Martha-Elizabeth "Marty" Baylor

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Education

University of Colorado Ph.D. Physics	Boulder, CO 2007
Kenyon College B.A. *magna cum laude* Major: Physics, Minor: Chinese	Gambier, OH 1998

Professional Experience

Department Chair, Physics and Astronomy, Carleton College	July 2019 – Present
Associate Professor, Carleton College	September 2016 – Present
Assistant Professor, Carleton College	September 2009 – 2016
Research Associate, University of Colorado - Boulder	August 2008 – July 2010
Visiting Assistant Professor, Carleton College	September 2007 – March 2008
Graduate Research Assistant, University of Colorado - Boulder Department of Physics & JILA	August 2002 – August 2007
Electrical Engineer, NASA Goddard Space Flight Center	July 2000 – July 2002
Middle and High School Physics Teacher, Maret School (K-12 Private School)	July 1998 – June 2000

Selected Journal Publications *(*indicates Carleton College student)*

M-E. Baylor, "How positioning students in the professional physics community leads to a more inclusive community", Nat Rev Phys (2021). https://doi.org/10.1038/s42254-021-00385-4 or https://rdcu.be/czjvz.

M-E. Baylor, J Hoehn, N. Finkelstein, "Infusing Equity, Diversity, and Inclusion Throughout Our Physics Curriculum: (Re)defining What It Means to be a Physicist", accepted to The Physics Teacher, May 2021. (http://arxiv.org/abs/2108.11435)

E. Schwartz*, S. Stevenson*, Z. Johnson*, R. Thompson, M-E., Baylor, "Experimental Verification of a Theoretical Model Exploring the Effect of Polymer Resin Hydrophobicity on Polymer Lenses Fabricated Using Interfacial Surface Tension," in preparation for Optical Materials Express.

C. Zimmerman*, M. White*, M-E. Baylor, "Effects of Varying Interfacial Surface Tension on Macroscopic Polymer Lenses," Optical Engineering, 54 (9): 097108 (2015).

Selected Invited and Contributed Conference Presentations *(*indicates Carleton College student)*

M-E. Baylor, "The Practicing Professionalism Framework: Redefining "Physicist" To Reflect Inclusivity Within the Physics Community," APS March Meeting and DAMOP (2021).

M-E. Baylor, J. Tasson, "Computation and Experimentation as Equal Partners in Undergraduate Lab Education," AAPT Summer Meeting (2020).

M-E. Baylor, "Holographic Materials for Optical Signal Processing," Optics and Photonics Winter School And Workshop, University of Arizona Wyant College of Optical Sciences (2018).

E. K. Schwartz*, S. Stevenson*, Z. Johnson*, R. Thompson, M-E. Baylor, "Exploring the Effects of Surface Tension on Shapes of Fabricated Polymer Lenses," Minnesota-Area Association of Physics Teachers, St. Paul, MN (April 2019) *E. K. Schwartz Awarded Best Undergraduate Research Oral Presentation*

S. Stevenson*, E. K. Schwartz*, Z. Johnson*, R. Thompson, M-E. Baylor, "Exploring the Effects of Surface Tension on Shapes of Fabricated Polymer Lenses," Minnesota-Area Association of Physics Teachers, St. Paul, MN (April 2019) *S. Stevenson Awarded Best Undergraduate Research Poster Presentation*

Selected Colloquium Presentations

"Physics Is More Than Problem-solving: Building Inclusivity by Practicing Professionalism"
Keynote Address, Physics Reunion & 50 Years of Women at Kenyon Celebration — November 2019
Kenyon College, Gambier, OH

"A Dynamical System Approach to the Cocktail Party Problem: Using Optics Instead of Your Brain to Separate Signals"
Wake Forest University (November 2020), Bates College (September 2018), Skidmore College (May 2018), Williams College (April 2018), Amherst College (February 2017), Agnes Scott College (March 2011), St. Olaf College (March 2008)

"How to Give Effective Scientific Oral and Poster Presentations" — 2007-2010
Summer Multicultural Access to Research and Training (SMART) Seminar

"Mentorship and Success" — August 2007
Graduation Speaker, Adams State College, Alamosa, CO

Selected Grants & Funding

SPIE Education Outreach Grant	2021
Dean's Office Incubator Grant & Writing Across the Curriculum Grant	2020-2021
Research Corporation for Scientific Advancement Cottrell Award	2014-2016

Awards

National Society of Black Physicists Dissertation Award	2009
Ford Foundation Postdoctoral Fellowship	2008
Optical Science and Engineering Program Graduate Fellowship, NSF IGERT	2002–2007
Presidents Diversity Award, University of Colorado	2007
SPIE Best Poster, Annual Conference of the National Society of Black Physicists	2006

Professional Development

ALPHA Immersion Workshop: Programmable Optics with SLMs, Illinois Wesleyan University	June 2021
AAC&U TIDES Institute	June 2019
AAC&U PKAL STEM Leadership Institute	July 2017
AAPT New Faculty Workshop	Nov 2013
AAC&U Transforming STEM Education Conference	Oct 2013
Minority Faculty Development Workshop, Massachusetts Institute of Technology	April 2010

Professional Involvement

Carleton College

Presidential Search Committee	2020-2021
PHAS IDEA Team Co-Chair	2020-2021
CEDI Action Team: Anti-racism Training	2020
Chair CEDI Monitoring Committee: Bathrooms	2018-Present
Pre-engineering (co-)Advisor	2010-Present
Chair CEDI Action Committee: Bathrooms	2017-Present
Education and Curriculum Committee	2016-2018
Chair Junior Faculty Affairs Committee	2014-2016

Broader Scientific Community

Member, Chair (2020) APS Committee On Education (COE)	2019-Present
Co-Organizer, Panelist APS Chairs Workshop: EDI as Department Chair	2021
Co-Organizer, Panelist APS New Chairs Workshop	2021
Chair, APS Committee On Education (COE)	2020
Co-Organizer APS Chairs Conference	2020
NSBP Membership Recruitment and Retention Committee Chair	2016
AALAC Engineering Connections in the Liberal Arts Workshop Co-organizer	2015 – 2016
APS Gender Equity – Conversations Visits	2009 – 2011

Professional Memberships

American Physical Society (APS), American Association of Physics Teachers (AAPT), Optical Society of America (OSA), Society of Photo-optical Instrumentation Engineers (SPIE)