2017 Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student

David H. Yang

DAVID H. YANG was awarded the 2017 Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student at the 123rd Annual Meeting of the AMS in Atlanta, Georgia, in January 2017.

Citation

The recipient of the 2017 AMS-MAA-SIAM Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student is David H. Yang for his outstanding research in algebraic geometry. Yang is an author of five papers, with two more in preparation. Three of his papers have appeared or will appear in the *Memoirs of the American Mathematical Society, Journal für die reine und angewandte Mathematik,* and *Research in the Mathematical Sciences.* His letters of support describe his work as truly exceptional. His joint paper with senior collaborators Ein and Lazarsfeld builds on David's earlier single-author work. Starting in his freshman year at MIT, Yang's research was guided by Professors Joe Harris at Harvard and Roman Bezrukavnikov at MIT. Yang has also excelled in contest math. He was a Putnam Competition Fellow for the last three consecutive years. He also won two gold medals in the International Mathematics Olympiad.

Biographical Note

David Yang was born in California, where he spent most of his early childhood. He moved to New Hampshire to attend Phillips Exeter Academy, where he was first exposed to algebraic geometry. After graduating, David matriculated at the Massachusetts Institute of Technology, where he is currently a senior. It was at MIT that David started pursuing research in algebraic geometry. He plans to continue his research after graduating from MIT.

Response from David H. Yang

It is a great honor for me to receive the 2017 Frank and Brennie Morgan Prize. First, I would like to thank my research advisors, Roman Bezrukavnikov and Joe Harris, who have deeply influenced how I view mathematics. I have been fortunate to spend much of my undergraduate career in mathematically stimulating environments, including the vibrant departments of MIT and Harvard and the REU at Emory University, and I am very grateful for the atmosphere that they provided. I would also like to thank many mathematicians who took the time to impart their wisdom to me, including Clark Barwick, Lawrence Ein, Pavel Etingof, Dennis Gaitsgory, Rob Lazarsfeld, Ivan Losev, Davesh Maulik, Bjorn Poonen, and Jason Starr. Finally, I would like to thank my friends and family, whose support has always been vital to my work.

Citation for Honorable Mention: Aaron Landesman

AARON LANDESMAN is recognized with an Honorable Mention for the 2017 Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student. He has authored eight papers in algebraic geometry, number theory, and combinatorics. Three of his papers were accepted in *Annales de l'Institut Fourier, Research in Number Theory*, and *Order.* His work on interpolation of varieties is an important contribution to the area, proving fundamental theorems while introducing new specialization techniques which are expected to be of further use for algebraic geometers. He has already received the Mumford Prize, the Hoopes Prize, and the Friends Prize from Harvard for his undergraduate research. Landesman conducted further research at the Emory and Minnesota Twin Cities REUs. He is currently a PhD student at Stanford, where he enjoys an NSF Graduate Fellowship.

Biographical Note

Aaron Landesman, raised in New York City, is a graduate of Hunter College High School and Harvard University. Aaron is currently pursuing a PhD at Stanford University, focusing on algebraic and arithmetic geometry. His interest in math was piqued at a young age by his father, and together they wrote a book of three-dimensional mazes.

In high school Aaron's passion for mathematics grew through attending MathCamp, math team, and courses at Columbia. In college he concentrated in mathematics, with a secondary degree in computer science. During his summers Aaron conducted math research at the Minnesota Twin Cities REU and the Emory REU. He also enjoys playing chess, solving puzzle hunts, and public speaking.

Response from Aaron Landesman

It is an incredible honor to receive the Honorable Mention for the 2017 AMS-MAA-SIAM Morgan Prize. I would like to thank Mrs. Morgan and the AMS, MAA, and SIAM for awarding this prize and supporting undergraduate research. Many past Morgan Prize winners have had a profound impact on my development, so it is a privilege to be counted among them. I would like to thank my mentors, including Joe Harris and Anand Patel, who advised my senior thesis; David Zureick-Brown and Ken Ono, who advised my research at the Emory REU; and Vic Reiner and Gregg Musiker, who advised me at the Minnesota Twin Cities REU. I extend thanks to all my professors and teachers, particularly Dennis Gaitsgory, Curtis McMullen, Wilfried Schmid, Michael Thaddeus, and Eliza Kuberska. Finally, I would like to thank my friends and family for their support and inspiration.

About the Prize

The Morgan Prize is awarded annually for outstanding research in mathematics by an undergraduate student (or students having submitted joint work). Students in Canada, Mexico, or the United States or its possessions are eligible for consideration for the prize. Established in 1995, the prize was endowed by Mrs. Frank (Brennie) Morgan of Allentown, Pennsylvania, and carries the name of her late husband. The prize is given jointly by the AMS, the Mathematical Association of America (MAA), and the Society for Industrial and Applied Mathematics (SIAM) and carries a cash award of US$1,200.

Recipients of the Morgan Prize are chosen by a joint AMS-MAA-SIAM selection committee. For the 2017 prize, the members of the selection committee were:

- Jacob Fox (Chair)
- Anant P. Godbole
- Steven J. Leon
- Sarah Dianne Olson
- Ken Ono
- Melanie Matchett Wood

The complete list of recipients of the Frank and Brennie Morgan Prize for Outstanding Research in Mathematics by an Undergraduate Student follows.

1995 Kannan Soundararajan
1996 Manjul Bhargava
1998 Jade Vinson (1997)
1999 Daniel Biss
2000 Sean McLaughlin
2001 Jacob Lurie
2002 Ciprian Manolescu
2003 Joshua Greene
2004 Melanie Wood
2005 Reid Barton
2006 Jacob Fox
2007 Daniel Kane
2008 Nathan Kaplan
2009 Aaron Pixton
2010 Scott Duke Kominers
2011 Maria Monks
2012 John Pardon
2013 Fan Wei
2014 Eric Larson
2015 Levent Alpoge
2016 Amol Aggarwal
2017 David Yang

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