

Anand Deopurkar | Curriculum Vitae

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Positions

University of Georgia <i>Assistant Professor (Limited Term)</i>	Athens, GA 2016–
Columbia University <i>J. F. Ritt Assistant Professor</i>	New York, NY 2012–2016

Education

Harvard University <i>Ph.D., Advisor: Joseph Harris</i>	Cambridge, MA 2008–2012
Massachusetts Institute of Technology (MIT) <i>S.B., Mathematics with Computer Science</i>	Cambridge, MA 2004–2008

Publications

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- Vector bundles and finite covers (with Anand Patel).
Submitted.
 - Syzygy divisors on Hurwitz spaces (with Anand Patel).
Contemporary Mathematics, to appear.
 - Green’s canonical syzygy conjecture for ribbons.
Submitted.
 - Covers of stacky curves and limits of plane quintics.
Transactions of the AMS, to appear.
 - The Picard rank conjecture for the Hurwitz spaces of degree up to five (with Anand Patel).
Algebra and Number Theory, 9(2):459–492, 2015.
 - Groebner techniques for ribbons (with Maksym Fedorchuk, David Swinarski).
Albanian Journal of Mathematics, 8(1):55–70, 2014.
 - Toward GIT stability of syzygies of canonical curves (with Maksym Fedorchuk, David Swinarski).
Algebraic Geometry (Foundation Compositio Mathematica), 3:1–22, 2016.
 - Class of the Hodge eigenbundle using orbifold Riemann-Roch.
Appendix to Cyclic covering morphisms on $\overline{M}_{0,n}$ by Maksym Fedorchuk.
 - Sharp slope bounds for sweeping families of trigonal curves (with Anand Patel).
Mathematical Research Letters, 20(3):868–884, 2013.
 - Modular compactifications of the space of marked trigonal curves.
Advances in Mathematics, 248(0):96–154, 2013.
 - Compactifications of Hurwitz spaces.
International Mathematical Research Notices, 2014(14):3863–3911, 2013.
 - Alternate compactifications of Hurwitz spaces.
Thesis, Harvard, 2012.

Grants and awards

- AMS-Simons Travel Grant, 2016–2018.
- American Institute of Mathematics Workshop Funding (with Maksym Fedorchuk, Ian Morrison, Xiaowei Wang), 2016.
- Award for excellence in teaching, 2014. *Columbia departmental award*.
- Jon A. Bucsela prize, 2006. *MIT departmental award given to the top graduating mathematics major*.
- Rogers prize, 2006. *MIT departmental award for summer research*.
- William Lowell Putnam competition, 2004 (Rank 16–25), 2005 (Honorable mention), 2007 (Honorable mention).
- International Mathematical Olympiad, 2004 (Silver), 2003 (Bronze).

Teaching

At the University of Georgia.....

- Math 2260 (Calculus 2 for Science and Engineering), Spring 2017.
- Math 2250 (Calculus 1 for Science and Engineering), Fall 2016.

At Columbia University.....

- Analysis and optimization, Spring 2016. *A course about linear and non-linear optimization methods*.
- Young tableaux in algebra and geometry, Fall 2015. *Undergraduate seminar based on Fulton's book Young Tableaux*.
- Calculus 1, Spring 2015.
- Moduli of curves, Fall 2014. *Graduate (topics) course in algebraic geometry. The webpage has most of the course notes*.
- Calculus 1, Spring 2014.
- Modern algebra 2, Spring 2014. *Rings, fields, and Galois theory*.
- Modern algebra 1, Fall 2013. *Group theory*.
- Calculus 3, Spring 2013.
- Calculus 2, Fall 2012.

At Harvard University.....

- Linear algebra, 2012.
- Algebraic curves, 2011. *Course assistant for Joe Harris*.
- Calculus 2, 2010.
- Calculus 1, 2009.

Invited Talks and Presentations

In conferences or workshops.....

- Conference on Moduli and Birational Geometry, Korea, 2016. *Vector bundles and finite covers*.
- Workshop on Cycles on moduli spaces, Geometric Invariant Theory, and Dynamics, ICERM, Brown University, 2016. *Cycles on Hurwitz spaces*.

- Joint mathematics meetings, Seattle, WA (Higher genus curves and fibrations of higher genus curves in mathematical physics and arithmetic geometry II), 2016. *Picard groups of Hurwitz spaces.*
- Joint mathematics meetings, Seattle, WA (Moduli spaces in algebraic geometry I), 2016. *Limits of plane quintics via covers of stacky curves.*
- BC-Northeastern algebraic geometry conference, Boston, MA, 2015. *Limits of plane quintics via covers of stacky curves.*
- SIAM applied algebraic geometry conference, Daejeon, Korea, 2015. *Syzygies of canonical curves and the geometry of \overline{M}_g .*
- Mathematisches Forschungsinstitut Oberwolfach, Germany, 2015. *GIT stability of syzygies of curves (mini talk)..*
- Conference on moduli and birational geometry, Postech, Pohang, Korea, 2013. *Towards GIT stability of syzygies of canonical curves.*

In seminars.....

- Emory University, Atlanta, GA, 2017. *Vector bundles and finite covers.*
- Indian Institute of Science Education and Research (IISER), Pune, 2016. *Vector bundles and finite covers.*
- University of South Carolina, Columbia, SC, 2016. *Ribbons and Green's conjecture.*
- University of Georgia, Algebraic Geometry Seminar, 2016. *Ribbons and Green's conjecture.*
- University of Georgia, Oberseminar in Algebra, Geometry, and Number Theory, 2016. *The algebra of canonical curves and the geometry of their moduli space.*
- Purdue University, West Lafayette, IN, 2015. *Syzygies, GIT, and the moduli space of curves.*
- Ohio State University, Columbus, OH, 2015. *Limits of plane curves via stacky branched covers.*
- Harvard/MIT, Cambridge, MA, 2015. *Syzygies, GIT, and the log MMP for \overline{M}_g .*
- Courant Institute, New York University, New York, NY, 2015. *Picard groups of Hurwitz spaces.*
- Indian Institute for Science Research and Education, Pune, India, 2015. *The birational geometry of \overline{M}_g .*
- Stony Brook University, Stony Brook, NY, 2015. *Syzygies of canonical curves and birational geometry of \overline{M}_g .*
- Yale University, New Haven, CT, 2014. *GIT stability of syzygies of canonical curves.*
- Boston College, Boston, MA, 2014. *Toward GIT stability of syzygies of canonical curves.*
- AMS sectional meeting, Philadelphia, PA (Geometry of algebraic varieties), 2013. *Toward GIT stability of syzygies of canonical curves.*
- Stanford University, Palo Alto, CA, 2013. *Alternate compactifications of Hurwitz spaces.*
- Princeton University, Princeton, NJ, 2013. *Compactifying spaces of branched covers.*
- Rice University, Houston, TX, 2012. *Alternate compactifications of Hurwitz spaces.*
- Harvard/MIT, Cambridge, MA, 2011. *Compactifications of Hurwitz spaces.*
- Columbia University, New York, NY, 2011. *Compactifications of Hurwitz spaces.*
- Stony Brook University, Stony Brook, NY, 2011. *Compactifications of Hurwitz spaces.*
- Brown University, Providence, RI, 2011. *Compactifications of Hurwitz spaces.*

Service

- Refereed for the Journal of the EMS, Algebra and Number Theory, Crelle, Manuscripta mathematica, and Advances in geometry.
- Co-organized the workshop “Stability and moduli spaces” at the American Institute of Mathematics. January 2017
- Co-organized the Summer Workshop in Algebraic Geometry at the University of Georgia. August 2016
- Organized the Fairly Informal Reading Seminar and Tea (FIRST) at the University of Georgia. Fall 2016
- Co-organized the graduate student algebraic geometry seminar at Columbia. Spring 2016
- Conducted Putnam preparation sessions at Columbia. Fall 2015
- Supervised an undergraduate independent reading course (“Generatingfunctionology”) at Columbia. Fall 2015
- Gave expository sessions for graduate students in the “Workshop on birational geometry and stability of moduli stacks and spaces of curves” in Hanoi, Vietnam. January 2014
- Served on the thesis defense committees of Natasha Potashnik, Zachary Maddock, and Xuanyu Pan at Columbia.
- Co-organized the poster session at AGNES at Boston College. 2013
- Organized the student algebraic geometry seminar at Harvard/MIT. 2010, 2011

References

◦ Joseph Harris

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◦ Brendan Hassett

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◦ Angela Gibney

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Teaching.....

◦ Patrick Gallagher

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