

January 21, 2012

CURRICULUM VITAE

THEO KOUPELIS

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Education: B.S. Physics, Aristotle University, Greece, 1982
M.A. Physics, University of Rochester, 1984
Ph.D. Physics and Astronomy, University of Rochester, 1988

Employment: 1988–1991 Post-doctoral Fellow, theoretical astrophysics, Univ. of Alabama
1991–1992 Visiting Scientist, theoretical astrophysics, Univ. of Rochester
1993 and 1994 (Summer) Visiting Assistant Professor, UW–Madison
1992–1996 Assistant Professor, Physics and Astronomy, UW–Marathon
1996–2000 Associate Professor, Physics and Astronomy, UW–Marathon
2000–2007 Professor, Physics and Astronomy, UW–Marathon
2008– Associate Dean, Arts and Sciences, Edison State College

Professional Societies: American Astronomical Society (AAS)
International Astronomical Union (IAU)
American/Florida Association of Physics Teachers (AAPT/FL-AAPT)

Professional Activities: President of the Wisconsin Association of Physics Teachers (WAPT; 1995–96 and 2006–07); Vice President of WAPT and Program Director (1994–95 and 2005–06); WAPT Executive Committee (1996–98)

Two-Year Colleges Representative of the WAPT to the AAPT (1997–2006)

Chair of WAPT’s Publications Committee (2006–07)

Member of AAPT’s Committee on Science Education for the Public (1999–2002), Physics in Two-Year Colleges (2003–06), and Professional Concerns (2006–09)

Chair, Dept. of Computer Science, Engineering & Physics, UW Colleges, 1999

Physics Cluster Coordinator of the NSF-supported program SENCER (2001–present) (Science Education for New Civic Engagements and Responsibilities)

Senior Associate of the SENCER project run by the NCSCE (National Center for Science and Civic Engagement; 2004–present)

Member of the Editorial Board of *Science Education and Civic Engagement: An International Journal* (2009–present)

Member of the Board of the Midwest Institute for International and Intercultural Education (2002–present); Coordinator at UWMC (2000–2007); Coordinator at ESC (2008–present)

Member of the Central Wisconsin PK-18 Council (2004–2007)

Member of the Wisconsin Council of Engaged Practitioners (Wisconsin Campus Compact);
Chair of WCEP's Assessment Task Force (2004–2005); Member of WCEP's Strategic Planning Committee (2006–2007)

Honors and Awards:

- Greek National Research Foundation Fellowship, 1978–82
- Louis Furth Fellowship (Univ. of Rochester), 1987
- Teacher of the Year, University of Wisconsin–Marathon, 1998
- Arthur Kaplan Fellow, Univ. of Wisconsin Colleges, 2001
- Chancellor's Award for Excellence in Teaching in the UW Colleges, 2004
- WAPT's Award for Excellence in Teaching and Service, 2004
- Teacher of the Year, University of Wisconsin–Marathon, 2007
- WAPT's Lifetime Achievement Award, 2007

Book

1. T. Koupelis: *In Quest of the Universe* (6th edition, Jones and Bartlett Publishers; 2010). Currently working on revising the textbook; the 7th edition will be published in early 2013.

Manuals/CDs

1. T. Koupelis: Two CDs, a “Student Study Guide” and an “Instructor’s Manual” for the text *In Quest of the Universe*.
2. T. Koupelis: A university physics lab manual for CENCO (a national supplier of science lab equipment).
3. T. Koupelis: A student study guide for Holt Publishing Co., for use with their “Physical Science” textbook for middle schools (17 of 23 chapters).

Proposals — Funded

1. T. Koupelis (PI): “Theoretical Studies of Astrophysical Jets Using 1-D and 2-D Analytic Models.” Funded by the NSF for the 3-yr period 7/1/94 – 6/30/97. Total budget: \$67,646.
2. T. Koupelis: “Constraints on the Physical Properties of the SS433 Jets.” Funded by the UW-Madison/UW Centers Summer Research Program for June–July 1993. Total budget: \$6,667.
3. T. Koupelis: “A Unified Model for Accretion Disks and Outflows from Compact Objects.” Funded by the UW-Madison/UW-Centers Summer Research Program for June–July 1997. Total budget: \$7,547.
4. T. Koupelis: “An Investigation of the Vela Pulsar.” Funded by the UWMC Foundation Summer Grants (Summer 1995). Total budget: \$500.
5. T. Koupelis: “Physics and Astronomy Laboratory Modernization.” Funded by UW Centers for 1996–97. Total budget: \$15,610.
6. T. Koupelis: “Macysma Inc. Academic Software Grant.” Funded, for 10 permanent licenses for the full Macysma mathematical software package (June 1996). Total: \$1,100 per package.

7. C. Martens and T. Koupelis: "Science Partnership Between UWMC and Birch Trails Girl Scout Council, WI, Inc." Funded, with a total budget of \$1,000, by the National Science Partnership for Girl Scouts and Science Institutions (1995).
8. T. Koupelis and F. Gonzalez: "Grant Writing Workshop on Instructional Technology." Funded, with a total budget of \$1,500, by the Undergraduate Teaching Improvement Council (1996).
9. T. Koupelis: "Assessment Workshop." Funded, with a total budget of \$500, by the Undergraduate Teaching Improvement Council (1998).
10. T. Koupelis, T. Barta, A. Burger, N. Grossnickle, P. Martin, and K. Montgomery: "Science, Society, and Global Catastrophes" (a new interdisciplinary course). Funded, with a total budget of \$3,996, by UW Centers (1997).
11. T. Koupelis, A. Burger, P. Martin, K. Montgomery, and K. Prah: "Science, Society, and Global Threats" (the Distance Education — compressed video — version of our interdisciplinary course). Funded, with a total budget of \$2,500, by the UW Colleges (1998).
12. T. Koupelis: "Creating an Open, Interactive Lab/Classroom Environment." Funded, with a total budget of \$1,700, by the UW Colleges Summer Grants Program (1998).
13. T. Koupelis: "Modernization of Hands-On Experimental Sets in the Physics and Astronomy Laboratory." Funded by UW Colleges for 1999–00. Total budget: \$29,781.
14. T. Koupelis and D. Hosler: "Philosophy of Science" (a new interdisciplinary course). Funded by UW Colleges (1999). Total budget: \$2,000.
15. J. M. Hollis, J. A. Pedeltry, and T. Koupelis: "Shock Induced Polarization of R Aqr Jet." Proposal accepted by the scheduling committee of the VLA (Very Large Array) for 8 hours of observing time at the VLA, in B configuration (1999).
16. T. Koupelis: Two international modules funded by the Midwest Institute for International and Intercultural Education (MIIE): "Contributions to our Understanding of the Heavens from Antiquity to Modern Times" (1994) and "Looking Back at the Roots: The Historical Development of Ideas in Physics" (2001). Total budget: \$1,000.
17. T. Koupelis: "Modeling Outflows and the Loss of Angular Momentum." Proposal accepted by UW-Colleges (2001) for a sabbatical leave for Spring 2002.
18. T. Koupelis and J. Case: "Science and the Evolution of Modern Ideas." Proposal funded by the UW-Marathon Research and Professional Development Committee for the development of this new interdisciplinary course (2001). Total budget: \$2,000.
19. T. Koupelis et al.: "Bridging the Social and Intellectual Divide." Proposal funded by UW-Colleges for the development of an interdisciplinary first- and second-year experience at UWMC (2002). Total budget: \$4,000.
20. T. Koupelis: "Modernization of Classroom for Physics and Astronomy." A portion (\$7,883) was funded by UWMC in 2004 and an additional \$44,832 was funded by a grant in 2005.
21. Matt Fisher, David Burns, Spence Benson, Monica Devanas, Theo Koupelis, David Ferguson: Proposal to the Carnegie Foundation for the Advancement of Teaching for the NCSCE to become a CASTL Affiliate and partner in Carnegie's leadership program. Submitted in December 2006 and accepted.

22. T. Koupelis, Peggy Romeo, Linda Weinland: Proposal for a SENCER Implementation Sub-Award to revamp the course BSC 1050C: *Environmental Biology* at ESC. The proposal was funded (2008). Total budget: \$3,000.

Proposals — Other

1. Karen Oates, Margaret Burton: “Math-Science Collaborative for Urban Youth.” Submitted to the NSF for 2004. Total 5-yr budget: \$5,726,510. I was the external evaluator and wrote the assessment component of the project, which had a budget of about \$500,000. The proposal was not funded.
2. W. Kluzniak (PI), H. Ogelman, T. Koupelis, and B. Rudak: “Jets in Supernova Remnants.” Submitted to the NSF (Exploratory Research Program) for 1996. Total 1-yr budget: \$50,000. The proposal was not funded.

Publications

1. T. Koupelis, and D. E. Winget 1987, “The Detection of Four New Pulsation Periods in PG1159-035,” in *Proceedings of the Second Conference on Faint Blue Stars*, IAU Colloquium 95, eds. A. G. D. Philip, D. S. Hayes, and J. W. Liebert (Schenectady: L. Davis Press), p.623.
2. T. Koupelis, and H. M. Van Horn 1988a, “A Helix Model for the Acceleration of Blobs in Astrophysical Jets,” *Ap. J.*, **324**, 93–111.
3. T. Koupelis, and H. M. Van Horn 1988b, “A Model for Quasi–one-dimensional Narrow Jets,” in *Active Galactic Nuclei: Proceedings of the Georgia State University Conference*, eds. H. R. Miller and P. J. Wiita (Berlin: Springer-Verlag), p.375.
4. T. Koupelis, and H. M. Van Horn 1989a, “A Quasi–one-dimensional Model for Narrow Astrophysical Jets,” *Ap. J.*, **342**, 146–186.
5. T. Koupelis 1989b, “The Combined Effects of Magnetic Fields and Rotation on the Acceleration of Jets,” in *Galactic and Extragalactic Magnetic Fields*, IAU Symposium 140, eds. R. Beck, P. P. Kronberg, and R. Wielebinski (Dordrecht: Kluwer), p.439.
6. T. Koupelis 1990, “A Description of Narrow Jets Using a Quasi–one-dimensional Model: I. The Case of Jets With Constant Opening Angle,” *Ap. J.*, **363**, 79–118.
7. P. E. Hardee, M. L. Norman, T. Koupelis, and D. A. Clarke 1991, “Atmospheric Gradients and the Stability of Expanding Jets,” *Ap. J.*, **373**, 8–22.
8. T. Koupelis 1993, “An Application of the Narrow-Jet Model: The M87 Jet,” *Ap. J.*, **419**, 117–126.
9. T. Koupelis 1994, “Physics and Evolution of Constant Opening Angle Jets Using a Quasi–one-dimensional Magnetohydrodynamic Model,” *Ap. J.*, **424**, 645–665.
10. J. M. Hollis and T. Koupelis 2000, “The R-Aquarii Jet: A Lorentz Force Driven Parcel Model,” *Ap. J.*, **528**, 418–425.
11. W. B. Kincaid, Jeanne Narum, T. Koupelis *et al.*, “Bringing Community College Faculty to the Table to Improve Science Education for All,” <http://www.pkal.org/documents/CommunityColleges.cfm>.

Papers in preparation

1. T. Koupelis, “A Model for the SS433 Jets. A Comparison With Outflows from AGNs and Protostars.”

2. T. Koupelis, "On Separable Ideal MHD Solutions for Rotating Magnetized Jet Flows: The r^2 -model."
3. T. Koupelis, "A Theoretical Model for Variable-Radius Jets: The NGC6251 Jet."

Abstracts

1. T. Koupelis, and H. M. Van Horn 1985, "Continuous Acceleration in Astrophysical Jets," *Newsletter Astron. Soc. N.Y.*, **2**, #8, 30.
2. T. Koupelis, and H. M. Van Horn 1986, "Acceleration of Blobs in Astrophysical Jets," *Newsletter Astron. Soc. N.Y.*, **2**, #10, 13.
3. T. Koupelis, and H. M. Van Horn 1987, "A Unified Model for Acceleration in Astrophysical Jets," *Newsletter Astron. Soc. N.Y.*, **3**, #3, 17.
4. T. Koupelis, and H. M. Van Horn 1987, "Magnetic Fields and Rotation as an Acceleration Mechanism in Narrow Jets," *Bull. Amer. Astron. Soc.*, **19**, #4, 1034.
5. T. Koupelis 1989, "A Description of Narrow Constant Opening Angle Jets Using a Quasi-one-dimensional Model," *Bull. Amer. Astron. Soc.*, **21**, #4, 1157.
6. T. Koupelis 1990, "Physics and Evolution of Constant Opening Angle Jets Using a Quasi-one-dimensional Model," *Bull. Amer. Astron. Soc.*, **22**, #4, 1302.
7. T. Koupelis 1992, "A Model for the SS433 Jets; a Comparison with Outflows from AGNs and Protostars," *Bull. Amer. Astron. Soc.*, **24**, #2, 729.
8. T. Koupelis 1994, "Physical Conditions at the Origin of the SS433 Jets," *Bull. Amer. Astron. Soc.*, **26**, #2, 971.
9. T. Koupelis 1995, "A Model for the NGC6251 Jet," *Bull. Amer. Astron. Soc.*, **27**, #2, 830.
10. T. Koupelis 1999, "The R Aquarii Jet: A Lorentz Force Driven Parcel Model," *Bull. Amer. Astron. Soc.*, **31**, #3, 1003.

Seminars/Talks/Workshops

1. "The Solar Neutrino Problem," University of Rochester, April 16, 1984.
2. "Continuous Acceleration in Astrophysical Jets," Alfred University (Spring Meeting of A.S.N.Y.), May 4, 1985.
3. "Acceleration of Blobs in Astrophysical Jets," University of Rochester (Spring Meeting of A.S.N.Y.), April 25, 1986.
4. "A Unified Model for Acceleration in Astrophysical Jets," Union College (Fall Meeting of A.S.N.Y.), November 7, 1987.
5. "Jets from AGNs: A Report on the Atlanta Workshop (10/28-30/1987)," University of Rochester, November 9, 1987.
6. "Jets, Magnetic Fields, and Rotation," University of Montreal, March 17, 1988.
7. "Rotation and Magnetic Fields: An Acceleration Mechanism in Jets," University of Crete, September 1, 1988.

8. "A Quasi-one-dimensional Model for Narrow Jets," University of Alabama, February 10, 1989.
9. "A Model for the Motions in the M87 Jet," University of Crete, June 14, 1990.
10. "Physics and Evolution of Jets," High Altitude Observatory, September 27, 1991; University of Rochester, November 4, 1991; University of California, Long Beach, January 16, 1992.
11. "Astrophysical Outflows," UW-Madison, July 28, 1993.
12. "An Analytic Model for the SS433 Jets," UW-Madison, August 12, 1993.
13. "The Narrow-Jet Model and Applications to the Jets of M87 and SS433," Los Alamos National Laboratory, September 1, 1993.
14. "Physical Conditions of the Environment of the SS433 Jets," UW-Eau Claire (WAPT meeting), October 29, 1993.
15. "The SS433 Jets," AAS Meeting, June 2, 1994.
16. "Modeling the Solar Wind," UW-Madison, July 27, 1994.
17. "Outflows from Neutron Stars," UW-Madison, August 4, 1994.
18. "Astrophysical Jets: Theoretical Models and Simulations," UW-Eau Claire, October 21, 1994.
19. "A Model for the Outflows in NGC6251," UW-Oshkosh (WAPT meeting), October 29, 1994.
20. "A Model for the NGC6251 Jet," AAS Meeting, June 12, 1995.
21. "How an Old Idea Becomes Fashionable: The R Aqr Jet and the Helix Model," Nicolet College (WAPT meeting), November 1, 1997.
22. "Teaching Astronomy in a Two-Year College," AAPT meeting, New Orleans, January 8, 1998.
23. "An Exercise in Error Analysis," Marquette University (WAPT meeting), October 31, 1998.
24. "The Skier and Rounded Hummock Problem in Introductory Physics," Marquette University (WAPT meeting), October 31, 1998.
25. "The R-Aquarii Jet," AAS Meeting, June 3, 1999.
26. "Shadows and Superluminal Motion," UW-River Falls (WAPT meeting), October 27, 2000.
27. "Connecting Science Education to Community Action and Research," Association for General and Liberal Studies (AGLS) annual conference, Chicago, November 2-4, 2000.
28. "A Model Interdisciplinary Course," SENCER Symposium, Washington, DC, January 22, 2000.
29. "Science, Society and Global Catastrophes": This talk, on one of the first SENCER model courses, has been presented at each SENCER Summer Institute since 2001.
30. "Physics and Civic Engagement," UW-Stevens Point (WAPT meeting), October 27, 2001.

31. "Internationalizing the Physics Curriculum," Kalamazoo Valley Community College (8th Annual International Meeting of the Midwest Institute for International and Intercultural Education), April 20, 2001.
32. "Looking Back at the Roots: The Historical Development of Ideas in Physics," Rock Valley College (Fall 2001 meeting of the Midwest Institute for International and Intercultural Education), October 12, 2001.
33. "Civic Engagement and the SENCER Program," Kalamazoo Valley Community College (9th Annual International Meeting of the Midwest Institute for International and Intercultural Education), April 20, 2002.
34. "Cepheid Variable Stars: A Comprehensive Assignment," UW-Eau Claire (WAPT meeting), October 25, 2002.
35. "Globalization of Knowledge and Cultural Awareness," Sinclair Community College (Dayton, OH; Fall 2002 meeting of the Midwest Institute for International and Intercultural Education), October 26, 2002.
36. "The Value of Scientific Thinking in a Democracy," Penn Valley Community College (Kansas City, Missouri; Fall 2003 meeting of the Midwest Institute for International and Intercultural Education), October 17, 2003.
37. "Using Physics as a Tool for Civic Engagement," UW-La Crosse (WAPT meeting), October 31–November 1, 2003.
38. "Physics and Civic Engagement," a workshop presented at the 128th national meeting of the AAPT (Miami Beach, FL), January 25, 2004.
39. "Engaging our Students," a workshop presented at the 2004 University of Wisconsin Colleges Colloquium (UW-Marathon), May 25, 2004.
40. "Ideas About Light Through the Ages: From Ancient Greece to Maxwell," St. Louis Community College, Forest Park (11th Annual International Meeting of the Midwest Institute for International and Intercultural Education), April 2–3, 2004.
41. "Of Mirages and Oceanic Sound Waves," UW-Oshkosh (WAPT meeting), October 29–30, 2004.
42. "The SENCER Project and Civic Engagement," a workshop presented at the 130th national meeting of the AAPT (Albuquerque, NM), January 8–12, 2005.
43. "The Archimedes Palimpsest," Illinois Valley Community College (12th Annual Meeting of the Midwest Institute for International and Intercultural Education), April 8–9, 2005.
44. "Precision Cosmology," Milwaukee School of Engineering, May 13, 2005.
45. "Effective Resistances and Random Walks," Luther College (WAPT meeting), October 28–29, 2005.
46. "Physics and Civic Engagement," a workshop presented at the 132nd national meeting of the AAPT (Albuquerque, NM), January 22, 2006.
47. "Collaborative Projects at Two-Year Colleges," Schoolcraft College (13th Annual Meeting of the Midwest Institute for International and Intercultural Education), April 21–22, 2006.

48. "Civic Engagement and Service Learning," a tutorial presented at the 134th national meeting of the AAPT (Seattle, WA), January 6, 2007.
49. "SENCER 101" and "Nuts and Bolts of a SENCER Course," UW-Parkside (First Midwest Regional SENCER Conference), February 9–10, 2007.
50. "Science Education and Civic Engagement," 177th Conference of the Two-Year College Chemistry Consortium, Joliet Junior College, March 23–24, 2007.
51. "Internationalizing the Physics Curriculum," Kirkwood Community College (14th Annual Conference of the Midwest Institute for International and Intercultural Education), April 13–14, 2007.
52. "Dark Matter and Dark Energy," Milwaukee School of Engineering, May 18, 2007.
53. "Interdisciplinary Service Learning," Milwaukee Area Technical College, September 13-14, 2007.
54. "Electromagnetic Fields and Angular Momentum," Marquette Univ. (WAPT meeting), October 26–27, 2007.
55. "SENCERizing the K-12 science curriculum," Chicago City Colleges, November 2, 2007.
56. "Civic Engagement in the Science Curriculum," a tutorial presented at the 136th national meeting of the AAPT (Baltimore, MD), January 20, 2008.
57. "Service Learning and the SENCER Project," SFCC (FL-AAPT meeting), April 5, 2008.
58. "Global Programming for Sciences," Lorain County Community College (15th Annual Conference of the Midwest Institute for International and Intercultural Education), April 18–19, 2008.
59. "The SENCER Values," and "Initiating SENCER at a Two-Year College," University of North Carolina Asheville (SENCER Center of Innovation-South), January 9–10, 2009.
60. "Civic Engagement in STEM Disciplines," University of Wisconsin System Conference on Civic Engagement (Wisconsin Dells), February 5–6, 2009.
61. "Civic Engagement and Service Learning," a tutorial presented at the 138th national meeting of the AAPT (Chicago, IL), February 13, 2009.
62. "Physics and Civic Engagement," Woodbury University (A Symposium on New Approaches in Science and Math Education with a special emphasis on Water Science and Policy), February 26–27, 2010.
63. "Designing a SENCER Course," and "What is Civic Engagement," The University of North Carolina at Asheville, July 29 – August 2, 2010.
64. "The Ubiquitous Nature of Astrophysical Jets," Southwest Florida Astronomical Society (Calusa Nature Center), February 3, 2011.
65. "SENCERizing the Physics Curriculum," Butler University, July 22, 2011.