

## 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  
Professor, emeritus, Massachusetts Institute of Technology, 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: editor 1993–1999, managing editor 1995–1996,  
associate editor 1996–2004  
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–

<b>Grants</b>	<p>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–          NSF grant, “2017–2019 Talbot Workshops,” 2017–2022          MITx grant to build a Kreyòl version of 18.01, 2017–          MIT J-WEL/pK-12, “An MIT-Haiti Center for Educational Innovation,” 2019–          NSF grant, “2019–2021 Talbot Workshops on Mathematics Centered          on Algebraic Topology,” 2019–2022          NSF grant “Classical Methods in Motivic Homotopy Theory,” 2019–2022          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 –</p>
<b>Awards</b>	<p>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</p>
<b>MIT Committees</b>	<p>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, 2006–2012          Impact Study Group for the Communication Requirement, 2007          OpenCourseWare Faculty Advisory Committee, 2008–2022          Committee on the Undergraduate Program, 2009–2011          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, 2017–2023          Faculty Advisory Committee for J-WEL, 2023–          Advisory Committee for the Global MIT At-risk Fellows Program/Palestine, 2024–</p>

**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–  
 Bisan Lecture Series steering committee, 2021–  
 AMS Lecture on Education Selection Committee, 2022–2024; chair, 2022  
 Review Committee for the Mathematics Department of the Lebanese-American University, November 2024

## 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. Cenk 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 F.-J. Ulm and Scientists for Palestine)
- Linguistic Barriers, Exploitation and Resistance in Haiti, MIT, January 2024 (with M. DeGraff)

**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)  
Adela YiYu Zhang (PhD, 2023)

**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  
 June 1997 Arbeitstagung, Bonn, Germany

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
November 2024	Zoom lecture, Plectics Laboratories

## 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
September 2006	“Some examples of linkage of mathematics and engineering,” Workshop on Curriculum Integration, MIT
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,” UEH Campus Henri Christophe, Limonade, Haiti
June 2016	“Knots and Numbers,” MIT SEPT
October 2017	“Mathematical manipulatives: the MIT Mathlets,” with Jennifer French, 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.
April 2023	“Knots and Numbers,” Bethlehem University, Bethlehem, Palestine
April 2023	“Knots and Numbers,” An-Najah National University, Nablus, Palestine