

Masahiro Morii

Harvard University, Department of Physics
17 Oxford Street, Cambridge, MA 02138

morii@g.harvard.edu
(617) 495-3279

Professional Positions

2018–present Donner Professor of Science, Harvard University
2007–2018 Professor of Physics, Harvard University
2014–2017 Chair, Department of Physics, Harvard University
2004–2007 John L. Loeb Associate Professor of the Natural Sciences, Harvard University
2000–2004 Assistant Professor of Physics, Harvard University
1996–2000 Research Associate, SLAC
1992–1996 Research Associate, University of Tokyo

Education

1994 Ph.D. in physics, University of Tokyo
1988 M.S. in physics, Kyoto University
1986 B.S. in physics, Kyoto University

Awards

2002–2003 Alfred P. Sloan Research Fellowship

Research Experience

2006–present ATLAS Experiment at the Large Hadron Collider at CERN
2009–2011 LUX Experiment at Sanford Underground Research Facility
1996–2011 BABAR Experiment at the PEP-II e^+e^- storage ring at SLAC
1992–1996 OPAL Experiment at the LEP e^+e^- storage ring at CERN

Selected Publications

- ATLAS Collaboration, *A search for the dimuon decay of the Standard Model Higgs boson with the ATLAS detector*, Phys. Lett. B 812 (2021) 135980, 10 January 2021, <https://doi.org/10.1016/j.physletb.2020.135980>.
- ATLAS Collaboration, *Evidence for $t\bar{t}t\bar{t}$ production in the multilepton final state in proton-proton collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector*, Eur. Phys. J. C 80 (2020) 1085, 24 November 2020, <https://doi.org/10.1140/epjc/s10052-020-08509-3>.
- ATLAS Collaboration, *Searches for electroweak production of supersymmetric particles with compressed mass spectra in $\sqrt{s} = 13$ TeV pp collisions with the ATLAS detector*, Phys. Rev. D 101 (2020) 052005, 11 March 2020, <https://doi.org/10.1103/PhysRevD.101.052005>.

- ATLAS Collaboration, *Search for top-squark pair production in final states with one lepton, jets, and missing transverse momentum using 36 fb⁻¹ of $\sqrt{s} = 13$ TeV pp collision data with the ATLAS detector*, JHEP 06 (2018) 108.
- ATLAS Collaboration, *Search for electroweak production of supersymmetric states in scenarios with compressed mass spectra at $\sqrt{s} = 13$ TeV with the ATLAS detector*, Phys. Rev. D 97 (2018) 052010.
- ATLAS Collaboration, *Search for squarks and gluinos in events with an isolated lepton, jets and missing transverse momentum at $\sqrt{s} = 13$ TeV with the ATLAS detector*, Phys. Rev. D 96 (2017) 112010.
- ATLAS Collaboration, *Search for new phenomena in final states with an energetic jet and large missing transverse momentum in pp collisions at $\sqrt{s} = 13$ TeV using the ATLAS detector*, Phys. Rev. D 94 (2016) 032005.
- ATLAS Collaboration, *Search for direct pair production of a chargino and a neutralino decaying to the 125 GeV Higgs boson in $\sqrt{s} = 8$ TeV pp collisions with the ATLAS detector*, Eur. Phys. J. C 75 (2015) 208.
- ATLAS Collaboration, *Search for direct production of charginos, neutralinos and sleptons in final states with two leptons and missing transverse momentum in pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector*, JHEP 1405 (2014) 071.
- ATLAS Collaboration, *Measurement of WZ production in proton-proton collisions at $\sqrt{s} = 7$ TeV with the ATLAS detector*, Eur. Phys. J. C 72 (2012) 2173.
- ATLAS Collaboration, *Measurement of the transverse momentum distribution of W bosons in pp collisions at $\sqrt{s} = 7$ TeV with the ATLAS detector*, Phys. Rev. D 85 (2012) 012005.
- LUX Collaboration, *First results from the LUX dark matter experiment at the Sanford Underground Research Facility*, Phys. Rev. Lett. 112 (2014) 091303.
- BABAR Collaboration, *Measurement of the $B \rightarrow \pi \ell \nu$ branching fraction and determination of $|V_{ub}|$ with tagged B mesons*, Phys. Rev. Lett. 97 (2006) 211801.

Teaching

Course Number	Title	Semesters Taught
Physical Sciences 3	Electromagnetism and Waves	Spring 2007, 2008
Physics 11b	Electromagnetism	Spring 2005, 2006, 2012
Physics 15b	Electromagnetism	Spring 2007, 2009, 2010, 2011, and Fall 2010
Physics 15c	Wave Phenomena	Spring 2001, 2002, 2004, and Fall 2009
Physics 95	Topics in Current Research	Fall 2014, 2016
Physics 113	Electronics for Physicists	Spring 2022, 2023
Physics 123/223	Laboratory Electronics	Fall 2012, 2013, and Spring 2018
Physics 143a	Quantum Mechanics I	Spring 2019, 2020, 2021, and Fall 2023
Physics 145	Elementary Particle Physics	Spring 2012, 2014
Physics 151	Mechanics	Fall 2001, 2002, 2003, 2019
Physics 191r/247r	Advanced Laboratory	Fall 2000
Physics 248r	Experimental Particle Physics	Fall 2018, 2020

Graduate Students Advised

Name	Experiment	Ph.D.	Current Position
Kris Chaisanguanthum	BABAR	2008	
Benjamin Smith	ATLAS	2011	Sr. Staff Architect at Box
Corry Lee	BABAR	2011	Data Scientist at Amazon
Michael Kagan	ATLAS	2012	Associate Scientist at SLAC
Emma Tolley	ATLAS	2016	Data Scientist at EPFL
Julia Gonski	ATLAS	2019	Panofsky Fellow at SLAC
Brendon Bullard	ATLAS	2021	Postdoc at SLAC
Laura Bruce	ATLAS		
Kees Benkendorfer	ATLAS		

Postdoctoral Scholars Supervised

Postdoc	Experiment	Years	Current Position
Stephen Bailey	BABAR	2001–2004	Software Developer at LBNL
Eunil Won	BABAR	2002–2004	Professor at Korea University
Jinwei Wu	BABAR	2005–2006	Pine River Capital Management
Corrinne Mills	ATLAS	2007–2013	Associate Professor at U. of Illinois at Chicago
Michał Własenko	LUX	2009–2011	Roche Diagnostics
Géraldine Conti	ATLAS	2010–2014	Associate Research Scientist at Disney Research
Bart Butler	ATLAS	2012–2013	CTO at ProtonMail
Valerio Ippolito	ATLAS	2013–2017	Staff Scientist at INFN Roma I
Stefano Zambito	ATLAS	2015–2020	Senior Research Fellow at University of Geneva
Nedaa Asbah	ATLAS	2018–2023	CERN Fellow
Knut Zoch	ATLAS	2023–	

Conference Presentations

- *Beyond-the-Standard-Model Searches at the LHC*, 46th SLAC Summer Institute (SSI2018), SLAC National Accelerator Laboratory, 30 July–10 August 2018.
- *Dark Matter Searches at the LHC*, Dark Side of the Universe 2015 (DSU2015), Kyoto, 14–18 December 2015.
- *WW, WZ, and ZZ production*, SM@LHC 2013, Freiburg im Breisgau, Germany, 9–12 April 2013.
- *Semileptonic B decays*, invited talk, APS April Meeting 2006, Dallas, Texas, 22–25 April 2006.
- *Inclusive $b \rightarrow u\ell\nu$ and $b \rightarrow s\gamma$ spectra*, SLAC/INT Workshop on Flavor Physics and QCD, University of Washington, 11–14 March 2005.
- *Determination of V_{cb} and related results from BABAR*, 8th International Workshop on Meson Production, Properties and Interaction (MESON2004), Krakow, Poland, 4–8 June 2004.

- *Measurements of $\sin 2\alpha$ from the B factories*, 5th International Conference on Hyperons, Charm and Beauty Hadrons, Vancouver, Canada, 25–29 June 2002.
- *First year of BABAR/PEP-II: Measuring CP violation at an asymmetric B factory*, XXXVth Rencontres de Moriond, QCD and High-Energy Hadronic Interactions, Les Arcs, Savoie, France, 18–25 March 2000.
- *Heavy-quark electroweak measurements using leptons*, 28th International Conference on High Energy Physics, Warsaw, Poland, 25–31 July 1996.
- *New measurements of $\Gamma(Z \rightarrow b\bar{b})/\Gamma(Z \rightarrow \text{hadrons})$ from OPAL*, XXVIIIth Rencontre de Moriond, Electroweak Interactions and Unified Theories, Les Arcs, Savoie, France, 13–20 March 1993.

Colloquia

- *Experimental Searches for Dark Matter*, Dartmouth University, 25 May 2018.
- *Search for Dark Matter*, University of Tokyo, 13 February 2015.
- *LUX: A Liquid Xenon Dark Matter Detector*, Rutgers University, 24 August 2010.
- *Searching for New Physics in CP violation with BABAR*, Harvard University, 13 November 2006.
- *Cracking the Unitarity Triangle*, University of Arizona, 7 October 2005; MIT, 20 October 2005; Northeastern University, 3 November 2005; Tohoku University, 21 November 2005; Nagoya University, 22 November 2005; Boston University, 24 January 2006.
- *B physics beyond CP violation*, MIT Laboratory for Nuclear Science, 8 November 2004.

Seminars

- *LUX: a liquid xenon Dark Matter detector*, KEK, 24 December 2009; Harvard University, 14 April 2010.
- *Semileptonic B decays*, SLAC, 26 September 2006; Fermilab, 29 September 2006.
- *B physics beyond CP violation*, Harvard University, 1 November 2005; Duke University, 9 November 2005; University of Tokyo, 14 November 2005; KEK, 15 November 2005; Tsukuba University, 21 November 2005; Kyoto University, 24 November 2005; Osaka University, 25 November 2005; Carnegie Mellon University, 7 December 2005; University of Pennsylvania, 17 January 2006; Yale University, 27 February 2006; Columbia University, 29 March 2006; University of Illinois, Urbana-Champaign, 3 April 2006.
- *Semileptonic B decays at BABAR*, Brookhaven National Laboratory, 13 January 2005.
- *Cracking the Unitarity Triangle*, Indiana University, 3 October 2003.