

Roya Beheshti Zavareh

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General Information

Born: 1977, Esfahan, Iran

Education

Massachusetts Institute of Technology, Cambridge, Massachusetts.
Ph.D. in Mathematics, 1999-2003

Sharif University of Technology, Tehran, Iran
B.S. in Mathematics, 1995-1999

Research Interests

Algebraic geometry

Positions

- Associate Professor, Washington University in St. Louis, 2013–present
- Assistant Professor, Washington University in St. Louis, 2007–2013
- Postdoctoral Fellow, MSRI, Berkeley, 2006–2007
- Postdoctoral Fellow, Queen's University, Kingston, Canada, 2004–2006
- Postdoctoral Fellow, Max-Planck-Institut für Mathematik, Bonn, Germany, 2003–2004

Grants/Awards

- NSF, Principal Investigator DMS-2101935, 2021–2024, \$203,917
- Classroom innovation grant, Washington U. (Spring 2018)
- NSF, I-70 Algebraic Geometry Symposia (Co-Principal Investigator) 2016–2020
- Simons Collaboration Grants for Mathematicians, 2015–2020
- Teaching award, Washington University, 2018
- NSF, Principal Investigator DMS1204567, 2012–2017
- Simons Collaboration Grants for Mathematicians, 2011–2012
- AWM travel grant, 2010
- Fund for Scholarly and Professional Development, Queen's University (2006)
- Rosenblith Fellowship, Department of Mathematics, MIT, 2000
- Liberty Mutual Fellowship, Department of Mathematics, MIT, 1999
- International Olympiad in Informatics (Netherlands 1995), bronze medal
- International Mathematical Olympiad (Hong Kong 1994), silver medal

Publications

- *Bounds on the Picard rank of toric Fano varieties with minimal curve constraints* (with B. Wormleighton) Proceedings of the AMS, to appear.
- *Higher Fano manifolds* (with C. Araujo, A-M Castravet, K. Jabbusch, S. Makarova, E. Mazzon, L. Taylor, N. Viswanathan), arXiv:2110.02339, submitted

- *Rational curves on del Pezzo surfaces in positive characteristic*
(with B. Lehmann, E. Riedl, S. Tanimoto), Transactions of the AMS, to appear.
- *Restrictions on rational surfaces lying in very general hypersurfaces* (with E. Riedl)
Forum Math., Sigma, to appear
- *Moduli spaces of rational curves on Fano threefolds*
(with B. Lehmann, E. Riedl, S. Tanimoto) Advances in Math, to appear
- *Linear subvarieties of hypersurfaces* (with E. Riedl)
Duke Math Journal, 170 (10), 2263–2288.
- *Positivity results for spaces of rational curves* (with E. Riedl)
Algebra and Number Theory, Volume 14, 2 (2020), 485–500.
- *Moduli spaces of rational curves on hypersurfaces of index 2*,
preprint
- *Hypersurfaces with too many rational curves*
Mathematische Annalen, 360 (2014), Issue 3–4, 753–768.
- *Rational curves in hypersurfaces* (with Mohan Kumar)
Journal of the Ramanujan Math. Society, 28a (2013) 1–20.
- *Spaces of rational curves in complete intersections* (with Mohan Kumar)
Compositio Math., 149 (2013) 1041–1060.
- *Fibers of projections and submodules of deformations* (with D. Eisenbud)
Current Developments in Algebraic Geometry, MSRI Publications, 2010.
- *Fibers of generic projections of smooth varieties* (with D. Eisenbud)
Oberwolfach Reports, 26 (2008)
- *Fibers of generic projections* (with D. Eisenbud)
Compositio Math., 146 (2010) no. 2, 435–456.
- *Non-uniruledness results for spaces of rational curves on hypersurfaces*
Algebra and Number Theory 6 (2012), no.4, 669–687
- *Rational surfaces in index-one Fano hypersurfaces* (with J. Starr),
J. Algebraic Geometry, 17 (2008) 255–274.
- *Lines on projective hypersurfaces*
J. Reine Angew. Math. (Crelle’s Journal), 592 (2006), 1–21.
- *Linear subvarieties of smooth hypersurfaces*
Internat. Math. Res. Notices, 49 (2005), 3055–3063.
- *Lines on Fano hypersurfaces*
Ph.D Thesis, MIT, May 2003.
- *Elementary number theory, challenging problems* (with M. Mirzakhani)
Fatemi Publishers, Tehran, Iran, 1999 (book in Farsi).

Selected

Invited Talks

- Northwestern algebraic geometry seminar, November 2023
- UW-PIMS, Colloquium, Seattle, April 2023
- University of Utah algebraic geometry seminar, February 2023
- Conference ”Birational Complexity of Algebraic Varieties”, Simons Center, December 2022

- Conference "Rationality, Moduli Spaces, and Related Topics", Nagoya University, Japan November 2022
- Conference "Algebraic Geometry and Algebraic K-Theory, a conference in honor of Mohan Kumar", St. Louis, May 2022
- University of Chicago algebraic geometry seminar, April 2021
- Princeton University algebraic geometry seminar, March 2021
- Columbia University algebraic geometry seminar, November 2020
- University of Pittsburg, Colloquium, January 2020
- University of Pittsburg, Undergraduate Colloquium, January 2020
- Conference on Hodge theory in Honor of D. Arapura's 60th Birthday, Madison, September 2019
- AIM Workshop on Rationality problems in algebraic geometry, July 2019
- U. Washington algebraic geometry seminar, Seattle, October 2018
- Western Algebraic Geometry Symposium, U. Oregon, Eugene, October 2018
- ICERM workshop on Birational Geometry and Arithmetic, Providence, May 2018
- Stanford University algebraic geometry seminar, February 2018
- University of Michigan algebraic geometry seminar, October 2017
- Conference "Spring meeting in Algebraic Geometry" Tehran, Iran, April 2017
- University of Illinois in Chicago algebraic geometry seminar, April 2017
- Northwestern University algebraic Geometry seminar, March 2017
- Northwestern University, Mini-course on Stable rationality (3 lectures) February/March 2017
- Workshop on rational subvarieties in characteristic p , AIM, California, October 2016
- Conference "Rational points and algebraic geometry", CIRM, Luminy, France, September 2016
- Conference "Summer meeting of Canadian Math Society", Edmonton, Canada, June 2016
- Conference "Algebraic Geometry", UC. San Diego, January 2016
- University of Los Andes, Bogota, Colombia, Colloquium, March 2016
- Workshop "Bochum-Essen-Wuppertal joint meeting", Bochum, Germany, June 2015
- Cornell University algebraic geometry seminar, April 2015
- Conference "Frontiers in Mathematical Sciences", Tehran, Iran, December 2014
- Harvard-MIT algebraic geometry seminar, Harvard University, April 2014.
- MSRI algebraic geometry seminar, May 2013
- Conference in honor of S. Shashahani's 60th Birthday, Sharif University, Iran, December 2012
- CUNY Algebra Seminar, May 2012
- Columbia University algebraic geometry Seminar, April 2012
- University of Connecticut algebra Seminar, March 2012
- IMPA Algebraic Geometry Seminar, Brazil, February 2012
- Algebraic Geometry Northern Series Workshop, Stony Brook University, November 2011
- 40 Years and Counting: AWM's Celebration of Women in Mathematics, Brown University September 2011
- Western Algebraic Geometry Symposium, Stanford University, April 2011
- KUMUNU, University of Nebraska-Lincoln, April 2011
- AMS joint meeting, special session on Moduli Spaces, New Orleans, January 2011
- V Iberoamerican Congress on Geometry, Pucon, Chile, December 2010
- ICM, satellite conference on complex geometry and group actions, Hyderabad, India August 2010
- University of Georgia Algebraic Geometry Seminar, January 2010
- University of Georgia VIGRE Seminar, January 2010

- Princeton Algebraic Geometry Seminar, December 2009
- University of Illinois at Chicago Algebraic Geometry Seminar, November 2009
- Caltech Algebraic Geometry Seminar, June 2009
- Workshop on spaces of curves and diophantine problems, Columbia University June 2009
- MSRI, Algebraic Geometry Program, April 2009

Service

- American Institute of Mathematics Scientific Research Board, 2022-present
- Communications in Algebra, Editorial Board, 2022-present
- Mathematische Zeitschrift, Editorial Board, 2024-present
- Member of NSF Review Panel, 2012-2013, 2014-2015, 2018-2019
- Western Algebraic Geometry Symposium Organizing Council, 2021-present
- Co-organizer of Western Algebraic Geometry Symposium, Washington University Fall 2023
- Co-organizer of Thematic Program on Rationality and Hyperbolicity, U. Notre Dame, June 2023
- Co-organizer of Algebraic Geometry a conference in honor of Mohan Kumar, May 2022
- Co-organizer of Algebraic Geometry Seminar at Washington University
- Co-organizer of the I-70 Algebraic Geometry Symposium (held in collaboration with the University of Missouri-St. Louis, University of Missouri-Columbia, U. Kansas (2016-2020))
- Co-organizer of the special session on Algebraic Geometry in the AMS meeting Washington University, October 2013
- Co-organizer of the Show-me Algebraic Geometry Workshop (held in collaboration with the University of Missouri-St. Louis and University of Missouri-Columbia 2007-2009)
- Co-organizer of the special session on Algebraic Geometry in the AMS meeting Georgia Southern University, March 2011
- Women in Algebraic Geometry, Group co-leader, ICERM 2020.
- AMS Human Rights of Mathematicians, Committee Chair, 2016-2018
- Washington University Prison Education Project, Advisory Board
- Washington University Faculty Senate Council, Divisional member, 2016-2018