

Mark D. Matlin

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EDUCATION

- Ph.D., Physics, University of Maryland at College Park, 1991
- M.S., Physics, University of Maryland at College Park, 1986
- B.A., Physics (with Honors), Swarthmore College, 1982 (Minors: Astronomy, Mathematics)

PROFESSIONAL ACADEMIC HISTORY

- Senior Laboratory Coordinator / Senior Lecturer, Bryn Mawr College 8/03 - Present
- Lecturer in Physics, Univ. of Pennsylvania 9/03 - 5/04, 9/05 - 5/06; Summers, 2005 - 2009
- Faculty of Physics, Sarah Lawrence College 9/99 - 5/03
- Visiting Assistant Professor of Bioengineering, Univ. of Penn. Summers, 2000 - 2001
- Postdoctoral Fellow/Research Associate, Univ. of Pennsylvania 8/96 - 4/97 & 1/98 - 8/99
- Visiting Lecturer in Physics, Bryn Mawr College 9/92 - 5/93 & 9/95 - 4/97
- Visiting Assistant Professor of Physics, Rowan College of New Jersey 9/94 - 5/95
- Visiting Assistant Professor of Physics, Haverford College 1/90 - 5/92
- Visiting Assistant Professor of Physics, University of Pennsylvania Summers, 1991 - 1993

PUBLICATIONS

- “Photorefractive polymers: Materials science, thin-film fabrication, and experiments in volume holography”, D.J. McGee and **M.D. Matlin**, *Am. J. Phys.* **69** (10), 1055-1063 (2001)
- “Pattern alternation and pattern erasure in a swept-cavity photorefractive oscillator”, **M.D. Matlin**, D.J. McGee, Z. Chen and N.B. Abraham, *Quant. & Semiclass. Opt.: J. Euro. Opt. Soc.* **B 10** (6), 861-867 (1998)
- “Photorefractive nonlinear optics in the undergraduate physics laboratory”, **M.D. Matlin** and D.J. McGee, *Am. J. Phys.* **65** (7), 622-634 (1997)
- “Polarization stability and dynamics in a model for a polarization-isotropic laser that goes beyond third-order Lamb theory”, N.B. Abraham, **M.D. Matlin** and R.S. Gioggia, *Phys. Rev. A* **53** (5), 3514-3528 (1996)
- “Polarization switch in a Zeeman laser in the presence of dynamical instabilities”, **M.D. Matlin**, R.S. Gioggia, N.B. Abraham, P. Glorieux and T. Crawford, *Opt. Comm.* **120**, 204-222 (1995)
- “Geodesic motion in a Kaluza-Klein bubble spacetime”, D.R. Brill and **M.D. Matlin**, *Phys. Rev. D* **39** (10), 3151-3154 (1989)

ABSTRACTS AND PRESENTATIONS

- “Curvature Covariation as a Factor in Perceptual Saliency”, T.M. Murphy, M.D. Matlin and L.H. Finkel, abstract submitted to 1st International IEEE Engineering in Medicine and Biology Society’s Special Topic Conference on Neural Engineering, March 2003.
- “Neuroscience-inspired assisted target recognition: Technology transfer to improve tools for the Image Analyst”, P. Sajda, C. Spence, L. Finkel and M. Matlin. Talk presented (by P. Sajda) to 8th Annual Advanced Information Processing and Analysis Symposium, Washington, D.C., March 1999
- “Light Scattering in Colloidal Suspensions” – an advanced undergraduate laboratory experiment developed at Haverford College (by J. Gollub and D. Pine), presented at the “Laboratory Experiments in Physics” symposium sponsored by the Pew Science Program in Undergraduate Education, held at Bucknell University, Lewisburg, PA, January 1991
- “Behavior of Geodesics in Five-Dimensional Kaluza-Klein Vacuum Outside a ‘Witten Bubble’” – presented at the Spring Meeting of the American Physical Society, Washington, D.C., April 1986

COURSES TAUGHT

(Bryn Mawr / Haverford courses italicized)

- Conceptual Physics
- History of Physics (conceptual)
- Twentieth Century Physics (conceptual)
- Physics of Waves (conceptual)
- Introductory Astronomy
- *Contemporary Physics: From Superstrings to the Multiverse* (new conceptual course)
- *Introductory Physics* (lecture and lab, both algebra- and calculus-based versions)
- *Modern Physics* (Sophomore level)
- *Modern Physics Laboratory* (Sophomore level)
- *Electricity & Magnetism* (Sophomore level)
- *Statistical & Thermal Physics* (Junior/Senior level)
- *Quantum Mechanics* (Junior/Senior level)
- *Electromagnetic Theory* (Junior/Senior level)
- *Mathematical Methods in Physics* (Junior/Senior level)
- *Particle Physics* (Junior/Senior level)
- *General Relativity* (Junior/Senior level)
- *Advanced Electronics Laboratory* (Junior/Senior level)
- *Quantum Mechanics I* (Graduate level)
- *Classical Mechanics* (Graduate level)
- *Electromagnetism I* (Graduate level)

BRYN MAWR COLLEGE TEACHING & SERVICE

- 2003-04: Ran introductory physics laboratory
- 2004-05: Taught introductory physics lab, *Modern Physics* (Phys 214), *Statistical Physics* (Phys 303), *Foundations of Physics II* (Phys 104), *Particle Physics* (Phys 313)
- 2004-05: Served on ad hoc physics department search committee to hire tenure-track replacement for Prof. Alfonso Albano
- 2004-06: Served on undergraduate admissions committee
- 2005-06: Ran introductory physics lab; taught *Grand Tour of Theoretical Physics – General Relativity* (Phys 325)
- 2005-06: Served as departmental advisor for teaching certification candidate (Mary Lyon)
- 2005-08: Served as physics department advisor to majors in Class of 2008
- 2006-07: Ran introductory physics lab, taught *Introductory physics I* (Phys 101-01) and *Special Relativity, Electromagnetism and Particle Physics* (Phys 215)
- 2006-07: Served on second ad hoc physics department search committee to hire tenure-track replacement for Prof. Alfonso Albano
- 2007-08: Ran introductory physics lab, taught *Introductory physics I* (Phys 101-01) and *Graduate Classical Mechanics* (Phys 505)
- 2008-09: Ran introductory physics lab, taught *Graduate Electromagnetism* (Phys 503) and *Introductory physics II* (Phys 102-02)
- 2008-09: Served on ad hoc physics department search committee to hire new tenure-track faculty member (Xuemei Cheng); Served on ad hoc mathematics department search committee to hire new CNTT faculty member (Amy Myers)
- 2004-10: Served as science division representative to postbaccalaureate premedical program admissions committee
- 2009-10: Took over duties of physics department advisor to majors in freshman through junior classes