



2020 Award for Impact on the Teaching and Learning of Mathematics

Darryl Yong of Harvey Mudd College has been named the recipient of the 2020 AMS Award for Impact on the Teaching and Learning of Mathematics.



Darryl Yong

Citation

Dr. Darryl Yong is a professor of mathematics at Harvey Mudd College, where he also serves as the program director for the Mathematics Clinic. An accomplished mathematician who has written six books and several research papers that have appeared in top applied math and physics journals, Dr. Yong is also a prominent researcher in math education,

with a scholarly focus on active and inquiry-based learning, inclusive pedagogy, and training of high school math teachers.

In 2007, Dr. Yong started a nonprofit professional development organization for math teachers called Math for America Los Angeles (MfA LA). This program has supported over 200 high school math and computer science teachers with multiyear fellowships for salary supplements, in addition to providing professional development opportunities and a supportive community. He is the primary author of four NSF Robert Noyce Scholarship Grants that have raised over US\$12 million for MfA LA. Dr. Yong spent a sabbatical year teaching high school mathematics in the Los Angeles Unified School District, which he wrote about in a 2012 AMS *Notices* article entitled “Adventures in Teaching: A Professor Goes to High School to Learn about Teaching Math.” He has also worked with the Teacher Leadership Program at the IAS/Park City Mathematics Institute since 2007 and has cotaught a math course for elementary and secondary math teachers that led to a book series published by the

AMS containing teacher development materials using a problem-based approach.

At the college level, Dr. Yong has become an expert on inquiry-based learning methods and participated in a four-year controlled study of flipped classroom instruction supported by the NSF, which led to several research articles in conference proceedings and peer-reviewed journals. Dr. Yong is regarded by his colleagues at Harvey Mudd and the other Claremont Colleges as a gifted teacher who will continue to have a profound influence on how students and teachers perceive mathematics. In particular, he was the founding director of the Claremont Colleges Center for Teaching and Learning and served as the associate dean for diversity at Harvey Mudd from 2011 to 2016.

For his many sustainable and replicable contributions to mathematics and mathematics education at both the precollege and college levels, the AMS Committee on Education is delighted to award Dr. Darryl Yong the AMS Award for Impact on the Teaching and Learning of Mathematics.

Biographical Sketch

Darryl Yong earned his BS in mathematics at Harvey Mudd College, where he was also a piano performance major. He then earned a PhD in applied mathematics at the University of Washington under the supervision of Jirair Kevorkian. He served as a von Kármán Instructor at the California Institute of Technology from 2001 to 2003 and has worked at Harvey Mudd College since 2003. At Mudd, Dr. Yong is currently a professor of mathematics, associate dean for diversity and faculty development, and Mathematics Clinic program director.

His previous applied mathematics research focused on multiple-scale analysis of hyperbolic partial differential equations. His scholarly activities now focus on the retention

and professional development of secondary school mathematics teachers and improving undergraduate mathematics education. He is regularly invited to speak and provide professional development for mathematics faculty on the teaching and learning of mathematics, broadening participation in STEM, and helping institutions build capacity for increasing diversity and inclusion.

He received a Caltech ASCIT Teaching Award in 2002, a Pomona Unified School District Community Service Award in 2012, and the Mathematical Association of America Southern California–Nevada Section Teaching Award in 2017.

Response

I am truly honored to receive this award and humbled to be included among the other award recipients. All of the different efforts that were mentioned above (Math for America Los Angeles, IAS/Park City Mathematics Institute, the Claremont Colleges Center for Teaching and Learning, and research projects) are/were collaborative efforts made possible by supportive and wonderful colleagues across many institutions. I am especially grateful to my colleagues at Harvey Mudd College for nominating me and supporting me in my work. And I am grateful to Kenneth I. and Mary Lou Gross and the AMS for their support of mathematics education at the precollege and college levels.

About the Award

The Award for Impact on the Teaching and Learning of Mathematics was established by the AMS Committee on Education (COE) in 2013. The award is given annually to a mathematician (or group of mathematicians) who has made significant contributions of lasting value to mathematics education. Priorities of the award include recognition of (a) accomplished mathematicians who have worked directly with precollege teachers to enhance teachers' impact on mathematics achievement for all students, or (b) sustainable and replicable contributions by mathematicians to improve the mathematics education

of students in the first two years of college. The US\$1,000 award is given annually, and the recipient is selected by the COE. The endowment fund that supports the award was established in 2012 by a contribution from Kenneth I. and Mary Lou Gross in honor of their daughters Laura and Karen. The award is presented by the AMS COE acting on the recommendation of a selection subcommittee. For the 2020 award, the members of the subcommittee were:

- Douglas Ensley
- Michael Dorff
- Jon Wilkening (Chair)

A listing of the previous recipients of the Impact Award can be found on the AMS website at: <https://www.ams.org/ams-awards/impact>.

Credit

Photo of Darryl Yong is courtesy of Harvey Mudd College.

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