

BRUCE GREGORY THOMPSON, Ph.D.

Department of Physics

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Formal Education:

Ph.D. - Cornell University, May 1982, Applied Physics

M.S. - Cornell University, May 1980

B.A. with Distinction - University of Colorado, May 1972, Physics, Phi Beta Kappa

Professional Experience:

Associate Professor – Ithaca College Department of Physics (Fall 2008 – Present)

Visiting Professor – Ithaca College London Center (Spring 2010)

Chair of the Physics Department - (June 2006 – August 2009) (Acting Chair Fall 2004)

Assistant Professor - Ithaca College Department of Physics (Fall 2002 – Spring 2008)

Assistant Professor - Ithaca College Department of Physics – Temporary (1995 - 2002)

Consultant - Biri Systems (1991 - Present)

President of the Board of Directors - Sciencenter (May 1990 - May 1993)

Board of Trustees – Sciencenter (1985-2005)

Co-founder and Vice President - Vector Magnetics Inc. (March 1985 - May 1991)

Research Scientist - Cornell University (January - May 1987)

Co-owner - Sea Search Research (1985-1987)

Research Work in progress:

-T. Pfaff, M.Sipos, M.C. Sullivan, B.G. Thompson, M. Tran, *The Use of Statistics in Experimental Physics*, submitted to Mathematics Magazine in August 2010.

- R. Jefferis '12, K. Christian '15 and B. Thompson, *A MOT for IC*.

- Ivan Tso '15 Matt Price and B. Thompson, *A Radio Telescope for IC*.

-Stephen Keitel '12 and B. Thompson, *Thermoacoustic engine and refrigerator*.

Recent Publications:

-P. Wrege, E. Rowland, **B. Thompson**, N. Batruch (IC'08), *Use of Acoustic Tools Reveal Cryptic Responses of Forest Elephants to Oil Exploration*, Conservation Biology, accepted and published online April 7, 2010, published in paper December 2010.

-Jonas Contakos ('00), Les Carlton, **Bruce Thompson**, Rick Suddaby (Athletics) "The Physics of a Gymnastics Flight Element", The Physics Teacher, 47, 355-361, September, 2009. Issue cover photo featured our paper.

-M. Sullivan, **B. Thompson** and A. Williamson (IC'05), *An experiment in the dynamics of thermal diffusion*, Am. J. Phys., **76**, 637-642, July 2008.

-M. Sipos (IC'08) and **B. Thompson**, *Electrodynamics on a grid: The finite difference time domain method*, special issue of Am. J. Phys. on computational physics, **76**, 464-469, April 2008.

-**B. Thompson**, *March of the Planets*, The Physics Teacher, **45**, 369-371, September 2007 with

on line supplements.

-**B. Thompson** and T. Yeelin (IC'07), *Duplicity in 16 Piscium Confirmed from Its Occultation by 7 Iris on 2006 May 5*, Publications of the Astronomical Society of the Pacific (PASP), **118**, 1648-1655, December 2006.

-**Thompson, Bruce G.**, *Using retrograde motion to understand and determine orbital parameters*, Am. J. Phys., **73**, 1023-1029, November 2005.

-**Thompson, B. G.** and Smith, P. A., *An experiment in rotational motion with linear and quadratic drag*, Am. J. Phys. **72**, 839-842, June 2004.

-F. Leraand, J.W. Wright, M. Zachary, **B. Thompson**, *Relief Well Planning and Drilling for a North Sea Underground Blowout*, Journal of Petroleum Technology, p266-273, March 1992.

Books:

-**B.G. Thompson** and A.F. Kuckes, *IBM-PC in the Laboratory*

Cambridge University Press, Hardback edition 1989 (out of print), Paperback edition 1992 (in print). Reviewed in Am. J. Phys. **59**, 863, September 1991.

-A.F. Kuckes and **B.G. Thompson**, *Apple II in the Laboratory*

Cambridge University Press, 1987 (out of print), Reviewed in Am. J. Phys. **56**, 862, September 1988.

Recent Presentations and Conference Proceedings:

-Judith Olson (IC'11), B. Thompson, *Construction and Characterization of a Magneto Optical Trap (MOT)*, American Physical Society, March Meeting, Dallas, 2011.

-Bruce Thompson, *A Year of Solar Energy: Power from Solar Panels*, Video on the You Tube web site, http://www.youtube.com/watch?v=Ae4_s64E7Qc

-M.C. Sullivan, B.G. Thompson, "Finding thermal conductivity and specific heat via thermal diffusion in rods," American Association of Physics Teachers, Topical Conference on Advanced Laboratories, Ann Arbor, MI 2009.

-Contakos, J., Thompson, B., Suddaby, R., & Carlton, L.G. (May, 2008). *The analysis of a gymnastics flight element on the women's uneven parallel bars*. The American College of Sports Medicine, Indianapolis, IN.

-B. Thompson – *Ithaca College Analog Electronics Laboratory Manual*, May 2008, Made available on the web, as of 2008.09.26 downloaded 67 times

-B. Thompson and T. Yeelin (IC'07), *Occultation of 16 Piscium by 7 Iris*, Annual Meeting of the International Occultation Timing Association (IOTA 2006), Mt. Cuba, Delaware, September 30 and October 1, 2006.

Patent and Software:

US Patent Number 4845434, Thompson and Kuckes, *Magnetometer Circuitry for use in Bore Hole Detection of AC Magnetic Fields*

EarthMag (1992-present) – A program for Macintosh computers to calculate Earth's magnetic field anywhere on the globe. Used in the oil industry for directional drilling coordination.

Recent Ithaca College Student Projects Directed:

Year	Term	Activity	Person	Presentation
2007	Spring	Asteroid Occultations	Tayza Yeelin	Whalen
2007	Spring	Elephant Seismic - field work, Gabon	Nik Batruch	Dept Seminar
2007	Spring	Numerical Electrodynamics	Maksim Sipos	
2007	Summer	Elephant Seismic – field data analysis	Nik Batruch	
2007	Fall	IC Dana Fellow-Num. Electrodynamics	Maksim Sipos	
2007	Fall	Elephant Seismic – field data analysis	Nik Batruch	
2008	Spring	IC Dana Fellow-Num. Electrodynamics	Maksim Sipos	Whalen
2008	Spring	Elephant Seismic – field data analysis	Nik Batruch	Whalen
2008	Summer	Evanescence wave experiment	Darius Romero	
2008	Fall	Electronics for the speed of light	Arthur Chao	
2008	Fall	Measurement of Resistivity in Metals	Justin Sousa	
2008	Fall	Build and Operate a SQID	Charlie Strehlow	
2009	Spring	Measurement of Resistivity in Metals	Justin Sousa	Whalen
2009	Spring	Build and Operate a SQID	Charlie Strehlow	Whalen
2009	Summer	Electronics for a MOT	Judith Olson	
2009	Fall	Electronics for a MOT	Judith Olson	
2011	Spring	Detector circuitry	Drake Builta	
2011	Spring	Thermoacoustic engine	Stephen Keikel	
2011	Spring	Radio Telescope Testing	Chris Stathis	Th., NCUR
2011	Spring	Building a MOT	Judith Olson	Th., NCUR,APS
2011	Summer	Laser Temperature Stabilization	Ryan Jefferis	
2011	Summer	Laser Noise Reduction	Josh Cheng	
2011	Fall	Building an ECDL	Ryan Jefferis	
2011	Fall	Thermoacoustic engine	Steven Kiekel	
2011	Fall	Radio Telescope electronics	Ivan Tso	
2012	Spring	Building an ECDL	Ryan Jefferis	Whalen
2012	Spring	Thermoacoustic engine	Steven Kiekel	Whalen
2012	Spring	Video measurements of MOT	Kelly Christian	Whalen

Professional Service:

Sigma Xi, administrator for the Ithaca College Chapter and national delegate
 Sciencenter – current activities: Advisory Board, Egg Drop Judge (1990-present)
 Manuscript review for the American Journal of Physics, 2004 to the present
 Manuscript review for The Physics Teacher, 2005 to the present