Manil Suri

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EDUCATION

1983	Ph.D. in Mathematics, Carnegie-Mellon University, Pittsburgh.
1980	M.S. in Mathematics, Carnegie-Mellon University, Pittsburgh.
1979	B.S. in Mathematics, University of Mumbai, Mumbai.

ACADEMIC POSITIONS

2014–	Distinguished University Professor, UMBC.
2011–	Affiliate Professor, Asian Studies Program, University of Maryland Baltimore County.
1994–	Professor, Department of Mathematics and Statistics, University of Maryland Baltimore County.
1989-94	Associate Professor, Department of Mathematics and Statistics, University of Maryland Baltimore County.
1983-89	Assistant Professor, Department of Mathematics and Statistics, University of Maryland Baltimore County.

MEDIA POSITION

2015-18	Contributing Opinion Writer, New York Times.

INTERESTS

Mathematics Research: The solution of partial differential equations by the finite element method: p and hp versions, mixed finite elements, plate and shell problems, problems in fluid flow.

Asian Studies and Literary: Contemporary India, Hindu mythology, South Asian fiction.

Mathematics Outreach: Interdisciplinary techniques for mathematical outreach and education for K-16 and adult populations.

PH.D. DISSERTATIONS DIRECTED

2003	"A posteriori estimation of the linearization and finite element approximation errors for strongly monotone nonlinear operators," Alexandra Chaillou.
1998	"Non-conforming hp finite element methods," Padmanabhan Seshaiyer.
1997	"Locking-free hp mixed finite element methods for linear and geometrically non-linear elasticity," Lawrence Chilton.
1996	"The approximation of boundary layers in the hp version of the finite element method," Christos Xenophontos.
1992	"The effect of quadrature error in the p version of the finite element method," Chang G. Kim.

HONORS AND AWARDS

Prizes for novels listed separately under respective titles.

2023	"The Big Bang of Numbers" shortlisted for the Pen/E. O. Wilson book prize for literary science writing
2020-21	"How to build the universe using only numbers" Book-writing grant, Sloan Foundation (PI, $37,000)
2018-20	"Math, fiction and video: A STEAM project," Hrabowski Innovation Grant, UMBC (PI, $25,000)
2016	Bellagio Arts Fellowship, Rockefeller Foundation
2013-16	Presidential Teaching Professor, UMBC.
2007-08	Elkins Professorship, University System of Maryland. ($32,000)
2004-05	Guggenheim Fellowship (fiction).
2002-04	Pen-Bingham Fellowship (fiction).
2000-04	"hp finite element methods in failure prediction and material science." NSF (PI, $95,000)
2000-01	"Conference on p and hp finite element methods." ARO (PI, $8,000)
2000	"Conference on p and hp finite element methods." AFOSR (PI, $12,600)
2000	Profiled as "Person to Watch" by TIME magazine.
1998-01	"Standard, mixed and non-conforming hp finite element methods for problems in mechanics." AFOSR (PI, $103,850)
1997-00	"hp Finite Element Methods for Shells and Partitioned Domains." National Science Foundation (PI, $76,000)
1995-98	"Hierarchical hp Modeling and Locking Resolution in Laminated Plates and Shells." AFOSR (PI, $146,439)
1992-95	"Hierarchical Modeling and Locking Effects in the Numerical Analysis of Multistructures." AFOSR (PI, $222,530) (co-PI: Christoph Schwab)
1989-92	"Numerical Treatment of Differential and Integral Equations by the p and hp Versions of the Finite Element Method." AFOSR (PI, $132,352)
1985-88	"Analysis of the Performance of Mixed Finite Element Methods", AFOSR (PI, $87,882)

SHORT-TERM RESIDENCIES

Mathematics: INRIA (Institut National de Recherche en Informatique et en Automatique), Rocquencourt, France (1988), Brunel University, Uxbridge, England (1992), Helsinki University of Technology, Helsinki, Finland (1993), University of Rennes, Rennes, France (1996), ETH Zurich, Switzerland (1996).

Literature: Virginia Center for the Creative Arts (1998, 2001, 2009), The MacDowell Colony (1999, 2000, 2002, 2010, 2011), Yaddo (2001, 2003), Ucross Foundation (2003, 2006, 2009), Rockefeller Center, Bellagio, Italy (2016).

CONSULTANT *The MacNeal-Schwendler Corporation, Los Angeles, CA.*
Development of non-conforming hp algorithms (adopted in commercial code MSC-NASTRAN). (1988-1992)

Engineering Science and Research Development, Inc, St. Louis, MO.
Development of hp meshing techniques for thin plates and shells (adopted in commercial code STRESS CHECK). Development of algorithms for calculation of buckling frequencies. (1988-2004)

ASSOCIATE EDITOR SIAM Journal on Numerical Analysis (1999-2004)
Journal of Computational and Applied Mathematics (1993-present)

ACTIVITIES RELATED TO MATHEMATICS

Mathematics Book

The Big Bang of Numbers: How to build the universe using only math. W. W. Norton (US), Bloomsbury (UK and world) 2022. (To be translated into Korean and Chinese.)

Mathematics Publications in Refereed Journals

1. G. J. Fix and M. Suri, "Three-dimensional mass conserving elements for compressible flow", *Computers and Mathematics with Applications*, 11, 765-776 (1985).
2. M. Suri, "Mixed finite element methods for the approximation of time-dependent problems", *Numerical Methods for Partial Differential Equations*, 2, 101-111 (1986).
3. R.C. MacCamy and M. Suri, "A time-dependent interface problem for two-dimensional eddy currents", *Quarterly of Applied Mathematics*, XLIV, 675-690 (1987).
4. I. Babuška and M. Suri, "The optimal convergence rate of the p version of the finite element method", *SIAM Journal on Numerical Analysis*, 24, 750-776 (1987).
5. I. Babuška and M. Suri, "The hp version of the finite element method with quasiuniform meshes", *RAIRO Mathematical Modelling and Numerical Analysis*, 21, 199-238 (1987).
6. A. K. Aziz, A. B. Stephens and M. Suri, "Numerical methods for reaction-diffusion problems with non-differentiable kinetics", *Numerische Mathematik*, 53, 1-11 (1988).
7. I. Babuška and M. Suri, "The treatment of nonhomogeneous Dirichlet boundary conditions by the p version of the finite element method", *Numerische Mathematik*, 55, 97-121 (1989).
8. E. P. Stephan and M. Suri, "On the convergence of the p version of the boundary element Galerkin method", *Mathematics of Computation*, 52, 31-48 (1989).
9. I. Babuška, B. Guo and M. Suri, "Implementation of non-homogeneous Dirichlet boundary conditions in the p version of the finite element method", *Impact of Computing in Science and Engineering*, 1, 36-63 (1989).
10. M. Suri, "The p version of the finite element method for elliptic equations of order 2ℓ", *RAIRO Mathematical Modelling and Numerical Analysis*, 24, 107-146 (1990).
11. M. Suri, "On the stability and convergence of higher order mixed finite element methods for second order elliptic problems", *Mathematics of Computation*, 54, 1-19 (1990).
12. I. Babuška and M. Suri, "The p and hp versions of the finite element method. An overview", *Computer Methods in Applied Mechanics and Engineering*, 80, 5-26 (1990).

13. E. P. Stephan and M. Suri, "The hp version of the boundary element method on polygonal domains with quasiuniform meshes", *RAIRO Mathematical Modelling and Numerical Analysis*, 25, 783-807 (1991).

14. M. Suri, "On the robustness of the h and p versions of the finite element method", *Journal of Computational and Applied Mathematics*, 35, 303-310 (1991).

15. F. Milner and M. Suri, "Mixed finite element methods for quasilinear second order elliptic problems: the p-version", *RAIRO Mathematical Modelling and Numerical Analysis*, 26, 913-931 (1992).

16. I. Babuška and M. Suri, "On locking and robustness in the finite element method", *SIAM Journal on Numerical Analysis*, 29, 1261-1293 (1992).

17. I. Babuška and M. Suri, "Locking effects in the finite element approximation of elasticity problems", *Numerische Mathematik*, 62, 439-463 (1992).

18. S. Jensen and M. Suri, "On the L_2 error for the p version of the finite element method over polygonal domains", *Computer Methods in Applied Mechanics and Engineering*, 97, 233-243 (1992).

19. U. Banerjee and M. Suri, "The effect of numerical quadrature in the p version of the finite element method", *Mathematics of Computation*, 59, 1-20 (1992).

20. U. Banerjee and M. Suri, "The analysis of numerical integration in p version finite element eigenvalue approximation", *Numerical Methods for Partial Differential Equations*, 8, 381-394 (1992).

21. C. Kim and M. Suri, "On the p version of the finite element method in the presence of numerical integration", *Numerical Methods for Partial Differential Equations*, 9, 593-629 (1993).

22. I. Babuška and M. Suri, "The p and hp versions of the finite element method: basic principles and properties", *SIAM Review*, 36, 578-632 (1994).

23. M. Suri, I. Babuška and C. Schwab, "Locking effects in the finite element approximation of plate models", *Mathematics of Computation*, 64, 461-482 (1995).

24. C. Schwab and M. Suri, "The optimal p version approximation of singularities on polyhedra in the boundary element method", *SIAM Journal on Numerical Analysis*, 33, 729-759 (1996).

25. R. Stenberg and M. Suri, "Mixed hp finite element methods for problems in elasticity and Stokes flow," *Numerische Mathematik*, 72, 367-390 (1996).

26. M. Suri, "Analytic and computational assessment of locking in the hp finite element method," *Computer Methods in Applied Mechanics and Engineering*, 133, 347-371 (1996).

27. C. Schwab and M. Suri, "The p and hp versions of the finite element method for problems with boundary layers," *Mathematics of Computation*, 65, 1403-1429 (1996).

28. J. Pitkäranta and M. Suri, "Design principles and error analysis for reduced-shear plate-bending finite elements," *Numerische Mathematik*, 75, 223-266 (1996).

29. M. Suri, "A reduced constraint hp finite element method for shell problems," *Mathematics of Computation*, 66, 15-29 (1997).

30. R. Stenberg and M. Suri, "An hp error analysis of MITC plate elements," *SIAM Journal on Numerical Analysis*, 34, 544-568 (1997).

31. L. Chilton and M. Suri, "On the selection of a locking-free hp element for elasticity problems," *Int. J. Numer. Meth. Eng.* 40, 2045-2062 (1997).

32. C. Schwab, M. Suri and C. Xenophontos, "The hp finite element method for problems in mechanics with boundary layers," *Comp. Meth. Appl. Mech. Eng.*, 157, 311-333 (1998).

33. M. Costabel, M. Dauge and M. Suri, "Numerical approximation of a singularly perturbed contact problem," *Comp. Meth. Appl. Mech. Eng.*, 157, 349-363 (1998).

34. C. Schwab and M. Suri, "Mixed hp finite element methods for problems in non-Newtonian and Stokes flows," *Comp. Meth. Appl. Mech. Eng.*, 175, 217-241 (1999).

35. P. Seshaiyer and M. Suri, "Uniform hp convergence results for the mortar finite element method," *Mathematics of Computation*, 69, 481-500 (2000).

36. J. Pitkäranta and M. Suri, "Upper and lower plate-bending error bounds for some plate-bending finite elements," *Numerische Mathematik*, 84, 611-648 (2000).

37. L. Chilton and M. Suri, "On the construction of stable curvilinear p version elements for mixed formulations of elasticity and Stokes' flow," *Numerische Mathematik*, 86, 29-48 (2000).

38. P. Seshaiyer and M. Suri, "hp submeshing via non-conforming finite element methods," *Comp. Meth. Appl. Mech. Engrg.*, 189, 1011-1030 (2000).

39. F. Ben Belgacem, P. Seshaiyer and M. Suri, "Optimal convergence rates of hp mortar finite element methods for second-order elliptic problems," *RAIRO Math. Mod. and Num. Anal.*, 34, 591-608 (2000).

40. L. Chilton and M. Suri,"Locking-free mixed hp finite element methods for curvilinear domains," *Comp. Meth. Appl. Mech. Engrg.*, 86, 29-48 (2000).

41. M. Suri, "The p and hp finite element method for problems on thin domains," *J. Comp. and Appl. Math.*, 128, 235-260 (2001).

42. S.I. Haan, P. Charalambides and M. Suri, "A specialized finite element for the study of woven composites," *Computational Mechanics*, 27, 445-462 (2001).

43. M. Dauge and M. Suri, "Numerical approximation of the spectra of non-compact operators arising in buckling problems," *J. Num. Math.*, 10, 193-219 (2002).

44. M. Suri, "Stable hp mixed finite elements based on the Hellinger-Reissner principle," *J. Comp. and Appl. Math.*, 174, 213-225 (2005).

45. M. Dauge and M. Suri, "On the asymptotic behavior of the discrete spectrum in buckling problems for thin plates," *Math. Meth. Appli. Sciences*, 29, 789-817 (2006).

46. A. Chaillou and M. Suri, "Computable error estimators for the approximation of nonlinear problems by linearized models," *Comp. Meth. Appl. Mech. Engrg.*, 196, 210-224 (2006).

47. A. Chaillou and M. Suri, "A posteriori estimation of the linearization error for strongly monotone nonlinear operators," *J. Comp. and Appl. Math.*, 205, 72-87 (2007)

48. A. Soane, M. Suri and R. Rostamian, "The optimal convergence rate of a C^1 finite element method for non-smooth domains," *J. Comp. and Appl. Math.*, 233, 2711-2723 (2010).

49. I. Babuška, A. Soane and M. Suri, "The computational analysis of problems on domains with small holes," *Comp. Meth. Appl. Mech. Engrg.*, 322, 563-589 (2017).

Mathematics Publications in Refereed Conference Proceedings

1. M. Suri, "Some optimal approximation results with applications to the h, p and hp versions of the finite element method", *Methods of Functional Analysis in Approximation Theory*, C. A. Micchelli, D. V. Pai, B. V. Limaye editors, 245-259, Birkhauser Verlag (1986).
2. M. Suri, "On uniform regularity estimates and robust approximations for parameter dependent problems", *Equadiff 91: International Conference on Differential Equations*, C. Perello, C. Simo and J. Sola-Morales (editors), Vol 2, pp 915-920, World Scientific, Singapore, 1993.
3. C. Schwab and M. Suri, "Locking and boundary layer effects in the finite element approximation of the Reissner-Mindlin plate model," Mathematics of Computation 1943-1993: A half-century of computational mathematics (W. Gautschi, ed.), Proc. Symposia Appl. Math., vol. 48, Amer. Math. Soc., Providence, R.I., 1994, pp. 367-371.
4. C. Schwab, M. Suri and C.A. Xenophontos, "'Boundary layer approximation by spectral/ hp methods," ICOSAHOM 95 Proceedings, Edited by Andrew Ilin and Ridgway Scott, published by *Houston Journal of Mathematics*, 501-508 (1996).
5. P. Seshaiyer and M. Suri, "Convergence results for non-conforming hp methods: The mortar finite element method," Proceedings of the tenth Domain Decomposition Conference, *Contemporary Mathematics*, 218, 467-473 (1998).
6. M. Suri and C. Xenophontos, "Reliability of an hp algorithm for buckling analysis," Proceedings of IASS-IACM 2000, Fourth International Colloquium on Computation of Shell and Spatial Structures, 2000.
7. M. Suri, "On the geometry of metafiction," Bridges 2012: Mathematics, Music, Art, Architecture, Culture, 437-438 (2012).
8. S. Chen and M. Suri, "A hyperbolic variant of tic-tac-toe," Bridges 2023 Proceedings, 497-500 (2023).

Mathematics Journal Volumes Edited

1. p and hp Finite Element Methods: Mathematics and Engineering Practice (p-FEM2000), Zohar Yosibash and Manil Suri, Editors, Special issue of *Int. J. Numer. Meth. Engng.* Vol 53, No. 1 (2002).
2. p and hp Finite Element Methods: Mathematics and Engineering Practice (p-FEM2000), Manil Suri and Zohar Yosibash, Editors, Special issue of *Computers and Mathematics with Applications* Vol 46, Issue 1 (2003).

Mathematics Outreach Publications/Creative Works

1. M. Suri, "The Tolman Trick" (a short story about the nature of proof and what it means to be a mathematician, published in a literary journal), *Subtropics*, 1, 85-101 (2006). (Reprinted in *The Shape of Content: An Anthology of Creative Writing in Mathematics and Science* (2008), in *Mitteilungen der DMV (Notices of the German Mathematical Society)* 17 (2009) 218-228 (German translation) and *Siecle 21* 16 (2010) (French translation).
2. M. Suri, "Learn math or die" ("Mathe lernen oder sterben") (an essay about mathematics education in India, in a German-language cultural magazine), *Kulturaustausch*, 2006: IV, 36-37 (2006).
3. M. Suri, "Taming Infinity" (a web-based video explaining infinity to non-mathematicians), www.YouTube.com and www.UMBC.edu (2007). Exhibited at the art and science museum, Le Laboratoire, Paris, France, Oct 2008-Jan 2009.

4. M. Suri, "X=50 Semesters" (an essay about teaching mathematics), *The New York Times Magazine*, Sep 21, 2008: 110 (2008).

5. M. Suri, "The Writing Life" (an essay about balancing mathematical and writing careers), *The Washington Post, Book World*, Feb 8, 2009.

6. M. Suri, "The Mathematics of Fiction" (a web-based video explaining the concept of deconstruction via basis functions in mathematical and non-mathematical contexts), www.YouTube.com and www.UMBC.edu (2009).

7. M. Suri, "m(Arcadia) - The Mathematics behind Tom Stoppard's Arcadia" (a web-based video expounding upon Fermat's Last Theorem, Fractals, Population Dynamics and other mathematical references in the play), www.YouTube.com and www.Folger.edu (2009).

8. M. Osherow and M. Suri, "Mathematics and What it Means to be Human," (a three-part series on the relevance of mathematics for humanities students) *The Chronicle of Higher Education* Part I: Oct 7, 2012, Part II: Oct 16, 2012, Part III: Oct 23, 2012.

9. "Math Heroine" (a web-based video exploring the challenges and stereotypes faced by women in mathematics) http://www.youtube.com/watch?v=smbnAEhbjpo (2012).

10. "A Mathematically Impossible Novel" (connects decision trees with writing a novel) *The Daily Beast* Mar 15, 2013.

11. "How to Fall in Love With Math" (Op-ed piece on math appreciation) *The New York Times* Sep 15, 2013.

12. "The Big Bang of Numbers" (a web-based video that shows how numbers can be constructed out of emptiness) http://www.youtube.com/watch?v=yAKUDnloQqo (2013).

13. "Falling for Math" (condensed version of NYT Op-ed), *Reader's Digest*, Feb, 2014.

14. M. Osherow and M. Suri, "The Mathematics of Being Human," (a one-act play on the intersection between mathematics and the humanities) Original reading performed with M. Osherow as part of "Bridges" series, St. Jerome's University, Waterloo, Canada, Feb 28, 2014. Staged reading: UMBC (Nov 4, 2014), Joint Mathematics Meetings, San Antonio (Jan 11, 2015), Museum of Mathematics, NYC (Mar 8, 2015), National Academy of Sciences DASER, Washington, DC (Mar 19, 2015, excerpt), Bridges conference on Math and Art, Baltimore (July 29, 2015). Also selected for an independently produced staged reading by the Comparative Drama Conference, Stevenson University, March 2015. Full independent productions at the American Center, New Delhi, India (Atelier Productions, Jan 14-15, 2016) and the University of Pittsburgh, PA (5 shows, Mar 30 - Apr 2, 2016).

15. M. Suri, "Social Engagement Shapes a Mathematical Career," Profile of recent African-American mathematics Ph.D. Evelyn Thomas, *SIAM News*, Mar 4, 2014.

16. M. Suri, Book review of "How not to be wrong: the power of mathematical thinking" by Jordan Ellenberg, *The Washington Post*, Jun 13, 2014.

17. "Don't Expect Math to Make Sense" (Op-ed piece on Pi Day) *The New York Times* Mar 13, 2015.

18. "Mathematicians and Blue Crabs" (Op-ed piece on modeling crab populations) *The New York Times* May 2, 2015.

19. "Why is Science so Straight?" (Op-ed piece on under-representation of LGBT people in STEM fields) *The New York Times* Sep 4, 2015.

20. "The Importance of Recreational Math" (Op-ed piece on why recreational math is a useful educational tool) *The New York Times* Oct 12, 2015.
21. "The Mathematician's 90th-Birthday Party" (Op-ed piece on ageism in mathematics and the beauty of applied mathematics) *The New York Times* Apr 25, 2016.
22. "Who Invented Zero?" (Op-ed on the discovery of zero) *The New York Times* Oct 7, 2017.
23. "Does Math Make You Smarter?" (Op-ed about a cool logic test from psychology called the Wason Selection Task, and how it pertains to math education) *The New York Times* Apr 13, 2018
24. "Stop Saying `Exponential.' Sincerely, a Math Nerd." (Op-ed about how "exponential" and other math terms have been appropriated in unfortunate ways) *The New York Times* Mar 4, 2019
25. "Want to fix gerrymandering? Then the Supreme Court needs to listen to mathematicians." (Op-ed with Karen Saxe about mathematical standards to identify extreme gerrymandering) *The Conversation* Mar 29, 2019
26. "Why you can love maths even if you hate calculations" (Article about ideas in mathematics and its role in the stock market) *Money Control* Oct 23, 2022
27. M. Suri, "What happens if we make the Mona Lisa more symmetrical?" *Psyche* magazine, Nov 22, 2022.
28. M. Suri, "Recognise an Eastern mathematical legacy." *Hindustan Times*, Dec 21, 2022.
29. M. Suri, " How to Build Out the Universe Using Only Mathematics." *Deccan Herald*, Dec 21, 2022
30. M. Suri, " Pi gets all the fanfare, but other numbers also deserve their own math holidays." *The Conversation*, Mar 8, 2022.
31. M. Suri, " Declines in math readiness underscore the urgency of math awareness." *The Conversation*, Mar 31, 2023.
32. M. Suri, "Mathematics can do anything but this," *John Templeton Ideas*, Aug 8, 2023.
33. M. Suri and D. Morgan, "Diagnostic tests for rare conditions present a mathematical conundrum," *STAT News*, Nov 30, 2023.
34. M. Suri, "This mathematical trick can help you imagine space-time," *New Scientist*, Dec 8, 2023.
35. M. Suri, "From thousands to millions to billions to trillions to quadrillions and beyond: Do numbers ever end?" *The Conversation*, Apr 15, 2024.
36. M. Suri, "How the Math of Cracks Can Make Planes, Bridges and Dams Safer," *Scientific American*, Jun 25, 2024.

K-16 STEM-related Activities

1. Collaborated with Dr. Peggy Re (Visual Arts, UMBC) and UMBC Library staff to plan an exhibition on calculus in the Library Gallery entitled, "Calculus in 25 Minutes or Your Money Back" (2005-2006). Project not pursued due to logistical difficulties.
2. STEM Education at Sherwood High School. This program, to teach computer-aided mathematics to 10th and 11th graders, was sponsored by the VIP program through the Shriver Center. It was completed in 2007.

3. Mathematics Partnership (MSP) with Baltimore County Public School System. This program, to motivate Algebra II learning, led to several teaching modules that were used at Woodlawn Middle School. A one week workshop to train teachers was conducted in July, 2008. The project was supported by an NSF grant (2007-2008). I have taught these modules in several schools, including two in Mumbai, India.
4. 2011-2012 Resident Scholar, Park School, Baltimore. Engaged upper school students with talks on mathematics, India, fiction and LGBT diversity issues.
5. Organized "Exploring Possibilities," a one-day session for (primarily minority) high school girls and their teachers as part of "Infinite Possibilities" conference, UMBC (Mar 31, 2012).
6. Featured in "29 Children with 20 Dogs and 15 Cats" video on ways to solve mathematics problem, by Imaging Research Center, UMBC (Jul, 2012).
7. Featured in "Math Meets Fashion" webisode with TV personality Tim Gunn, Scholastic MathWork series (aimed at Grades 5 and up) (Nov 2013).
8. Participated in math educational projects for elementary school children, St. Andrew's Public School, Toronto, Canada (Feb, 2014).
9. Math and video: projects initiated with Dr. Lee Boot of IRC and Dr. Katherine Bell of Visual Arts at UMBC (ongoing since 2018).
10. Project on shell patterns for high school mathematics students with Youcubed Organization, Stanford University, under Dr. Jo Boaler (started Oct, 2023).

Mathematics-related Media Interviews

Jan, '01 Interview with Ivar Stakgold, *SIAM News*, Jan 9, 2001.

Feb, '01 Interview with Caroline Lasser, *Mitteilungen der Deutschen Mathematiker-Vereinigung*, Feb 2001, 38-39.

Oct, '07 Interview with Sheilah Kast on mathematics, Maryland Morning, WYPR, Oct 1, 2007.

Apr, '08 Profile by Michelle Sipics, *SIAM News*, Apr 12, 2008.

Jun, '08 "A conversation with Manil Suri," Interview with Claudia Dreifus, *The New York Times*, Science Section, Jun 17, 2008.

Feb, '09 Mathematics discussion on "The Forum," BBC World, Feb 21, 2009.

May, '09 Interview with Dr. Freeman Hrabowski on my work in mathematics and writing, UMBC "In the Loop" series, May, 2009.

Feb, '13 Profile in *UMBC Magazine*, Feb, 2013.

Apr, '13 Discussion on "The Forum," BBC World, on "Obsessions, new and old, in literature and technology" (which dealt with both my writing and mathematics). Apr 8, 2013.

Sep, '13 Radio interview on my NYT Op-ed, WILS Michigan, Sep 17, 2013.

Sep, '13 Radio interview on my NYT Op-ed"The Joy Cardin Show," Wisconsin Public Radio, Sep 24, 2013.

Apr, '14 Video interview for National Academy of Sciences "Dome" project (installed in National Academy of Science main hall, Washington, DC.)

Jul, '15 "Mathematics and Literature" (segment with Michele Osherow) on Humanities Connection show, WYPR FM, Jul 16, 2015.

Mar, '17 Radio interview on NPR "How to Love Math," on "The Sheila Kast Show," Mar 1, 2017.

Sep, '22 Interview on NPR Marketplace Tech, " This book explains how understanding math helps you understand the universe," Sep 29, 2022.

Oct, '22 "Closer to Truth" video podcast with Robert Lawrence Kuhn "How to build the universe using only math."

Oct, '22 "Can a Novelist Convince Creative People to Love Math?" Profile interview in *Washingtonian* magazine, Oct, 2022.

Oct, '22 "Creation ex nihilo: author Manil Suri on math, sexuality and the universe" in *Johns Hopkins Newsletter*, Oct 4, 2022.

Oct, '22 "Maths is the True Intelligence Behind the Universe's Design," interview in *The Times of India*, Mumbai, Oct 25, 2022.

Oct, '22 "Maths is Essentially About Ideas," interview in *The Telegraph*, Kolkata, Oct 29, 2022.

Nov, '22 Interview with Adam Conover on "Factually!" podcast, Nov, 2022.

Nov, '22 "A Mathematician Explains Why You Didn't Win Powerball Last Night" article in *Washingtonian* magazine, Nov 1, 2022.

Nov, '22 Interview on "Delving In" podcast, KTAL101.5FM, Nov 6, 2022.

Nov, '22 Interview with *Hindustan Times*, newspaper, Nov 26, 2022.

Dec, '22 Interview with *Curious* magazine, Issue 5, Dec, 2022.

Dec, '22 Interview with *Frontline*, newspaper, Dec 1, 2022.

Dec '22 Interview with *Convergence*, CMU Magazine, Dec, 2022.

Jan, '23 Interview with *Mint Lounge*, newspaper, Jan 22, 2023.

Mar, '23 Interview with *The Sandip Roy Show*, podcast, Mar 5, 2023.

Mar, '23 Interview with *Midday Mumbai*, newspaper, Mar 14, 2023.

Oct, '23 Interview on *The Mind Body Solution*, podcast, Oct, 2023.

Dec, '23 Interview for episode "Math Rules the World" on *The Open Mind*, PBS TV show, Nov 18, 2023.

Dec, '23 Interview with Dr. Daniel Morgan on *First Opinion* podcast on "When do tests hurt more than help?" Dec 13, 2023.

Mathematics-related Talks Since 2000

Apr, '00 Invited talk, "Elastic Shells: Modeling, Analysis and Numerics" MSRI, Berkeley, CA, Apr 17-28, 2000, "The numerical analysis of an hp algorithm for the approximation of buckling problems"

May, '00 "p and hp Finite Element Methods: Mathematics and Engineering Practice" St. Louis, MO, May 31-June 2, 2000, Organizer of Conference: "Reliability of an hp algorithm for buckling analysis"

Jun, '00 Minisymposium talk, "IASS - IACM 2000 Fourth International Colloquium on Computation of Shell and Spatial Structures" Chania, Crete, June 4-7, 2000, "Reliability of an hp algorithm for buckling analysis"

Apr, '01 Invited talk, "Conference in Honor of Jim Greenberg's 60th Birthday" Carnegie-Mellon University, Pittsburgh, April 20-21, 2001, "The approximation of the spectra of non-compact operators arising in buckling analysis"

May, '01 Colloquium talk, Dept of Mathematics, University of New South Wales, Sydney, Australia, May 16, 2001, "The approximation of the spectra of non-compact operators arising in buckling analysis"

May, '01 Colloquium talk, Tata Institute of Fundamental Research, Mumbai, India, May 31, 2001, "Fiction and finite elements"

Jun, '01 Minisymposium talk, "ICOSAHOM '01 (International Conference on Spectral and High Order Methods), Uppsala, Sweden, June 11-15, 2001, "Reliability of an hp finite element method for buckling analysis"

Oct, '01 Colloquium talk, NIST, Gaithersburg, MD, Oct 30, 2001, "The p and hp finite element approximation of thin domains"

Feb, '03 Workshop, Computational challenges in partial differential equations, Newton Institute, Cambridge, England, Feb 10-14, 2003.

Sep, '03 Invited talk, Adaptivity in Finite Element Analysis: Models, Meshes and Polynomial Order, Physikzentrum Bad Honnef, Sep 8-10, 2003, " A posteriori estimation of the linearization and finite element approximation errors for strongly monotone nonlinear operators" (joint talk with A. Chaillou).

Sep. '03 Seminar talk, Partial Differential Equation Seminar, Dept of Math and Stat, UMBC, Sep 22, 2003, "A stable hp mixed finite element method for viscoelasticity problems."

Apr. '04 Invited talk, BIRS Workshop on Mathematics and Creative Writing, Banff International Research Station, Banff, Canada, Apr 17-22, 2004, "The Tolman Trick," a mathematical short story set at Oberwolfach.

May, '04 "The Infinity Roadshow," multimedia talk, UMBC, May 5, 2004 (also presented at Meade Middle School, Apr 29 and Banneker High School, May 21).

Jun, '04 Minisymposium talk, ICOSAHOM '04 (International Conference on Spectral and High Order Methods), Providence, RI, June 21-25, 2004, "Stable hp mixed finite elements based on the Hellinger-Reissner principle."

Jul, '05 "The Infinity Roadshow," multimedia talk, presented at Virginia Center for the Creative Arts in July and Charlestown Retirement Community in December.

Jun, '06 "Artistic and historical exploration of infinity and its link to Calculus," Invited break out session at "Inquiry based learning," STEM seminar, UMBC, Jun 15, 2006.

Sep, '06 "The Infinity Roadshow," multimedia talk, invited presentation at Sixth International Literature Festival, Berlin, Germany, Sep 6 - 16, 2006. Also presented at UMBC's 40th anniversary, Oct 21, 2006.

Dec, '06 "Teaching mathematics in an integrated learning environment," Invited keynote address, STEM seminar, UMBC, Dec 2, 2006.

Dec, '07 "Maintaining the Momentum" STEM workshop, Timonium, MD, Nov 30 - Dec 1, 2007, "Motivating mathematics education in K-12 settings," invited address to breakout session.

Dec, '07 NSF - Math / Science Partnership Regional Conference, Washington, DC, Dec 11 - 12, 2007, "MSP Experiences , Successes , and Opportunities," invited address to breakout session.

May, '08 Invited talk, "Perspectives in Numerical Analysis," Helsinki University of Technology, Espoo, Finland, May 27-29, 2008 "The Mathematics of Fiction." (Also delivered at the American Center, Mumbai in May, 2008, the Maryland Science Center, Baltimore, MD, Sep 9, 2008, and at St. Olaf College, on Oct 21, 2008).

Oct, '08 Invited talk, "Innovation 2008: Renewing America Through Smarter Science and Technology Policy" Humphrey Institute of Public Affairs, University of Minnesota, Minneapolis, MN, Oct 20-21, 2008.

Feb, '09 "The Mathematics of Fiction," Language, Literacy and Culture Colloquium Series, UMBC, Feb 23, 2009. Also at the University of Pittsburgh Studio Theater, Pittsburgh, PA, Apr 10, 2009 and Sweet Briar College (April, 2009).

May, '09 "Fractal Friday," Pre-show talk, Folger Theater, Washington, DC, May 15, 2009. Similar talk delivered at same venue on June 13, 2009.

May, '09 "The Mathematics behind Tom Stoppard's Arcadia," talk and discussion with cast and crew members, Mathematical Association of America, Washington, DC, May 18, 2009 (co-sponsored by American Mathematical Society).

Oct, '09 Invited to deliver "Annual Blazer Lecture in the Humanities" on the connection between mathematics and the humanities, University of Kentucky, Lexington, KY. (October 29, 2009).

Nov, '09 "The Two Cultures Today: An Interdisciplinary Panel Discussion on the Connections between the Sciences and the Humanities," Humanities seminar, UMBC (Nov 9, 2009)

Jan, '12 Three talks given at Park School, Baltimore. (NOTE: various other talks given at schools are not listed here.)

Jan, '13 "The Innocent Genius: Ramanujan and a Life in Mathematics," Conversation with Dr. Dinesh Singh, Jaipur Literary Festival, Jaipur. (Jan 26, 2013)

Aug, '13 "The Science of Stoppard," The Shaw Theater Festival, Niagara-on-the-Lake, Canada. (Aug 10, 2013)

Nov, '13 Talk on interdisciplinary aspects of my career, Annual Hilltop Society Dinner, UMBC. (Nov 5, 2013)

Mar, '14 "Mathematics and Fiction: An Interdisciplinary Struggle" Director's Visiting Scholar Lecture, Dedman Interdisciplinary Institute, Southern Methodist University. (Mar 6, 2014). Also, "Fractals and Fashion," Fashion Media Program, SMU. (Mar 7, 2014)

Apr, '14 "Mumbai, Mythology and Mathematics" (on the connections between the three topics in my career) George Mason University, VA (Apr 4, 2014)

Sep, '15 "Word and Number: Can the Twain Ever Meet?" (talk on the relation between mathematics and literature) Jaipur Literary Festival at Boulder, CO (Sep 19, 2015)

Mar, '16 "Mathematics: Finding the Narrative Within," (invited talk on the relation between narrative and mathematical instruction/finite element research), Advances in Mathematics of Finite Elements, University of Texas at Austin, TX (Mar 21-21, 2016).

Apr, '16 "The Computational Analysis of Domains with Small Holes," Finite Element Circus, University of Maryland, College Park (Apr 15, 2016) (Talk also presented as a Mathematics Colloquium at UMBC in Spring 2017)

Jun, '18 "From fairy tales to finite elements: How Math Connects With Fiction" talk at National Museum of Math, NYC, Jun 6, 2018 and at Rhizome DC, Jun 14, 2018.

Oct, '18 "What math do we want non-STEM college majors to know?" invited talk, AMS Committee on Education mini-conference, Washington, DC, Oct 12, 2018.

Oct, '18 "STEAMy videos and X'y tales," GRIT-X, UMBC, Oct 13, 2018.

Sep, '22 "The Big Bang of Numbers," Live interview with Maya Kanwal, Jaipur Literary Festival, Houston, TX, Sep 10, 2022.

Sep, '22 "The Big Bang of Numbers," Live interview with Eric Weiner, Politics and Prose Bookstore, Washington, DC, Sep 28, 2022.

Sep, '22 "Math, Fiction, Sexuality, the Universe: A Journey of Discovery," Talk at Johns Hopkins University, Baltimore, MD, Sep 29, 2022.

Oct, '22 "The Big Bang of Numbers: Halloween Edition," Talk at American University, Washington, DC, Oct 28, 2022.

Nov, '22 "How to Create the Universe Out of Nothing: The Math Version," Talk at IMA, University of Minnesota, Minneapolis, MN, Nov 3, 2022.

Nov, '22 "Can you build the Universe Out of Nothing?" Presentation and mock dissertation defense, UMBC, Nov 14, 2022.

Nov, '22 "Math, Fiction, Sexuality, the Universe: A Journey of Discovery," Address to American Society for Engineering Education (ASEE) LGBTQ+ advocacy group, Nov 17, 2022.

Jan, '23 "The Big Bang of Numbers," Valley of the Word Festival, Dehradun, India. Jan 16, 2023.

Jan, '23 "The Big Bang of Numbers," Jaipur Literary Festival, Jaipur, India, Jan 21, 2023.

Jan, '23 "Building the universe through maths," Asiatic Society, Mumbai, India, Jan 24, 2023

Feb, '23 "Building the universe with mathematics," The Royal Institution, London, UK, Feb 1, 2023

Feb, '23 "The Big Bang of Numbers," Quantum Photonics Group, Online, Feb 3, 2023.

Mar, '23 Frank Islam Athenaeum Symposium, "The Big Bang of Numbers: Creating a culture for universal mathematical engagement," Montgomery College, Germantown, MD, Mar 28, 2023.

Apr, '23 Bradley Literary Series, "The Big Bang of Numbers," Bradley University, Peoria, IL. Apr 20, 2023.

Apr, '23 Annapolis Book Festival, "The Big Bang of Numbers," Annapolis, MD, Apr 29, 2023.

Jun, '23 John Maddox Lecture at Hay Festival in Wales, sponsored by the scientific journal Nature, "The Big Bang of Numbers," Hay-on-Wye, UK, Jun 3, 2023.

Sep, '23 Jaipur Literary Festival in New York, "The Big Bang of Numbers," Asia Society, NYC, Sep 13, 2023.

Sep, '23 *The Conversation* Book Club, inaugural book, "The Big Bang of Numbers," discussion, Sep 14, 2023.

Oct, '23 "So you write novels and teach....mathematics?" Youcubed, Stanford University, CA, Oct 2, 2023.

Oct, '23 "The Big Bang of Numbers," Math Lovers Forum, Simons Laufer Math Science Institute (SLMath/MSRI), Bay Area, CA, Oct 3, 2023.

Oct, '23 Victor Bearg science and humanities lecture, "What if we built the universe using only math?" Carnegie-Mellon University, Pittsburgh, PA, Oct 26, 2023.

Nov, '23 Volumes Book Club, Museum of Mathematics, "The Big Bang of Numbers," MoMath, NYC, Nov 20, 2023.

Mar, '25 Featured speaker at Brooklyn Central Library for "Night in the Library Festival," Brooklyn, NYC, Mar 8, 2025. Two talks, "Why we don't need God if we have Math," and "The Mathematics of Beauty: How to Make the Mona Lisa Look Prettier."

Book Reviews for "The Big Bang of Numbers"

Kirkus Reviews (Jun 30, 2022), Publisher's Weekly (Aug, 2022), Wall Street Journal (Oct 7, 2022), Mathematical Association of America (Oct 22, 2022), Physics Today (Nov, 2022), Sunday Times (London) (Nov 13, 2022), Business Standard (Dec 21, 2022), Society for Industrial and Applied Math News (June, 2023), American Mathematical Society Notices (Sep, 2023). Recommended read in Deccan Herald (India), Hindustan Times (India), Financial Times (India), Straits Times (Singapore).

ACTIVITIES RELATED TO ASIAN STUDIES/LITERATURE

Novels *(These have been cumulatively translated into 27 languages)*

2001 *The Death of Vishnu* W.W. Norton (US), Bloomsbury (UK and world English rights). Winner: Barnes and Noble Discover Prize, McKittrick Prize (UK), Ralph Heyne

Corrine Buchpreis (Germany); Finalist: Pen-Faulkner award, Kiriyama prize, Pen-Hemingway award, LA Times Art Seidenbaum award, Torgi Literary award (Canada) and WH Smith First Novel award (UK); Long listed: Booker Prize, IMPAC Prize. A NY Times Notable Book for 2001.
Sample reviews: *New York Times* (Jan 28, 2001), *LA Times* (Feb 4, 2001)

2008 *The Age of Shiva* W.W. Norton (US), Bloomsbury (UK and world English rights)
Named one of the 25 best books of the decade by the "Contemporary Literature" website on About.com.
Sample reviews: *New York Times* (Feb 28, 2008), *Independent* (UK) (Mar 30, 2008)

2013 *The City of Devi* W.W. Norton (US), Bloomsbury (UK and world English rights)
Finalist: Lambda Literary Award. Winner: Bisexual Fiction Award. Ranked #12 in Flavorwire's list of 50 essential books on LGBT fiction.
Sample reviews: *Washington Post* (Jan 29, 2013), *Wall Street Journal* (Feb 4, 2013)

Literary/India-related Publications since 2011:

Jan, '11 My Life as a Cabaret Dancer (personal essay), *Caravan*, Jan 1, 2011.

Jul, '11 The City: Mumbai (essay), *Newsweek*, Jul 17, 2011.

Nov, '12 The Silver Spring Laxmi (short story), *The Washington Post Magazine*, Nov 14, 2012.

Jan, '13 A Literary Sex Education in Mumbai (personal essay), broadcast on *National Public Radio* Jan 7, 2013.

Jan, '13 Points of View on Point of View (essay), *Wall Street Journal* Feb 8, 2013.

Feb, '13 Favorite Books on India's New Soul (article), *Goodreads* Feb, 2013.

Mar, '13 Top Ten Books on Mumbai (article), *The Guardian* (UK) Mar 13, 2013.

Jun, '13 How to be Gay and Indian (personal essay) *Granta* Jun 25, 2013.

Jun, '13 The Court's Global Message on DOMA (Op-Ed), *The New York Times* Jun 30, 2013.

Nov, '13 How to be a Man (short story), *The Book of Men* edited by Colum McCann, Tyler Cabot, Lisa Consiglio, Macmillan (2013)

Dec, '13 Love in a Different Climate (book recommendation), *NPR Books* Dec 14, 2013.

Dec, '13 Court Ruling Ignores India's Rich Heritage of Diversity (Op-ed), *The Washington Post* Dec 20, 2013.

Jan, '14 The Nuclear Nightmare (Op-ed) *The Times of India* Jan 12, 2014.

Nov, '14 Exposing the Bangalore Techie (Op-ed) *The New York Times* Nov 4, 2014.

Apr, '15 A Ban on Beef in India is not the Answer (Op-ed) *The New York Times* Apr 17, 2015.

Jun, '15 India and the Politics of Yoga (Op-ed) *The New York Times* Jun 19, 2015.

Aug, '15 India's Inverted Abortion Politics (Op-ed) *The New York Times* Aug 3, 2015.

Mar, '16 The Segregation of India (Op-ed) *The New York Times* Mar 15, 2016.

Sep '16 Book Review of "Sleeping on Jupiter" *The New York Times* Sep 23, 2016.

Oct, '18 India's Riotous Triumph of Equality (Op-ed) *The New York Times* Sep 7, 2018.

Literary/India-related Talks since 2011 *(Does not include several talks at bookstores)*

Apr, '11 "Capturing India," Global Perspectives Program, University of Central Florida, Orlando, Florida, Apr 5, 2011.

Sep, '11 Panel on Indian Writing, L'Inde Vue Par Il, Centre Georges Pompidou, Paris, France, Sep 17, 2011.

Jan, '13 Literary talks and panels, Apeejay Literary Festival, Kolkata (Jan 12), Godrej India Culture Lab, Mumbai (Jan 14), SAP Labs Writers' Series, Delhi (Jan 21), Jaipur Literary Festival (Jan 24, 26).

Feb, '13 "The City of Devi," Humanities Forum, UMBC (Feb 6, 2013).

Mar, '13 Literary talks and panels, VisArts Series, Rockville, MD (Mar 7), Oxford Book Festival, Oxford, UK (Mar 16), London Literary Salon, London, UK (Mar 20), Virginia Festival of the Book, Charlottesville, VA (Mar 24).

Apr, '13 "The Trimurti Trilogy," Dhar India Studies Program, Indiana University, Bloomington, IN (Apr 4). Also at New York State Writers' Institute, SUNY Albany, Albany, NY (Apr 19).

Aug, '13 Literary talks, Outwrite Book Festival, Washington, DC (Aug 3), Decatur Book Festival, Atlanta, GA (Aug 31).

Sep, '13 Literary talks, National Book Festival, organized by Library of Congress, Washington, DC (Sep 22), Fall for the Book Festival, GMU, VA (Sep 27).

Oct '13 Literary talks, Asia Society, Houston, TX (Oct 24), Texas Book Festival, Austin, TX (Oct 26), Asian American Writer's Worskshop, Brooklyn, NY (Oct 5).

Nov '13 "Meet the Authors," Literary fundraising event, St. John's College, Annapolis, MD (Nov 10).

Dec '13 A public talk connecting mythological motifs in my trilogy of novels with art about Vishnu, Shiva and Devi from the collection, Sackler Gallery, Smithsonian Institute, Washington, DC (co-sponsored by the Indian Embassy) (Dec 7).

Feb '14 Literary reading, Writers' Center, Bethesda (Feb 2, 2014)

Feb '14 A talk on the intersection between sexuality and urban life in contemporary Mumbai, Arcus Endowment Lecture, College of Engineering Design, UC Berkeley, CA (Feb 12, 2014). (Follow-up workshop with architecture and design students on Feb 13.)

Mar '14 Literary Panel, "Books Alive," Bethesda, MD (Mar 29, 2014).

Apr '14 Keynote Speaker, Creative Writing Forum, CCBC, Essex, MD (Apr 10, 2014).

May '14 Invited Speaker, "The Inclusive City," 2nd Annual Fletcher-Mastercard Forum, Fletcher School of Business, Tufts University (May 1, 2014). (Follow-up workshop on May 2 on affordable housing in Mumbai.)

Sep '14 Keynote Address, Kriti South Asian Writing Festival, Chicago, IL (Sep 25-28, 2014).

Sep '15 Panel on Rainbow Readings, Jaipur Literary Festival in Boulder, CO (Sep 19-20, 2015).

Sep '15 Literary Reading, Baltimore Book Festival, Baltimore, MD (Sep 27, 2015).

Jan '16 Lit for Life Festival, invited speaker and panelist, Chennai, India (Jan 15-17, 2016)

Oct '18 Interviewed author Anissa Helou on Islam-related food and culture, Sackler Gallery, Washington, DC (Oct 21, 2018).

Other Projects

2003 Teamed with Dr. Monica Hill of Montgomery College to conduct the "International Fiction Reading Group" for non-native speakers of English, Montgomery College, Takoma Park Campus, MD (Feb-May 2003).

2009 Interviewed Professor Preminda Jacob on her book, "Celluloid Deities," for UMBC television "In the Loop" series.

2010 "The Letter" Digital Story about my mother's experiences as Indira Gandhi's personal secretary. https://www.youtube.com/watch?v=sPVxsynT0VY

2018 Math video project with Lee Boot and IRC (ongoing).

TEACHING AND SERVICE

Course Redesign and Development

Fall '99	Math 635: Foundations of the Finite Element Method (new course added to catalog in 1999)
Spr '04	Fermat, Uncle Petros and Pi (new First Year Seminar with focus on mathematics and the media)
Spr '06	Creative Endeavors in Mathematics (A special topics course in which students worked on interdisciplinary projects combining mathematics with a creative field such as music, writing, art)
Spr '07	Computation as an Experimental Tool (new First Year Seminar to explore mathematics through computer experimentation)
Fall '10	Math 221H: Introduction to Linear Algebra (Honors version of Math 221, with emphasis on Matlab computation)
Fall '11	Mathematics and What it Means to be Human (Humanities Seminar on the intersection of math and the humanities, for incoming humanities scholars)
Spr '14	Math 341: Computational Methods (Redesign with emphasis on in-class Matlab assignments)
Fall '17	Math 432: History of Mathematics (Redesign as active learning course)
Fall '18	The Godfather of Numbers: Designing the Universe Through Math (new First Year Seminar based on book in progress that explains math to non-mathematicians).
Fall '18	Math 120: Intro to Contemporary Math (Redesign of course with inclusion of current affairs, video and fiction, under Hrabowski Grant - from 2018-2020).
Spr '19	Math 120: Intro to Contemporary Math (Second redesign, as active learning course)
Spr '21	Math 301: Intro to Math Analysis I (Redesign as Team-based/active learning course)
Fall '22	Honors 300: Mathematics of the Universe (New seminar course, based on my book, "The Big Bang of Numbers.")

Dissertation Committees

In addition to my own Ph.D. students listed earlier, I have served on several Ph.D. dissertation committees for students in mathematics and mechanical engineering.

Departmental and University Service

Have served as math colloquium coordinator, graduate program director, faculty senate representative, and various committees both on the departmental level (such as the 2014 faculty search committee) and the university level (such as faculty affairs, faculty grievance, DRIF fellowship selection, GRC judge, presidential faculty awards, valedictorian selection). Delivered the Fall, 2013 convocation speech and served as the student marshal for the Fall, 2013 and Spring, 2014 commencements. Have promoted interdisciplinarity on campus through interactions with faculty from Mechanical Engineering, English, IRC, Visual Arts, History, Theater, Asian Studies and the Dresher Center.