UMass Lowell, and MathWorks, which provide projects for several PRIMES students. PRIMES Circle, a math enrichment section for students with disadvantaged backgrounds from local high schools, has 14 students (86% female; 14% African-American; 14% Hispanic). The total number of students has reached 91, including 20 girls.



PRIMES Circle students making an expository presentation at MIT, May 2017

SPONSORS

PRIMES acknowledges generous support from MIT Mathematics Department, MIT EECS Department, National Science Foundation, Quanta Computer, MathWorks, EHA Foundation, Webster Foundation, Hamilton Foundation, Rosenbaum Foundation, and individual sponsors. PRIMES is currently seeking funding for the 2019 cycle from sources both within and outside MIT. Please contact PRIMES Program Director Dr. Slava Gerovitch at <primes@math.mit.edu>.

PROGRAM COORDINATORS



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Prof. Srini Devadas, Computer Science



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