

CURRICULUM VITAE

1. Robert A. Pelcovits

Professor, Department of Physics

2. Education

- 1974 B.A. (Physics), University of Pennsylvania
- 1974 M.S. (Physics), University of Pennsylvania
- 1978 Ph.D. (Physics), "Phase Transitions in Two-Dimensional Systems and Disordered Magnets,"
Harvard University

3. Professional Experience

- 1974-77 Teaching Fellow, Harvard University
- 1977 Summer Faculty Fellow, IBM Watson Research Center
- 1978-79 Research Associate, University of Illinois at Urbana-Champaign
- 1979-80 Research Associate, Brookhaven National Laboratory
- 1979 Scientific Consultant, IBM Watson Research Center
- 1979-86 Assistant Professor of Physics, Brown University
- 1983 Visiting Assistant Professor, Tel-Aviv University
- 1983 Visiting Scientist, NORDITA, Copenhagen, Denmark
- 1983 Visiting Scientist, Service de Physique Theorique, Saclay, France
- 1983 Visiting Scientist, Weizmann Institute of Science
- 1984 Visiting Scientist, Weizmann Institute of Science
- 1984 Visiting Scientist, Tel-Aviv University
- 1985 Visiting Scientist, Weizmann Institute of Science
- 1985 Visiting Scientist, Tel-Aviv University
- 1986-93 Associate Professor of Physics, Brown University
- 1987 Visiting Scientist, Brandeis University
- 1993- Professor of Physics, Brown University
- 1994 Visiting Scientist, Brandeis University
- 2001-04 Visiting Scientist, Brandeis University
- 2008-14 Visiting Scientist, Brandeis University
- 2008-11 Royce Family Professor in Teaching Excellence, Brown University

4. Completed Research

- Book chapters

1. "Theory and Computation," in *Handbook of Liquid Crystals*, (Collings and Patel, eds.), Oxford U. Press, 1996.
2. "Tensor Visualization and Defect Detection for Nematic Liquid Crystals using Shape Characteristics," (with T. J. Jankun-Kelly, Song Zhang, A. C. Callan-Jones, V. A. Slavin and D. H. Laidlaw), in *Visualization and Processing of Tensor Fields*, (Laidlaw and Weickert, eds.), Springer, 2009.

- Refereed journal articles

1. "Bicritical Points in $2+\epsilon$ Dimensions," (with D. R. Nelson), *Phys. Letts.* **57A**, 23 (1976).
2. "Theory of Bicritical Points in $2+\epsilon$ Dimensions," (with D. R. Nelson), *AIP Conf. Proc.* **34**, 381 (1976).
3. "Momentum-Shell Recursion Relations, Anisotropic Spins, and Liquid Crystals in $2+\epsilon$ Dimensions," (with D. R. Nelson), *Phys. Rev. B* **16**, 2191 (1977).
4. "Spin-Glass and Ferromagnetic Behavior Induced by Random Uniaxial Anisotropy," (with E. Pytte and J. Rudnick), *Phys. Rev. Lett.* **40**, 476 (1978).
5. "Two Dimensional Ferroelectric Liquid Crystals," (with B. I. Halperin), *J. Appl. Phys.* **50**, 1796 (1979).
6. "Low Temperature Renormalization Group Study of the Random-Axis Model," *Phys. Rev. B* **19**, 465 (1979).
7. "Two-Dimensional Ferroelectric Liquid Crystals," (with B. I. Halperin), *Phys. Rev. B* **19**, 4614 (1979).
8. "Spin-Spin Correlation Function in the High Temperature Villain Model," *J. Phys. A* **14**, 1693 (1981).
9. "Anharmonic Effects in Bulk Smectic Liquid Crystals and Other 'One-Dimensional Solids'," (with G. Grinstein), *Phys. Rev. Lett.* **47**, 856 (1981).
10. "Nonlinear Elastic Theory of Smectic Liquid Crystals," (with G. Grinstein), *Phys. Rev. A* **26**, 915 (1982).
11. "Smectic C-A Transition in Three Dimensions," (with G. Grinstein), *Phys. Rev. A* **26**, 2196 (1982).
12. "Anharmonic Effects and Gauge Transformations in Smectic Liquid Crystals," (with G. Grinstein and T. C. Lubensky), *Phys. Rev. B* **25**, 6022 (1982).

13. "Nonuniform Long-Range Order in Certain Random Systems," (with J. M. Kosterlitz), *J. Phys. A* **16**, L763 (1983).
14. "Exact Solution of a One-Dimensional XY Model in a Random Field," (with D. Mukamel), *Phys. Rev. (RC) B* **28**, 5374 (1983).
15. "The Smectic C*-Smectic A Transition in Variable Thickness Liquid Crystals Films," (with S. Heinekamp, E. Fontes, E. Chen, R. Pindak and R. B. Meyer), *Phys. Rev. Lett.* **52**, 1017(1984).
16. "Lower Bounds for the Width of Domain Walls in the Random Field Ising Model," (with B. J. Minchau), *Phys. Rev. B* **29**, 6059 (1984).
17. "Dynamics of Charge Density Waves Pinned by Impurities," (with D. Mukamel), *Phys. Rev. (RC) B* **29**, 5972 (1984).
18. "Glauber Dynamics for One-Dimensional Spin Models with Random Fields," (with D. Mukamel and G. Forgacs), *Phys. Rev. B* **30**, 205 (1984).
19. "Structure Factor for Dilute Magnetic Systems," (with A. Aharony), *Phys. Rev. B* **31**, 350 (1985).
20. "Spin Correlation Function for the Two-Dimensional XY Model," (with S. Heinekamp), *Phys. Rev. B* **32**, 4528 (1985).
21. "Two-Dimensional XY Model in a Uniaxial Random Field," (with B. J. Minchau), *Phys. Rev. B* **32**, 3081 (1985).
22. "Critical Dynamics of the Smectic C-A Transition in Thin Films," (with S. Heinekamp), *Phys. Rev. A* **32**, 2506 (1985).
23. "Linear Elasticity Theory for Pentagonal Quasicrystals," (with P. De), *Phys. Rev. B* **35**, 8609 (1987).
24. "Disclinations in Pentagonal Quasicrystals," (with P. De), *Phys. Rev. (RC) B* **37**, 9304 (1987).
25. "Modulated Phases in Thin Ferroelectric Liquid-Crystal Films," (with R. G. Petschek and G. A. Hinshaw), *Phys. Rev. Lett.* **60**, 1864 (1988).
26. "Interaction Energy of Disclinations in Pentagonal Quasicrystals," (with P. De), *Phys. Rev. B* **38**, 5042 (1988).
27. "Melting of Pentagonal Quasicrystals," (with P. De), *J. Phys. A* **22**, 1167 (1989).
28. "Flux Lattice Melting in High- T_c Superconductors," (with A. Houghton and A. Sudbø), *Phys. Rev. B* **40**, 6763 (1989). Work profiled in *The Scientist*, March 1991.
29. "Elastic Modes, Phase Fluctuations and Long-Range Order in Type II Superconductors," (with A. Houghton and A. Sudbø), *Phys. Rev. B* **42**, 906 (1990).

30. "Nonlinear Elasticity Theory of Polymeric Liquid Crystals," (with W. S. Lo), Phys. Rev. A **42**, 4756 (1990).
31. "Ising Model in a Time-Dependent Magnetic Field," (with W. S. Lo), Phys. Rev. A **42**, 7471 (1990).
32. "Dynamical Behavior of Thin Ferroelectric Liquid Crystal Films in AC Electric Fields," (with W. S. Lo, R. Pindak and G. Srajer), Phys. Rev. A **42**, 3690 (1990).
33. "Translational and Orientational Order of the Flux Line Lattice of a High T_c Superconductor," (with A. Houghton and A. Sudbø), J. Phys. Cond. Mat. **3**, 7527 (1991).
34. "Dynamics and Thermal Fluctuations in High T_c Superconductors," (with G. Vecris), Phys. Rev. B **44**, 2767 (1991).
35. "Effects of Random Fields on Bicritical Phase Diagrams in Two and Three Dimensions," (with R. J. Birgeneau, A. Aharony, R. A. Cowley, J. P. Hill, G. Shirane and T. R. Thurston), Physica **177**, 58 (1991).
36. "The Supercooling of a Nematic Liquid Crystal," (with P. De, E. Vogel and J. Vogel), Phys. Rev. E **47**, 1824 (1993).
37. "The Bicritical Phase Diagram of Two-Dimensional Antiferromagnets with and without Random Fields," (with R. A. Cowley, A. Aharony, R. J. Birgeneau, G. Shirane and T. R. Thurston), Z. Phys. B **93**, 5 (1993).
38. "Piezoelectricity of Cholesteric Elastomers," (with R. B. Meyer) J. de Phys. II **5**, 877 (1995).
39. "Viscosities of the Gay-Berne Nematic Liquid Crystal," (with A. M. Smondyrev and G. B. Loriot), Phys. Rev. Lett. **75**, 2340 (1995).
40. "Cholesteric Pitch of Rigid and Semiflexible Chiral Liquid Crystals," Liq. Cryst. **21**, 361 (1996).
41. "Glass Formation in the Gay-Berne Nematic Liquid Crystal," (with A. M. Smondyrev), Liq. Cryst. **23**, 205 (1997).
42. "Simulations of Liquid Crystals," (with J. Billeter), invited article, Computers in Physics, **12**, 440 (1998).
43. "Nematic Structures in Cylindrical Cavities," (with A. M. Smondyrev), Liq. Cryst. **26**, 235 (1999).
44. "Phase-Ordering Dynamics of the Gay-Berne Nematic Liquid Crystal," (with J. Billeter, A. M. Smondyrev and G. B. Loriot), Phys. Rev. E **60**, 6831 (1999).
45. "Molecular Shape and Flexoelectricity," (with J. Billeter), Liq. Cryst. **27**, 1151 (2000).

46. "Defect Configurations and Dynamical Behavior in a Gay-Berne Nematic Emulsion," (with J. Billeter), *Phys. Rev. E* **62**, 711 (2000).
47. "Surface Extrapolation Length and Director Structures in Confined Nematics," (with N. Priezjev), *Phys. Rev. E* **62**, 6734 (2000).
48. "Cluster Monte Carlo Simulations of the Nematic-Isotropic Transition," (with N. Priezjev), *Phys. Rev. E* **63**, 062702 (2001).
49. "Disclination Loop Behavior near the Nematic-Isotropic Transition," (with N. Priezjev), *Phys. Rev. E* **64**, 031710 (2001).
50. "Topological Defect Behavior in a Quenched Nematic Liquid Crystal," (with J. L. Billeter, A. M. Smondyrev and G. B. Loriot), in *Defects in Liquid Crystals: Computer Simulations, Theory and Experiments*, O. D. Lavrentovich, P. Pasini, C. Zannoni, and S. Zumer, eds., Kluwer, Dordrecht, 2001.
51. "The Electroclinic Effect and Modulated Phases in Smectic Liquid Crystals," (with R. B. Meyer), *Phys. Rev. E* **65**, 061704 (2002).
52. "The Isotropic-Cholesteric Transition in Liquid-Crystalline Gels," (with R. B. Meyer), *Phys. Rev. E* **66**, 031706 (2002).
53. "Virtual Surfaces, Director Domains and the Fréedericksz Transition in Polymer Stabilized Nematic Liquid Crystals," (with P. A. Kossyrev, J. Qi, N. Priezjev and G. P. Crawford), *Appl. Phys. Lett.* **81**, 2986 (2002).
54. "Coarsening Dynamics of Biaxial Nematic Liquid Crystals," (with N. Priezjev), *Phys. Rev. E* **66**, 051705 (2002).
55. "Modeling Electro-Optic Performance in Polymer Stabilized Nematic Liquid Crystal Display Configurations," (with P. A. Kossyrev, J. Qi, N. Priezjev and G. P. Crawford), *Proceedings of Asia Display* **7**, 371 (2002).
56. "Model of Fredericks Transition and Hysteresis Effect in Polymer Stabilized Nematic Liquid Crystal Configurations for Display Applications," (with P. A. Kossyrev, J. Qi, N. Priezjev and G. P. Crawford), *Digest for the Society for Information Display XXXIII*, 506 (2002).
57. "Optical and Mechanical Properties of Stretched PDLC Films for Scattering Polarizers," (with I. Amimori, J. N. Eakin, N. V. Priezjev and G. P. Crawford), *Digest for the Society for Information Display XXXIII*, 834 (2002).
58. "External and intrinsic anchoring in nematic liquid crystals: A Monte Carlo study," (with N. V. Priezjev, G. Skacej and S. Zumer), *Phys. Rev. E* **68**, 041709 (2003).
59. "Optomechanical Properties of Stretched Polymer Dispersed Liquid Crystal Films for Scattering Polarizer Applications," (with I. Amimori, N. V. Priezjev and G. P. Crawford), *J. Appl. Phys.* **93**, 3248 (2003).

60. "Zero voltage Freedericksz transition in periodically aligned liquid crystals," (with J. N. Eakin, Y. Xie, M. D. Radcliffe, and G. P. Crawford, *Appl. Phys. Lett.* **85**, 1671 (2004))
61. "Liquid crystals in random porous media: Disorder is stronger in low-density aerosols," (with D. E. Feldman), *Phys. Rev. E (RC)* **70**, 040702 (2004).
62. "Visualization of Topological Defects in Nematic Liquid Crystals Using Streamtubes, Streamsurfaces and Ellipsoids," (with V. A. Slavin, S. Zhang, D. Laidlaw, G. Loriot and A. Callan-Jones), *IEEE Transactions on Visualization and Computer Graphics (Proceedings Visualization / Information Visualization 2004)*, p. 598.21 (2004).
63. "Polarization holographic patterned alignment of nematic liquid crystals," (with J. N. Eakin, G. P. Crawford and M. D. Radcliffe), *Mol. Cryst. Liq. Cryst.* **438**, 185 (2005).
64. "Liquid Crystal Diffraction Gratings Using Polarization Holography Alignment Techniques," (with G. P. Crawford, J. N. Eakin, M. D. Radcliffe, and A. Callan-Jones), *J. Appl. Phys.* **98**, 123102 (2005).
65. "Stable Polarization Gratings Recorded in Azo Dye Doped Liquid Crystals," (with S. P. Gorkhali, S. G. Cloutier, and G. P. Crawford), *Appl. Phys. Lett.* **88**, 251113 (2006).
66. "Techniques for the Visualization of Topological Defect Behavior in Nematic Liquid Crystals," (with V. A. Slavin, D. Laidlaw, G. Loriot and A. Callan-Jones), *IEEE Transactions on Visualization and Computer Graphics (Proceedings Visualization / Information Visualization 2006)*, **12**, 1323 (2006).
67. "Simulation and visualization of topological defects in nematic liquid crystals," (with A. Callan-Jones, G. B. Loriot, V. Slavin, S. Zhang, and D. H. Laidlaw), *Phys. Rev. E.* **74**, 061701 (2006).
68. "Unwinding of a strained cholesteric elastomer by disclination loop nucleation," (with A. Callan-Jones, R. B. Meyer, and A. F. Bower), *Phys. Rev. E.* **75**, 011701 (2007).
69. "Role of electrostatics in the texture of islands in free-standing ferroelectric liquid crystal films," (with J.-B. Lee and R. B. Meyer), *Phys. Rev. E.* **75**, 051701(2007).
70. "Dynamics of the molecular orientation field coupled to ions in two-dimensional ferroelectric liquid crystals," (with J.-B. Lee and R. B. Meyer), *Phys. Rev. E.* **76**, 021704 (2007).
71. "Vesicle shape, molecular tilt, and the suppression of necks," (with H. Jiang, G. Huber and T. R. Powers), *Phys. Rev. E.* **76**, 031908 (2007).
72. "Nematic cells with defect-patterned alignment layers," (with A. S. Backer and A. C. Callan-Jones), *Phys. Rev. E* **77**, 021701 (2008).
73. "Direct measurement of the twist penetration length in a single smectic A layer of colloidal virus particles," (with E. Barry, Z. Dogic, R. B. Meyer and R. Oldenbourg), invited article, *J. Phys. Chem. B* **113**, 3910 (2009).

74. "Nematic cells with quasicrystalline-patterned alignment layers," (with M. H. Schwarz), *Phys. Rev. E* **79**, 022701 (2009).
75. "Twist penetration in single layer smectic A disks of colloidal virus particles," (with R. B. Meyer), (invited article), *Liq. Cryst* (2009).

- Book Reviews

1. "Polymers, Liquid Crystals, and Low-Dimensional Solids," (N. March and M. Tosi, eds.), *Mat. Sci. Eng.* **85**, 191 (1987).
2. "Fundamentals of Statistical Mechanics," (J. D. Walecka, ed.), and "Equilibrium Statistical Physics" (by Plischke and Bergersen), *Physics Today* **43**, 69 (1990).
3. "The Physics of Liquid Crystals," (by J. Prost and P. G. de Gennes), *Physics Today* **48**, 70 (1995).
4. "Statistical Mechanics Made Simple," (by D. C. Mattis), *Am. J. Phys.* **72**, 846 (2004)

- Contributed Presentations

1. "Tilt Angle Measurements at the Chiral Smectic C-Smectic A Phase Transition in Freely Suspended Liquid Crystal Films," (with R. Pindak and R.B. Meyer), *Bull. Am. Phys. Soc.* **23**, 353 (1978).
2. "Smectic C-A Transition in Three Dimensions," (with G. Grinstein), *Bull. Am. Phys. Soc.* **26**, 304 (1981).
3. "Tilt Angle Behavior at the Chiral Smectic C-Smectic A Phase Transition in Freely Suspended Liquid Crystal Films," (with S. Heinekamp, E. Fontes, and R. Pindak), *Bull. Am. Phys. Soc.* **27**, 327 (1982).
4. "Lower Bounds for the Width of Domain Walls in the Random Field Ising Model," (with B. J. Minchau), *Bull. Am. Phys. Soc.* **29**, 398 (1984).
5. "Ising Order in the Two-Dimensional XY Model with a Random Uniaxial Field," (with B. J. Minchau), *Bull. Am. Phys. Soc.* **30**, 376 (1985).
6. "The Melting of Two-Dimensional Quasicrystals," (with P. De), *Bull. Am. Phys. Soc.* **31**, 540 (1986).
7. "Linear Elasticity Theory of Pentagonal Quasicrystals," (with P. De), *Bull. Am. Phys. Soc.* **32**, 558 (1987).

8. "Electrohydrodynamic Instability in Smectic-C* Liquid Crystal Films," (with W. S. Lo, G. Srajer, and R. Pindak), *Bull. Am. Phys. Soc.* **34**, 569 (1989).
9. "A Hydrodynamic Description of the Glass Transition in a Nematic Liquid Crystal," (with P. De, E. Vogel and J. Vogel), *Bull. Am. Phys. Soc.* **34**, 653 (1989).
10. "Surface Extrapolation Length and Director Structures in Confined Nematics," (with N. Priezjev), *Bull. Am. Phys. Soc.* **46**, 1027 (2001).
11. "Disclination Loop Behavior near the Nematic-Isotropic Transition," (with N. Priezjev), *Bull. Am. Phys. Soc.* **47**, 868 (2002).
12. "Coarsening Dynamics of Biaxial Nematics," (with N. Priezjev), *Bull. Am. Phys. Soc.* **47**, 939 (2002).
13. "Liquid crystals in random porous media: Disorder is stronger in low-density aerosols," (with D. E. Feldman), American Physical Society Meeting, March 21-25, 2005, Los Angeles

- Invited lectures (past five years)

- 2005 Physical Chemistry Seminar, Brown University
- 2006 Widely Applied Mathematics Seminar, Division of Engineering and Applied Sciences, Harvard University
- 2006 Physics Colloquium, Carnegie-Mellon University/University of Pittsburgh
- 2007 Scientific Visualization Seminar, Department of Computer Science, Brown University
- 2008 American Physical Society Conference on Graduate Education in Physics
- 2008 Soft Solids and Complex Fluids Summer School, U Mass Amherst

5. Research in Progress

Theoretical study of chirality in model biomembranes
 Numerical simulations of dynamic anchoring in liquid crystals

6. Service

- University (since 2005)

- 2003-07 Member, Health Careers Faculty Advisory Committee
- 2003- Director of Graduate Studies, Physics Department
- 2004-05 Member, Search Committee, University Librarian
- 2004-05 Science Diversity Workshop Participant (Office of the Dean of the College)
- 2004-05 Member, Search Committee, Soft Materials Faculty Position (Division of Engineering)
- 2004-05 Member, Search Committee, Associate Dean for Health Sciences
- 2005 Vice-Chair, Faculty Executive Committee (Sem. II, 2004-05)
- 2004-05 Member, Provost's "Science Cohort" Committee
- 2005-06 Chair, Faculty Executive Committee

2005, 06 Presenter, Sheridan Center Teaching Seminar, "Setting the Stage for Learning: Defining Your Course Goals and Objectives"

2005-06 Member, Search Committee, Nanoscience/Soft Matter Faculty Position (Department of Physics)

2006-09 Member, Faculty Committee for the Campaign for Academic Enrichment

2006-07 Past Chair, Faculty Executive Committee

2006-07 CAP Advisor (5 advisees)

2006-07 Member, Advisory Committee for the Center for Computation and Visualization

2007-09 Vice-Chair, Human Resources Advisory Board

2007- Faculty Liaison, Sheridan Center

2007-09 Member, Sub-Committee on Faculty (NEASC accreditation)

2007-08 Sophomore Advisor (5 advisees)

2007-08 Chair, Search committee for faculty position, Physics Department

2008-10 Chair, Faculty Committee for the Campaign for Academic Enrichment

2008-09 Sophomore Advisor (1 advisee)

2008, 09 Presenter, Sheridan Center Teaching Seminar, "Setting the Stage for Learning: Defining Your Course Goals and Objectives"

2008-09 Chair, Tenure Committee for Dima Feldman

2008-10 Member, Organizational Review Committee; Co-Team Leader, IT Organizational Review Team

2009- Faculty Mentor (ADVANCE Cross-Departmental Mentoring Program)

2009 Member, Physics Department Qualifying Exam Committee

2008-10 Member, Physics Department Publications and Outreach Committee

2009-10 First-year Advisor (six advisees)

2009-10 Sophomore Advisor (1 advisee)

2009-10 Chair, Physics Department Self-Study Committee

- Professional

Chairman of the 1984 Spring Meeting of the New England Section of the American Physical Society, Brown University, April 6-7, 1984.

Member of the Executive Committee of the New England Section of the American Physical Society, 1987-88.

Panelist, National Science Foundation, Information Technology Research Program, proposal review, April 10-11, 2000.

Member of the Local Organizing Committee, Annual Meeting of the APS Division of Computational Physics, MIT, June 25-28, 2001.

7. Honors and Awards

1977-78 IBM Predoctoral Fellow

1982-83 Bergmann Memorial Award for Young Scientists, U.S.-Israel Binational Science Foundation

1983 Einstein Fellow, Einstein Center for Theoretical Physics, Weizmann Institute of Science

1983-87 Alfred P. Sloan Foundation Fellow

1999 Philip J. Bray Award for Teaching Excellence in the Physical Sciences

1999	Certificate of Appreciation for Excellence in Teaching, Onyx Class of 1999
2001	Certificate of Appreciation, Brown Chapter of the National Society of Black Engineers
2002	Mellon Minority Undergraduate Fellowship Outstanding Mentor Book Research Award
2008-11	Royce Family Professor in Teaching Excellence
2009	President's Award for Excellence in Faculty Governance

8. Research Grants

Completed (all National Science Foundation):

Title	Start Date	Expiration Date	Awarded Amount
Numerical Simulations of Topological Defects in Liquid Crystals	2/1/02	12/31/05	\$294,000
Large-Scale Simulations of Liquid Crystals	2/1/99	9/30/02	\$258,000
Numerical Simulations of Nematic Liquid Crystals	2/1/96	1/31/00	\$195,000
Non-Equilibrium Phenomena in Nematic Liquid Crystals	2/15/93	7/31/96	\$195,000
Theoretical Studies of Polymeric Liquid Crystals, Thin Liquid Crystal Films, and Quasicrystals	7/1/86	3/31/90	\$151,700
Theoretical Studies of the Liquid - Solid Helium Interface and Amorphous Magnets	7/1/83	12/31/86	\$123,000
Critical Phenomena in Thin Films, Amorphous Systems and Metals	7/1/80	12/31/83	\$78,100

Current

1. Petroleum Research Foundation (G. Crawford, co-PI), 9/1/08-8/31/10, "Dynamic Anchoring of Liquid Crystals at Fluid Interfaces", \$100,000
2. National Science Foundation MRSEC (with multiple PI's at Brandeis), "Constraints and frustration in Nano-structures and Biomolecular Materials", 9/1/08-8/31/14, \$297,064 subaward to Pelcovits

9. Teaching (past three calendar years)

2007	Physics 6, Foundations of Electromagnetism and Modern Physics, 26 students
2007	Supervision of UTRA student, Michael Schwarz
2007	Physics 720, Methods of Mathematical Physics, 10 students
2007	Physics 1990, supervision of senior thesis by Michael Schwarz '08
2008	Supervision of visiting undergraduate student, Richard Hui (Chinese University of Hong Kong SURE program)
2008	Physics 720, Methods of Mathematical Physics, 15 students
2008-	Supervision of Ph.D. thesis by Pengyu Liu
2009	Physics 500, Advanced Classical Mechanics, 35 students
2009-	Supervision of Ph.D. thesis by Hao Tu
2009	Physics 50, Foundations of Mechanics,

10. Vita prepared November 15, 2009.