

Rahul Pandharipande

Curriculum Vitae

Educational History

A.B. Mathematics, Princeton University, 1990, *summa cum laude*
Ph.D. Mathematics, Harvard University, 1994

Professional History

1994-97 L. E. Dickson Instructor, University of Chicago
1997-98 Assistant Professor, University of Chicago
1998-00 Associate Professor, California Institute of Technology
2001-02 Professor, California Institute of Technology
2001-02 Visiting Professor, Princeton University
2002-11 Professor, Princeton University
2010-11 Visiting Professor, IST Lisbon
2011- Professor, ETH Zürich

Honors

Invited speaker [plenary] ICM 2018 (Rio de Janeiro)
ERC Advanced Grants 2013-2018 & 2018-
Einstein visiting fellow (Berlin) 2015-2019
Infosys Prize for Mathematics 2013
Clay Research Prize 2013
Compositio Prize 2010
Marie Curie Fellowship, 2010-2011
Gulbenkian Foundation Fellowship, 2010-2011
Invited speaker [section] ICM 2002 (Beijing)
David and Lucile Packard Foundation Fellowship, 2000-2005
A. P. Sloan Foundation Research Fellowship, 1999-2003
NSF Graduate & Post-Doctoral Fellowships, 1991-1994 & 1995-98

Graduate students

T. Graber, Ph.D. 1998 (Professor, Caltech)
D. Maulik, Ph.D. 2007 (Professor, MIT)
B. Bakker, Ph.D. 2010 (Assistant Prof., Univ. of Georgia)
V. Shende, Ph.D. 2011 (Assistant Prof., UC Berkeley)
I. Setayesh, Ph.D. 2011 (Assistant Prof., Tehran)
Y. Cooper, Ph.D. 2013 (Post-doc, IAS)
A. Pixton, Ph.D. 2013 (Assistant Prof., MIT)
G. Oberdieck, Ph.D. 2015 (Junior Fellow, Univ. of Bonn)
F. Janda, Ph.D. 2015 (Post-doc, Univ. of Michigan)
C. Schiessl, Ph.D. 2017 (Heidenhain AG)
J. Shen, Ph.D. 2018 (Moore Instructor, MIT)
I. Barros, Ph.D. 2018 (Post-doc, Northeastern Univ.)

Current students: Y. Bae, T. Bübles, J. Schmitt

Journals

Editorial board, *Portugaliae Mathematica* (2010-)
Editorial board, *Inventiones Mathematicae* (2012-18)
Editorial board, *Algebraic Geometry* (2013-)
Editorial board, *Journal of the Math Society of Japan* (2013-18)
Editorial board, *Peking Mathematical Journal* (2018-)

Service

Abel prize committee, (2014-16)
EMS prize committee, (7th ECM, Berlin 2016)
Hopf prize committee, (2015-)
Advisory board, *Forschungsinstitut für Mathematik*, ETHZ (2013-)
Advisory board, *Institute for theoretical studies*, ETHZ (2013-)

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- (3) R. Pandharipande, *The symmetric function $H^0(\overline{M}_{0,n}, L_1^{x_1} \otimes \cdots \otimes L_n^{x_n})$* , J. Alg. Geom. **6** (1997), 721–731.
- (4) R. Pandharipande, *The canonical class of $\overline{M}_{0,n}(\mathbb{P}^r, d)$ and enumerative geometry*, IMRN (1997), 173–186.
- (5) R. Pandharipande, *Counting elliptic plane curves with fixed j -invariant*, Proc. AMS. **125** (1997), 3471–3479.
- (6) J. Harris, B. Mazur, and R. Pandharipande, *Unirationality of smooth hypersurfaces*, Duke J. Math. **95** (1998), 125–160.
- (7) R. Pandharipande, *The Chow ring of the non-linear Grassmannian*, J. Alg. Geom. **7** (1998), 123–140.
- (8) R. Pandharipande, *The equivariant Chow rings of $O(k)$, $SO(2k+1)$, and $SO(4)$* , J. Reine Angew. Math. **496** (1998), 131–148.
- (9) L. Göttsche and R. Pandharipande, *The quantum cohomology of blow-ups of \mathbb{P}^2 and enumerative geometry*, J. Diff. Geom. **48** (1998), 61–90.
- (10) R. Pandharipande, *Rational curves on hypersurfaces [after A. Givental]*, Séminaire Bourbaki **848**, 50ème année, 1997–1998.
- (11) E. Getzler and R. Pandharipande, *Virasoro constraints and Chern classes of the Hodge bundle*, Nuclear Phys. **B530** (1998), 701–714.
- (12) R. Pandharipande, *Intersections of \mathbb{Q} -divisors on Kontsevich’s moduli space $\overline{M}_{0,n}(\mathbb{P}^r, d)$ and enumerative geometry*, Trans. AMS. **4** (1999), 1481–1505.
- (13) R. Pandharipande, *A geometric construction of Getzler’s elliptic relation*, Math. Ann. **313** (1999), 715–729.
- (14) T. Graber and R. Pandharipande, *Localization of virtual classes*, Invent. Math. **135** (1999), 487–518.
- (15) R. Pandharipande, *Hodge integrals and degenerate contributions*, Comm. Math. Phys. **208** (1999), 489–506.

- (16) P. Belorousski and R. Pandharipande, *A descendent relation in genus 2*, Ann. Scuola Norm. Sup. Pisa Cl. Sci. **29** (2000), 171–191.
- (17) C. Faber and R. Pandharipande, *Hodge integrals and Gromov-Witten theory*, Invent. Math. **139** (2000), 173–199.
- (18) R. Pandharipande, *The Toda equation and the Gromov-Witten theory of the Riemann sphere*, Lett. Math. Phys. **53** (2000), 59–74.
- (19) C. Faber and R. Pandharipande (with an appendix by D. Zagier), *Logarithmic series and Hodge integrals in the tautological ring*, Michigan Math. J. **48** (2000), 215–252.
- (20) B. Kim and R. Pandharipande, *The connectedness of the moduli space of maps to homogeneous spaces*, in Proceedings of *Symplectic geometry and mirror symmetry, KIAS 2000*, F. Fukaya, Y.-G. Oh, K. Ono, G. Tian Eds., World Scientific (2001), 187–203.
- (21) J. Bryan and R. Pandharipande, *BPS states of curves in Calabi-Yau 3-folds*, Geom. Topol. **5** (2001), 287–318.
- (22) B. Fantechi and R. Pandharipande, *Stable maps and branch divisors*, Compositio Math. **130** (2002), 345–364.
- (23) T. Graber, J. Kock, and R. Pandharipande, *Descendent invariants and characteristic numbers*, Amer. J. Math. **124** (2002), 611–647.
- (24) E. Getzler, A. Okounkov, and R. Pandharipande, *Multipoint series of Gromov-Witten invariants of \mathbf{P}^1* , Lett. Math. Phys. **62** (2002), 159–170.
- (25) R. Pandharipande, *Three questions in Gromov-Witten theory*, Proceedings of the ICM (Beijing 2002), Vol. II, 503–512.
- (26) T. Graber and R. Pandharipande, *Constructions of nontautological classes on moduli spaces of curves*, Michigan Math J. **51** (2003), 93–109.
- (27) C. Faber and R. Pandharipande, *Hodge integrals, partition matrices, and the λ_g conjecture*, Ann. of Math. **157** (2003), 97–124.
- (28) K. Hori, S. Katz, A. Klemm, R. Pandharipande, R. Thomas, C. Vafa, R. Vakil, and E. Zaslow, *Mirror Symmetry*, AMS: Providence, R.I., 2003.

- (29) Y.-P. Lee and R. Pandharipande, *A reconstruction theorem in quantum cohomology and quantum K-theory*, Amer. J. Math **126** (2004), 1367–1379.
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- (33) J. Bryan and R. Pandharipande, *Curves in Calabi-Yau threefolds and TQFT*, Duke J. Math. **126** (2005), 369–396.
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- (38) D. Maulik and R. Pandharipande, *A topological view of Gromov-Witten theory*, Topology **45** (2006), 887–918.
- (39) E. Getzler and R. Pandharipande, *The Betti numbers of $\overline{M}_{0,n}(\mathbf{P}^r, d)$* , J. Alg. Geom. **15** (2006), 709–732.
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- Moduli, Vol. I*, 293–330, Advanced Lectures in Mathematics 24, International Press, Beijing, 2013.
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- (82) R. Pandharipande and R. Thomas, *Notes on the proof of the KKV conjecture*, *Surveys Diff. Geom.* **21** (2016), 289–311.
- (83) R. Pandharipande, *Maps, sheaves, and K3 surfaces* in *Lectures on geometry*, N. M. J. Woodhouse, ed., Oxford Univ. Press, (2017), 159–185.
- (84) R. Pandharipande and A. Pixton, *GW/P correspondence for the quintic 3-fold*, *JAMS* **30** (2017), 389–449.
- (85) Y. Cooper and R. Pandharipande, *A Fock space approach to Severi degrees*, *Proc. London Math. Soc.* **114** (2017), 476–494.
- (86) A. Marian, D. Oprea, and R. Pandharipande, *Segre classes and Hilbert schemes of points*, *Ann. Sci. de l’ENS* **50** (2017), 239–267.

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- (88) F. Janda, R. Pandharipande, A. Pixton, and D. Zvonkine, *Double ramification cycles on moduli spaces of curves*, Pub. Math. IHES **125** (2017), 221–266.
- (89) G. Farkas and R. Pandharipande, *The moduli space of twisted canonical divisors*, J. Institute Math. Jussieu **17** (2018), 615–672.
- (90) H. Lho and R. Pandharipande, *Stable quotients and the holomorphic anomaly equation*, Adv. Math. **332** (2018), 349–402.
- (91) R. Pandharipande, *A calculus for the moduli space of curves*, Proceedings of Algebraic geometry – Salt Lake City 2015, Proc. Sympos. Pure Math. **97**, Part 1, 459–488.
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- (93) R. Pandharipande, *Descendents for stable pairs on 3-folds*, Modern Geometry: A celebration of the work of Simon Donaldson, Proc. Sympos. Pure Math. **99**, 251–288.
- (94) R. Pandharipande, *Cohomological field theory calculations*, Proceedings of the ICM (Rio de Janeiro 2018), to appear.
- (95) A. Marian, D. Oprea, and R. Pandharipande, *The combinatorics of Lehn’s conjecture*, Jour. Math. Soc. Japan (to appear).
- (96) R. Pandharipande and Q. Yin, *Relations in the tautological ring of K3 surfaces*, JEMS (to appear).
- (97) R. Pandharipande and D. Zvonkine, *Cohomological field theories with non-tautological classes*, Arkiv Math. (to appear).
- (98) R. Pandharipande, A. Pixton, and D. Zvonkine, *Tautological relations via r -spin structures*, J. Alg. Geom. (to appear).
- (99) H. Lho and R. Pandharipande, *Holomorphic anomaly equations for the formal quintic*, Peking Mathematical Journal (to appear).

Preprints

- (1) R. Pandharipande and A. Pixton, *Relations in the tautological ring of the moduli space of curves*, preprint 2013.
- (2) R. Pandharipande, J. Solomon, and R. Tessler, *Intersection theory on moduli of disks, open KdV and Virasoro*, preprint 2014.
- (3) A. Marian, D. Oprea, and R. Pandharipande, *Higher rank Segre integrals over the Hilbert scheme of points*, preprint 2017.
- (4) R. Pandharipande and H.-H. Tseng, *Higher genus Gromov-Witten theory of $\text{Hilb}^n(\mathbb{C}^2)$ and CohFTs associated to local curves*, preprint 2017.
- (5) H. Lho and R. Pandharipande, *Crepant resolution and the holomorphic anomaly equation for $\mathbb{C}^3/\mathbb{Z}_3$* , preprint 2018.
- (6) A. Oblomkov, A. Okounkov, and R. Pandharipande, *GW/PT descendent correspondence via vertex operators*, preprint 2018.
- (7) R. Pandharipande and H.-H. Tseng, *The Hilb/Sym correspondence for \mathbb{C}^2 : descendents and Fourier-Mukai*, preprint 2018.
- (8) F. Janda, R. Pandharipande, A. Pixton, and D. Zvonkine, *Double ramification cycles for target varieties*, preprint 2018.