

Curriculum Vitae

Name Haynes Robert Miller

Birth January 29, 1948, Princeton, NJ; U.S. Citizen

Education BA, Harvard University, 1970
PhD, Princeton University, 1974

Positions Instructor, Princeton University, 1974–1975
Benjamin Pierce Assistant Professor, Harvard University, 1975–1979
Visiting Assistant Professor, Northwestern University, 1976–1977
Assistant Professor, University of Washington, 1979–1981
Associate Professor, University of Washington, 1981–1984
Visiting Associate Professor, Northwestern University, 1981–1982
Member, Institute for Advanced Study, Princeton, 1982–1983
Professor, University of Washington, 1984
Professor, University of Notre Dame, 1985
Professor, Massachusetts Institute of Technology, 1986–2021
Professor, Post-tenure, Massachusetts Institute of Technology, 2021–2022

Visiting Positions Aarhus University, summer 1979
University of Cambridge, summer 1982
Professeur Associé, Université de Paris VII, February–June 1986
Ordway Professor, University of Minnesota, January 1991
Göttingen University, August 1991
Université de Paris XIII, June 1993
Institut Mittag-Leffler, Djursholm, Sweden, September 1993
Kyoto University, January 1997
Max-Planck-Institut für Mathematik, Bonn, July 1997
Australian National University, Canberra, January 2001
Maître de recherche, Ecole Polytechnique, June 2005
Institut Mittag-Leffler, Djursholm, Sweden, May–June 2006
Center for Symmetry and Deformation, University of Copenhagen, May 2011
Mathematical Sciences Research Institute, Berkeley, January–February 2014
Hausdorff Research Institute for Mathematics, June–July 2015

Editorships Proceedings of the AMS, 1984–1988
Bulletin of the AMS, 1993–2003
Geometry and Topology, 1996–
Topology and its Applications, 1998–2001
International Mathematical Research Notices, 2000–2004
Mathematische Zeitschrift, 2000–2006
Journal of the American Mathematical Society (Associate Editor), 2006–2012
Journal of the Institute of Mathematics of Jussieu, 2008–2015
International Journal of Research in Undergraduate Mathematics Education, 2014–
Journal of Homotopy and Related Structures, 2015–
Tunisian Mathematics Journal, 2017–

Grants NSF Graduate Fellow, 1970–1973
 Dodds Fellow, Princeton University, 1973–1974
 Harvard Graduate Society Fellow, 1978–1979
 Sloan Fellow, 1980–1983
 NSF research grants, 1975–2015
 MIT d’Arbeloff grant “Computer-aided Teaching of Mathematics,” 2001–2006
 Cambridge-MIT Institute grant, 2002–2005
 MIT Alumni Class Funds grant “Mathematics for Aerospace Engineers,” 2002–2003
 ACF grant “Explicit Linking of Mathematics,” 2004–2005
 d’Arbeloff grant “Coordinating the MIT Mathematics GIR Curriculum,” 2009–2011
 ACF grant “Flash-forward/Flash-back in OpenCourseWare,” 2010–2011
 NSF grant, “Mathematical Communication Space,” 2011–2012
 Davis Educational Foundation Grant, “Quantifying Uncertainty,” 2012–15
 ACF grant “A Module on Laplace Transform,” 2014–2015
 ACF grant “Crosslinks,” 2015–2016
 MIT Office of Digital Learning grant to develop 18.03x, 2016–2017
 MIT Office of the Vice-provost for International Activities and Office of Digital Learning,
 “Building a library of Kreyòl based resources for further outreach,” 2017–
 MIT J-WEL/pK-12, “An MIT-Haiti Center for Educational Innovation,” 2019–
 MIT Office of the Vice-Provost for International Engagements,
 “Third Gathering for Science in Palestine,” January, 2020
 MIT J-WEL/Higher Education, “MIT-Palestine UROPs,” 2021 –

Awards Cambridge-MIT Institute Fellowship, 2002–2003
 Margaret MacVicar Faculty Fellow, 2005–2014
 Graduate Student Council Teaching Award, 2006
 Fellow of the American Mathematical Society, 2012
 Alan J. Lazarus Award for Excellence in Advising, 2021

**MIT
 Committees** Committee to Study TA Training at MIT, 2002
 Presidential Task Force on the Undergraduate Educational Commons, 2004–2006
 Dean for Undergraduate Education Faculty Advisory Committee, 2006–12
 Impact Study Group for the Communication Requirement, 2007
 OpenCourseWare Faculty Advisory Committee, 2008–
 Committee on the Undergraduate Program, 2009–11
 Faculty Advisory Committee to MIT Information Systems and Technology
 on Learning Management Systems, 2010
 Provost’s Working Group on Educational Initiatives, 2010
 MITx Task Force on Concepts and Learning Pathways, 2013
 MIT-Haiti Initiative, 2013–
 Faculty Policy Committee, 2016–2019
 Presidential ad hoc committee on the role of OCW, 2016–2017
 Higher Education Advisory Group for the Jameel World Education Lab, 2017–

**Departmental
 Service** MIT Pure Mathematics Committee, 1987–1995, 2000–2013; Chairman, 1993–1995
 Chairman, Education Committee, and Undergraduate Officer, 2004–2013
 Associate Head, Department of Mathematics, 2011–2013
 Cambridge-MIT Exchange liaison, 2001–2013, 2016–2017.

**External
Committees** AMS Committee on Summer Institutes and Special Symposia, 1988–1990
AMS Editorial Boards Committee, 1989–1992; Chairman, 1991–1992
AMS ad hoc Committee to Review Membership Publications, 1992–1993
AMS Progress in Mathematics Committee 1992–1993; Chairman, 1993
AMS Committee on Publications, 1993–1995
External Review Committee, Purdue University, March 1996
Executive Committee, Geometry and Topology Publications, 2001–2005
Graduate Program Review Committee, University of California
at San Diego, chairman, January 2007
Committee to Visit the Department of Mathematics, Harvard University,
chairman, February 2008, March 2011, and November 2013
Northeast Region Judge, Siemens STEM Competition, 2009, '10, '12, '13, '15, '16
Committee to Visit the Department of Computer Science and Mathematical
Sciences, University of Toronto, Scarborough, November 2011
MAA MathDL Advisory Board, 2011–2013
Committee to Visit the Department of Mathematics, the Johns Hopkins
University, February 2012
Committee to Visit the Department of Mathematics, University of Oregon,
February 2012
Technical Advisory Committee for the AAU Undergraduate STEM Education
Initiative, August 2012–
AMS Committee on Education, 2012–2015
Committee to Visit the Department of Mathematics, Swarthmore College,
April 2013
Board of Directors, Math for America/Boston, 2014–2021
TPSE Mathematics Advisory Group, 2014–
Scientific Advisory Board, Center for Topology and Geometry Based
Technologies, Hebei Normal University, 2020–

Conferences co-organized

- Northwestern University Homotopy Theory Conference, 1982 (with S. Priddy)
- Seattle Algebraic Topology Emphasis Year, 1984–1985 (with D. Ravenel)
- Arcata conference on Algebraic Topology, 1986 (with G. Carlsson, R. Cohen, and D. Ravenel)
- Luminy Homotopy Theory Conference, July 1988 (with J.-M. Lemaire, L. Schwartz, and M. Zisman)
- Oberwolfach session, March 1992 (with H.-W. Henn and D. Puppe)
- Cech centennial Homotopy Theory Conference, Northeastern University, June 1993 (with B. Cenkli and M. Hopkins)
- MPI-Bonn Workshop on Algebraic Topology and Stable Homotopy Theory, 1997 (with H.-J. Baues, H.-W. Henn, and M. Mahowald)
- Newton Institute program on New Contexts for Stable Homotopy Theory, 2002 (with J. Greenlees, F. Morel, and V. Snaith)
- Barcelona Conference on Algebraic Topology, June 2002 (with J. Aguadé, C. Broto, M. Castellet, and C. Casacuberta)
- Hanoi Conference and Summer School on Algebraic Topology, August 2004 (with N. Hung, J. Hubbuck, G. Nishida, S. Priddy, L. Schwartz)
- Fields Institute Workshop on Loop Spaces and Elliptic Cohomology, September 2004 (with M. Ando, M. Hopkins, and J. Morava)
- Clay Mathematics Institute Workshop on Homotopy Theoretic Applications of the Goodwillie Calculus, March 2005 (with J. Morava)
- Complex cobordism in homotopy theory: Its impact and prospects, the Johns Hopkins University, March 2007 (with M. Boardman, D. Davis, J. Morava, and D. Pengelley)
- Algebraic Topology, Old and New: the M. M. Postnikov Memorial Conference, Bedlewo, Poland, June 2007 (with A. Pajitnov et al.)
- International Conference on Algebraic Topology, in celebration of the 60th birthday of Jean Lannes, Djerba, Tunisia, October 2007 (with H.-W. Henn, L. Schwartz, and Saïd Zarati)
- The Legacy of Daniel Quillen: *K*-Theory and Homotopical Algebra, MIT, October 2012 (with C. Barwick and M. Behrens)
- Conference in Algebra and Topology celebrating Lionel Schwartz’s sixtieth birthday, Nantes, France, May 2013 (with B. Oliver and J.-C. Thomas)
- Homotopy Theory, Manifolds, and Field Theories, Hausdorff Institute, Bonn, Germany, May–August 2015 (with S. Galatius, S. Schwede, and P. Teichner)
- Scientific Committee for IHES Summer School “Motivic, Equivariant, and Non-commutative Homotopy Theory,” 2020 (with E. Friedlander, A. Suslin, and B. Toën)
- International Workshop on Algebraic Topology, SUSTech, Shenzhen, China, June 2018 (with A. Beadry, M. Behrens, Z. Huan, N. Stapleton, G. Wang, Z. Xu, and Y. Zhu)
- Third International Gathering for Science in Palestine, MIT, January 2020 (with Scientists for Palestine)

**Graduate
Students**

John Palmieri (PhD, 1991)
Matthew Ando (PhD, 1992)
Kevin Kelly (MS, 1993)
James Turner (PhD, 1994)
Brooke Shipley (PhD, 1995)
Gerd Laures (PhD, 1996)
Daniel Christensen (PhD, 1997)
Nitya Kitchloo (PhD, 1998)
Andrei Radulescu-Banu (PhD, 1998)
Ioanid Rosu (PhD, 1999)
Jesper Grodal (PhD, 2000)
Donald Yau (PhD, 2002)
Kári Ragnarsson (PhD, 2004)
Hugh Robinson (PhD, 2005)
Michael Ching (PhD, 2005)
Vigleik Angeltveit (PhD, 2006)
Francesca Deserti (MS, 2006)
Peter Lee (PhD, 2008)
Ricardo Andrade (PhD, 2010)
Martin Frankland (PhD, 2010)
Matthew Gelvin (PhD, 2010)
Olga Stroilova (PhD, 2012)
Rune Haugseng (PhD, 2013)
Geoffroy Horel (PhD, 2013)
Maximilien Holmberg-Péroux (MS, EPFL, 2014)
Michael Andrews (PhD, 2015)
Michael Donovan (PhD, 2015)
Eva Belmont (PhD, 2018)
Lyuboslav Panchev (PhD, 2019)
Robert Hood Chatham (PhD, 2020)
Zhulin Li (PhD, 2021)
Andrew Senger (PhD, 2021)

**Postdoctoral
Fellows
Mentored
since 2010**

Chris Schommer-Pries, 2010–2012
Vesna Stojanoska, 2011–2014
Marc Hoyois, 2014–2017
Håkon Bergsacker 2014
Sune Reeh, 2014–2017
Zhouli Xu, 2017–2020
Tom Bachmann, 2017–2019
Jeremy Hahn, 2018–2021
Arpon Raksit, 2021–

Selected disciplinary talks

- 1974 Homotopy Theory Conference, Northwestern University
- 1975 Topology Seminar, Princeton University
- 1975 Topology Seminar, University of Pennsylvania
- 1975 Topology Seminar, MIT
- 1976 Homotopy Theory Special Session, Winter AMS meeting, San Antonio
- 1976 Topology Seminar, MIT
- 1976 Midwest Topology Seminar
- 1977 Topology Seminar, University of Washington
- 1978 Colloquium, University of Washington
- 1978 Topology Seminar, University of British Columbia
- 1978 Colloquium, University of Rochester
- 1978 Topology Seminar, Princeton University
- 1978 Topology Seminar, Northwestern University
- 1979 Topology Seminar, University of California, San Diego
- 1979 Ontario Topology Seminar, University of Toronto
- 1979 Colloquium, University of Western Ontario
- 1979 Topology Seminar, Princeton University
- 1979 Topology Seminar, MIT
- 1979 Algebraic Topology Colloquium, Aarhus University
- 1980 Topology Seminar, University of British Columbia
- 1980 Southern California Topology Seminar
- 1981 Homotopy Theory Special Session, Winter AMS meeting, San Francisco
- 1981 Topology Seminar, Berkeley
- 1981 Plenary talk, Oxford Conference, Edinburgh
- 1981 Current Trends in Algebraic Topology, University of Western Ontario
- 1981 Colloquium, University of North Carolina
- 1981 Midwest Topology Seminar, University of Chicago
- 1982 Colloquium, Duke University
- 1982 Colloquium, University of Virginia
- 1982 Topology Seminar, Purdue University
- 1982 Topology Seminar, University of Chicago
- 1982 Plenary lecture at Aarhus Topology Conference
- 1982 Upstate Topology Conference, Syracuse University
- 1982 Homotopy Theory Seminar, Princeton University
- 1982 Colloquium, Johns Hopkins University
- 1983 Topology Seminar, Northwestern University
- 1983 Topology Seminar, Ohio State University
- 1983 Topology Seminar, Princeton University
- 1983 Midwest Topology Seminar
- 1983 Dan Christie Memorial Lecture, Bowdoin College
- 1983 Topology Seminar, Rutgers University
- 1983 Cornell Topology Festival
- 1983 Topology Seminar, MIT
- 1983 Colloquium, University of Minnesota
- 1983 Plenary lecture, Centro del I.P.N. Topology Conference, Tlaxcala

1983 Oberwolfach Session on Homotopy Theory
 1983 Plenary lecture at Conference on Topology and Algebraic K-theory, Princeton
 1983 Topology Seminar, University of British Columbia
 1984 Colloquium, University of Notre Dame
 1984 Lecture series, Aarhus University
 1984 Colloquium, Reed College
 1985 Homotopy Theory Special Session, AMS meeting, Mobile
 1985 Lecture Series at L.M.S Conference in Algebraic Topology, Durham
 1985 Topology Workshop Seminar, University of Warwick
 1985 Conference on Homotopy Theory and its Geometric Applications,
 in honor of W.S. Massey, Yale University
 1985 Colloquium, University of Virginia
 1985 Midwest Topology Seminar
 1985 Colloquium, Wayne State University
 1985 Colloquium, Northwestern University
 1986 Hour address, Winter AMS meeting, New Orleans
 1986 Algebraic K-theory seminar, Université Paris VII
 1986 Colloquium, Ecole Polytechnique
 1986 Plenary lecture, Conference on Rational Homotopy Theory, Louvain-la-Neuve
 1986 45 minute talk at ICM86, Berkeley
 1986 Colloquium, University of Toronto
 1986 Topology Seminar, University of Toronto
 1986 Colloquium, Princeton University
 1987 Colloquium, University of Connecticut
 1987 Lecture Series, University of New Hampshire
 March 1988 Plenary address at Homotopy Theory Conference, Northwestern University
 April 1988 Number Theory Seminar, Brown University
 May 1988 Plenary address at the JDG Conference, Lehigh
 June 1988 Conference in honor of Ioan James, Cortona
 August 1988 Conference in honor of Hirosi Toda, Kinosake
 September 1988 Colloquium in honor of Albrecht Dold, Heidelberg
 October 1993 Colloquium, Univ. of Kentucky
 November 1993 Midwest Topology Seminar, Purdue University
 November 1993 Colloquium, Purdue University
 June 1994 Lecture series at the Summer School on the Steenrod Algebra
 and Compact Lie Groups in Homotopy Theory, Warsaw, Poland
 July 1995 Lecture series at the EEC-sponsored Workshop on Elliptic
 Cohomology, Barcelona
 March 1996 Lecture series at Wayne State University, Detroit
 May 1996 Conference at the retirement of Albrecht Dold and
 Dieter Puppe, Heidelberg, Germany
 July 1996 Plenary speaker at AMS Summer Institute, Seattle
 October 1996 Distinguished Visiting Scholar, Western Michigan University
 October 1996 Midwest Topology Seminar, Western Michigan University
 January 1997 Lecture series at Kyoto University
 March 1997 Notre Dame Lectures in Geometry and Topology,
 April 1997 Princeton University Colloquium

October 1999 Special session at AMS regional meeting at Austin, Texas
 December 1999 Homotopy Theory Seminar, Institute for Advanced Study
 February 2000 Colloquium, Brown University
 February 2000 Midwest Topology Seminar, University of Chicago
 March 2000 Homotopy Theory Conference, Johns Hopkins University
 January 2001 Workshop in Topology, Melbourne University
 January 2001 Colloquium, Australian National University
 March 2001 Distinguished Lecture Series, University of Western Ontario
 April 2001 Tercentennial Colloquium, Yale University
 July 2002 Keynote Speaker, BCAT2002, Barcelona
 August 2003 Homotopy Theory Conference in honor of Goro Nishida,
 Kinosaki, Japan
 January 2003 Special session on Homotopy Theory, AMS Winter Meeting,
 Baltimore, MD
 October 2003 Workshop on TMF, Münster, Germany
 December 2003 Homotopy Theory Conference in honor of Sam Gitler,
 San Miguel de Allende, Mexico
 August 2004 Short course on p compact groups, Hanoi, Vietnam
 October 2004 Midwest Topology Seminar, Purdue University
 November 2005 Homotopy Theory Conference in Honor of Joe Neisendorfer's
 60th Birthday, Montreal
 June 2006 45 minute address at the annual meeting of the Swedish
 Mathematical Society, Stockholm
 September 2006 Colloquium, University of Oslo
 March 2007 Complex bordism in homotopy theory: its impacts and prospects:
 Conference in honor of Doug Ravenel and Steve Wilson,
 Johns Hopkins University
 April 2007 Graduate Student Topology Conference, University of Chicago
 August 2007 Joint meeting of the AMS and the Polish Mathematical Society
 June 2008 Miller Institute Interdisciplinary Symposium, Tomales Bay, CA
 October 2010 MSRI Hot Topics Workshop on the Kervaire Invariant, Berkeley, CA
 November 2010 Séminaire Bourbaki report on Kervaire Invariant One
 May 2011 SYM Lecture, Center for Symmetry and Deformation,
 University of Copenhagen
 July 2013 Samuel Eilenberg Centenary Conference, Warsaw
 November 2013 Connecticut Valley Colloquium, Amherst College
 July 2014 Conference in Honor of Jean Lannes and Bob Oliver, Paris
 March 2015 Geometry and Topology: A Conference Honoring Martin Bendersky
 and Sam Gitler, Princeton, NJ
 April 2015 Colloquium, Georgia Tech, Atlanta, GA
 June 2015 Oberseminar, Max Planck Institute for Mathematics, Bonn
 July 2015 Kepler Lecture, Johannes-Kepler-Research Center for Mathematics,
 Regensburg
 November 2016 Colloquium, Vanderbilt University
 July 2017 Plenary Lecture, Homotopy Theory: Tools and Applications, UIUC
 August 2017 Plenary Lecture, Homotopy Theory in the Ecliptic, Reed College

Selected educational talks and panel participation

August 2000	“Mathematical Visions,” Clay Mathematics Institute/PROMYS, Boston University
April 2001	“Teaching and learning about differential equations,” at the Bok Center, Harvard University
June 2003	“Knots and Numbers,” MIT Science and Engineering Program for Teachers
June 2007	“Knots and Numbers,” MIT SEPT
March 2009	Panelist on “Leading a campus to embrace innovation and assessment,” The Spencer Foundation Forum on Excellence and Innovation, Harvard University
March 2009	“New Directions in General Education at MIT,” sponsored by the MacVicar Fellows Program
March 2010	“The Mathematics Communication-Intensive Webpage,” a Crosstalk presentation sponsored by the MIT Office of Educational Technology and Innovation
April 2010	“Promoting the Use of Instructional Mathlets across the Curriculum,” a Crosstalk presentation sponsored by the MIT Office of Educational Technology and Innovation
April 2010	MIT Office of Educational Innovation and Technology Crosstalk presentation on the Mathematics CI Space (with Susan Ruff)
April 2011	“Innovations in Communication Instruction,” sponsored by the Subcommittee on the Communication Requirement, MIT
January 2012	“Interactive Applets for Calculus and Differential Equations,” an MAA Mini-course at the Boston Joint Mathematics Meetings
January 2013	NSF Workshops on Active Learning, Port-au-Prince, Haiti – also August 2013 and January 2015, and in Limonade, August 2015 and June 2016
February 2013	Colloquium, Colby College
June 2013	Panelist and presenter at “New Directions for Mathematics Research Experiences for Undergraduates,” Mt. Holyoke College
June 2013	“Mathlets: A case study of the use of technology in and out of the classroom,” MIT SEPT
December 2013	Presenter and panelist at “Pakistan Teachers Education Project,” MIT OEIT
April 2014	Marvin I. Freedman Memorial Colloquium, Boston University
April 2016	Colloquium, Reed College
June 2016	“Ne ak Nomb,” Campus Henri Christophe, Limonade, Haiti
June 2016	“Knots and Numbers,” MIT SEPT
October 2017	“Mathematical manipulatives: the MIT Mathlets,” Electronic Seminar on Mathematics Education
June 2019	“Mathlets: A case study of the use of technology in and out of the classroom,” MIT J-WEL Course and Curriculum Design Workshop
September 2019	Course-based Undergraduate Research Experiences: Two Examples,” with Sunil Chebolu, Electronic Seminar on Mathematics Education.
December 2019	“The Electronic Seminar on Mathematics Education: Creating an online community of educators,” Canadian Math Society Annual Meeting, Toronto.