CURRICULUM VITAE

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EDUCATION

Ph.D.	Solid State Physics	Purdue University	1975
M.S.	Physics	Purdue University	1973
B.S.	Physics	Purdue University	1971

ACADEMIC AND PROFESSIONAL APPOINTMENTS

Dean & Professor Emeritus	Department of Physics The University of Alabama at Birmingham	2015-present
Dean	School of Natural Sciences & Mathematics The University of Alabama at Birmingham	2003-2009
Professor	Department of Physics The University of Alabama at Birmingham	2003-2015
Adjunct Professor	Department of Physics Wayne State University	2003-2006
Chair	Department of Physics Wayne State University	1998-2003
Associate Dean	College of Science Wayne State University	1996-1999
Professor Associate Professor Assistant Professor	Department of Physics Wayne State University	1986-2003 1981-1986 1976-1981
Fulbright-Hays Senior Researcher	Metal Physics Group Kamerlingh Onnes Laboratorium, The Netherlands	1982-1983
NATO Visiting Scientist	Metal Physics Group Kamerlingh Onnes Laboratorium, The Netherlands	1979
Research Associate	Department of Physics Purdue University	1975-1976

HONORS AND AWARDS

Purdue University College of Science Distinguished Alumni Award	2008
Phi Kappa Phi Honor Society	2006
Wayne State Board of Governors Faculty Recognition Award	1988
Wayne State Career Development Chair	1984-1985
Fulbright-Hays Research Fellowship	1982-1983
Alfred P. Sloan Research Fellowship	1978-1980
Wayne State Faculty Research Award	1978 & 1984

PROFESSIONAL SOCIETY MEMBERSHIPS

American Physical Society
Materials Research Society
Sigma Pi Sigma
Sigma Xi
Phi Kappa Phi

RESEARCH AND SCHOLARLY ACTIVITIES

Research Interests

- Magnetic characterization of spin-glasses, ferromagnets, nanoparticles, nanowires, and magnetic multilayer films through ac susceptibility, SQUID and VSM magnetometry, calorimetry, and resistivity measurements.
- Electrical, magnetic, and electrodynamic effects associated with conventional & high-temperature superconductors.
- Synthesis (e-beam, sputtering, & electrodeposition) and characterization (SEM, AFM, XRD, magnetization) of novel magnetic structures and nanostructures for sensor and biomedical applications.

Research Highlights

- First extensive study of the calorimetric properties of metallic and insulating spin-glass materials which demonstrated the lack of any significant heat capacity anomaly around the spin-glass transition temperature and correspondingly that the spin-glass transition could not be explained by conventional long-range magnetic order.
- Dynamical studies (frequency-dependent ac susceptibility, magnetic relaxation, memory effects, and cooling rate dependence) of insulating spin glasses as well as superparamagnetic nanoparticle systems which demonstrated that the dynamical slowing down of the magnetic spins in spin glasses could not be ascribed to simple superparamagnetic relaxation effects.
- Experimental evidence for Overhauser spin density wave (SDW) effect in dilute Y-Gd alloys from calorimetric and magnetization measurements where the formation of a SDW polarization of the yttrium conduction electrons occurred through the interaction with the Gd moments resulting in long-range helical magnetic ordering of the moments.
- Extensive studies of Josephson coupling effects in high-temperature superconducting materials, including evidence for intra- and inter-unit cell Josephson junctions in YBCO single crystals.
- First observation of paramagnetic Meissner effect (PME) in niobium, a conventional superconductor, demonstrating that the PME observed on Nb disks was an extensive property and correspondingly questioning whether the PME in high temperature superconducting materials was evidence for π junctions and *d*-wave superconductivity.

Publications

1. L.E. Wenger and P.H. Keesom, "Magnetic Order of $Au_{0.92}Fe_{0.08}$: A Calorimetric Investigation", Phys. Rev. B 11, 3497-3500 (1975).
2. L.E. Wenger and P.H. Keesom, "Low Temperature Specific Heat of $(V_{1-x}Cr_x)_2O_3$ and $(V_{1-x}Al_x)_2O_3$", Phys. Rev. B 12, 5288-5296 (1975).
3. L.E. Wenger and P.H. Keesom, "Low Temperature Specific Heat of $(V_{1-x}Cr_x)_2O_3$ and $(V_{1-x}Al_x)_2O_3$" in Proceedings of the Fourteenth International Conference on Low Temperature Physics, edited by M. Krusius and M. Vuorio (North Holland, Amsterdam, 1975), Vol. 3, pp. 13-14.
4. L.E. Wenger and P.H. Keesom, "Magnetic Ordering of AuFe: A Calorimetric Investigation", in Proceedings of the Fourteenth International Conference on Low Temperature Physics, edited by M. Krusius and M. Vuorio (North-Holland, Amsterdam, 1975), Vol. 3, pp. 258-259.
5. L.E. Wenger and P.H. Keesom, "Calorimetric Investigation of a Spin Glass Alloy: CuMn", Phys. Rev. B 13, 4053-4059 (1976).
6. R.W. Kline, A.M. de Graaf, L.E. Wenger, and P.H. Keesom, "A Calorimetric Study of MnO-Al_2O_3-SiO_2 Glasses", AIP Conf. Proc. 29, 169-171 (1976).
7. L.E. Wenger and P.H. Keesom, "A Calorimetric Investigation of the Spin Glass: CuMn", AIP Conf. Proc. 29, 233-234 (1976).

8. L.E. Wenger, K. Amaya, and C.A. Kukkonen, "The Negligible Effect of Strain on the Low-Temperature Heat Capacity of Silica Glass", Phys. Rev. B 14, 1327-1328 (1976).
9. L.E. Wenger and P.H. Keesom, "Specific Heat of NbO_2 at Low-Temperatures", Phys. Rev. B 15, 5953-5956 (1977).
10. Kiichi Amaya, P.H. Keesom, and L.E. Wenger, "Specific Heat of Niobium in the Mixed State between 0.03 and 0.3 K", Phys. Rev. B 16, 1042-1045 (1977).
11. L.E. Wenger and P.H. Keesom, "A Calorimetric Investigation of a CoO-Al_2O_3-SiO_2 Glass", in Proceedings of the Second International Symposium of Amorphous Magnetism, edited by R.A. Levy and R. Hasegawa (Plenum, New York, 1977), pp. 577-585.
12. L.E. Wenger, "A Calorimetric Investigation of an Yttrium-Dysprosium Spin Glass", J. Appl. Phys. 49, 1630-1632 (1978).
13. L.E. Wenger, C.A.M. Mulder, A.J. van Duyneveldt, and J.A. Mydosh, "ac Susceptibility of a Cobalt Aluminosilicate Glass", Phys. Letts. 77A, 378-380 (1980).
14. Timothy A. Meert and L.E. Wenger, "Frequency Dependent Susceptibility of Cobalt Aluminosilicate Glasses", J. Magn. Magn. Mater. 23, 165-172 (1981).
15. J. Scott Payson and L.E. Wenger, "Specific Heat of Wakefield Thermal Compound from 2 to 40 K", Cryogenics 22, 44 -45(1982).
16. L.E. Wenger, C.A.M. Mulder, A.J. van Duyneveldt, and M. Hardiman, "Frequency Dependence of the ac Susceptibility of a Cobalt Aluminosilicate Glass", Phys. Letts. 87A, 439-442 (1982).
17. A.F.J. Morgownik, J.A. Mydosh, and L.E. Wenger, "The High Temperature Susceptibility of Cobalt and Manganese Aluminosilicate Glasses", J. Appl. Phys. 53, 2211-2213 (1982).
18. L.E. Wenger and J.A. Mydosh, "Relation between Heat Capacity and Magnetization of a Spin Glass", Phys. Rev. Lett. 49, 239 (1982).
19. D. Hüser, L.E. Wenger, A.J. van Duyneveldt, and J.A. Mydosh, "Dynamical Behavior of the Susceptibility around the Freezing Temperature in (EuSr)S", Phys. Rev. B 27, 3100-3103 (1983).
20. L.E. Wenger, "Relaxation Effect in Spin-Glasses Around the Freezing Temperature", in Heidelberg Colloquium on Spin Glasses, edited by J.L. van Hemmen and I. Morgenstern (Springer-Verlag, Heidelberg, 1983), pp. 60-69.
21. L.E. Wenger and J.A. Mydosh, "Nonuniqueness of $H^{2/3}$ and H^2 Field-Temperature Transition Lines in Spin-Glasses", Phys. Rev. B 29, 4156-4158 (1984).
22. L.E. Wenger and J.A. Mydosh, "Cooling Rate Effect upon the Field-Cooled Magnetization of an Insulating Spin-Glass", J. Appl. Phys. 55, 1717-1719 (1984).
23. L.E. Wenger and J.A. Mydosh, "Evidence for a Spin-Density-Wave Transition in Dilute Yttrium-Gadolinium Alloys", J. Appl. Phys. 55, 1850-1852 (1984).
24. Y.J. Uemura, S.M. Shapiro, and L.E. Wenger, "Spatial and Dynamic Correlation of CuMn (5 at. %) Spin-Glass: Inelastic Neutron Scattering Study", J. Appl. Phys. 57, 3401-3403 (1985).
25. W.J. Kaiser, E.M. Logothetis, and L.E. Wenger, "Dielectric Response of Small Metal-Particle Composites", J. Phys. C 18, L837-L842 (1985).
26. G.D. Khattak, M.S. Hussain, G.W. Hunter, and L.E. Wenger, "Specific Heat and Magnetic Susceptibility Studies on Bromobis (1,4-Diazacycloheptane) Copper (II) Perchlorate, $[Cu(dach)_2Br]$ $[ClO_4]$, at Low Temperatures", Phys. Stat. Sol. (b) 130, 587-593 (1985).
27. W.J. Kaiser, E.M. Logothetis, and L.E. Wenger, "Metal Particle Size Effects in the Dielectric Response of Metal-Insulator Composites", Solid State Commun. 58, 83-87 (1986).
28. L.E. Wenger, Gary W. Hunter, J.A. Mydosh, J.A. Gotaas, and J.J. Rhyne, "Spin-Density-Wave Transition in Dilute YGd Single Crystals", Phys. Rev. Lett. 56, 1090-1093 (1986).
29. J.A. Gotaas, J.J. Rhyne, L.E. Wenger, and J.A. Mydosh, "Long-Range Incommensurate Spin State in Dilute YGd Alloys", J. Magn. Magn. Mater. 54-57, 93-94 (1986).
30. L.E. Wenger, Gary W. Hunter, J.A. Mydosh, and G.D. Khattak, "Anisotropic Magnetic Field Effects in a Dilute YGd Alloy", J. Magn. Magn. Mater. 54-57, 201-202 (1986).
31. Tie Wang, H.V. Bohm, and L.E. Wenger, "Dynamical Effects in the Field-Cooled Magnetization of a Cobalt Alumnosilicate Spin-Glass", J. Magn. Magn. Mater. 54-57, 89-90 (1986).
32. W.D. Wallace, Gary W. Hunter, and L.E. Wenger, "Anomalous Field Dependence of the Specific Heat in a CoO-Al_2O_3-SiO_2 Spin-Glass near T_f", J. Appl. Phys. 61, 3630-3632 (1987).
33. J.A. Gotaas, J.J. Rhyne, L.E. Wenger, and J.A. Mydosh, "Magnetic Field-Induced Transition in $Y_{1-x}Gd_x$", J. Appl. Phys. 61, 3415-3417 (1987).

34. J.T. Chen, L.E. Wenger, C.J. McEwan, and E.M. Logothetis, "Observation of the Reverse ac Josephson Effect in Y-Ba-Cu-O at 240 K", Phys. Rev. Lett. 58, 1972-1975 (1987).
35. J.T. Chen, C.J. McEwan, L.E. Wenger, and E.M. Logothetis, "Determination of the Charge Carriers in Superconducting La-Ba-Cu-O by Thermoelectric Measurements", Phys. Rev. B 35, 7124-7125 (1987).
36. L.E. Wenger, J.T. Chen, Gary W. Hunter, and E.M. Logothetis, "Absence of Specific Heat Anomaly at the Superconducting Transition in $La_{1.8}Ba_{0.2}CuO_{4-y}$", Phys. Rev. B 35, 7213-7215 (1987).
37. G.W. Hunter, L.E. Wenger, and W.D. Wallace, "Calorimetric Investigations of Scaling Behavior in Aluminosilicate Spin-Glasses", Phys. Rev. B 36, 5750-5753 (1987).
38. L.E. Wenger, J.T. Chen, C.J. McEwan, and E.M. Logothetis, "Reverse ac Josephson Experiments in Y-Ba-Cu-O at 240 K", in High Temperature Superconductors, edited by D.U. Gubser and M. Schluter (Mat. Res. Soc., Pittsburgh, 1987), pp. 121-123.
39. L.E. Wenger, J.T. Chen, E.M. Logothetis, W. Win, C.J. McEwan, R. Soltis, and M. Hurley, "Superconducting Properties of Y-Ba-Cu-O Compounds", Jpn. J. Appl. Phys. 26-3, 1203-1204 (1987).
40. J.A. Gotaas, J.J. Rhyne, L.E. Wenger, and J.A. Mydosh, "Magnetic Phase Transition in $Y_{0.97}Dy_{0.03}$", J. Appl. Phys. 63, 3577-3579 (1988).
41. A.T. Wijeratne, G.L. Dunifer, J.T. Chen, L.E. Wenger, and E.M. Logothetis, "Millimeter-Wave Absorption in La-Ba-Cu-O and Y-Ba-Cu-O Superconductors", Phys. Rev. B 37, 615-618 (1988).
42. M. Aslam, R.E. Soltis, E.M. Logothetis, R. Ager, M. Mikkor, W. Win, J.T. Chen, and L.E. Wenger, "Rapid Thermal Annealing of YBaCuO Films on Si and SiO_2 Substrates", Appl. Phys. Lett. 53, 153-155 (1988).
43. G.D. Khattak, M.S. Hussain, P.H. Keesom, and L.E. Wenger, "Low Temperature Calorimetric and Magnetic Studies of Copper (II) in 1,4-Diazacycloheptane-Copper (II) Systems", J. Magn. Magn. Mater. 75, 407-415 (1988).
44. L.E. Wenger, J.T. Chen, E.M. Logothetis, W. Win, C.J. McEwan, R Soltis, and D. Ager, "Josephson-Coupled High-Temperature Granular Oxide Superconductors", Reviews of Solid State Science 1, 175-180 (1988).
45. W.H. Weber, E.M. Logothetis, R.E. Soltis, G.W. Graham, J.T. Chen, and L.E. Wenger, "Laser Processing and Characterization of High-T_c Superconductors", in High Temperature Superconductors, edited by M.B. Brodsky, R.C. Dynes, K. Kitazawa, and H.L. Tuller (Mat. Res. Soc., Pittsburgh, 1988), Vol. 99, pp. 631-634.
46. J.T. Chen, L.E. Wenger, E.M. Logothetis, C.J. McEwan, W. Win, R.E. Soltis, and R. Ager, "Microwave Effects in Josephson-Coupled High Temperature Granular Oxide Superconductors", Chinese J. Physics 26, S93-S98 (1988).
47. L.E. Wenger, W. Win, J.T. Chen, J. Obien, M. Wali, M. Bhullar, E.M. Logothetis, R.E. Soltis, and D. Ager, "Interfacial Coupling Dependence upon the Superconducting Properties of Metallic and Insulating YBaCuO Composites", Physica C 153-155, 353-354 (1988).
48. E.M. Logothetis, R.E. Soltis, R.M. Ager, W. Win, C.J. McEwan, K. Chang, J.T. Chen, T. Kushida, and L.E. Wenger, "Deposition and Characterization of Superconducting YBaCuO Films", Physica C 153-155, 1439-1440 (1988).
49. L.E. Wenger, W. Win, C.J. McEwan, J.T. Chen, E.M. Logothetis, and R.E. Soltis, "The Complex AC Susceptibility-Critical Current Relationship in Oxide Superconductors", in High - T_c Superconductors, edited by H.W. Weber (Plenum, New York, 1988), pp. 301-306.
50. J.A. Gotaas, J.J. Rhyne, L.E. Wenger, and J.A. Mydosh, "Magnetic Structure of $Y_{0.97}Er_{0.03}$", J. Physique 49, C8 – 365-366 (1988).
51. J.T. Chen, L-X Qian, L-Q Wang, L.E. Wenger, and E.M. Logothetis, "Observation of Thermally Recycleable Zero-Resistance States in YBaCuO above Dry Ice Temperatures", Mod. Phys. Lett. B 3, 1197-1206 (1989).
52. T. Kushida, K. Chang, Lu-Xi Qian, W. Win, J.T. Chen, L.E. Wenger, E.M. Logothetis, R.E. Soltis, and D. Ager, "Superconducting and Josephson Properties of YBaCuO Thin Films', MRS Int'l Mtg. on Adv. Matls. 6, 913-916 (1989).
53. M. Aslam, R.E. Soltis, E.M. Logothetis, R.E. Chase, L.E. Wenger, and J.T. Chen, "Technology of Superconducting Thin Films on Si, SiO_2, and Si_3N_4 for Vacuum Microelectronics", IEEE Trans. Electron Devices 36, 2693-2696 (1989).
54. R.E. Soltis, W.T. Donlon, S. Shinozaki, R.M. Ager, C.R. Peters, E.M. Logothetis, M. Aslam, L.E. Wenger, J.T. Chen, and R. Nelson, "Properties of BiSrCaCuO Films Prepared by RF Triode Sputtering", Physics C 162-164, 649-650 (1989).
55. K. Chang, J.T. Chen, L.E. Wenger, and E.M. Logothetis, "Effects of Microwave Radiation on YBaCuO Films", Physica C 162-164, 1591-1592 (1989).

56. L-Q Wang, L-X Qian, L.E. Wenger, J.T. Chen, and E.M. Logothetis, "Electrical and Magnetic Properties on Different Phases of YBaCuO Single Crystals", Physica C 162-164, 1617-1618 (1989).
57. W. Win, M. Wali, J. Obien, M.S. Bhullar, L.E. Wenger, J.T. Chen, E.M. Logothetis, R.E. Soltis, and R.M. Ager, "Electric and Magnetic Properties of $YBa_2Cu_3O_7$: Y_2BaCuO_5 Composites", Physica C 172, 217-228 (1990).
58. W. Win, L.E. Wenger, J.T. Chen, E.M. Logothetis, and R.E. Soltis, "Nonlinear Magnetic Response of the Complex ac Susceptibility in the $YBa_2Cu_3O_7$ Superconductors", Physica C 172, 233-241 (1990).
59. J.T. Chen, L-X Qian, L-Q Wang, L.E. Wenger, and E.M. Logothetis, "Oxygen Stabilized Zero-Resistance States with Transition Temperatures above 200 K in YBaCuO", in Superconductivity and Applications, edited by H.S. Kwok, Y-H Yan, and D.T. Shaw, (Plenum, New York, 1990), pp. 517-529.
60. R.E. Soltis, E.M. Logothetis, D.W. Hoffman, J.W. Hangas, S. Shinozaki, M. Aslam, L.E. Wenger, and J.T. Chen, "Deposition of $YBa_2Cu_3O_7$ Films on Sapphire by RF Triode Sputtering", in Science and Technology of Thin Film Superconductors 2, edited by R.D. McConnell and R. Noufi (Plenum, New York, 1990), pp. 125-129.
61. W. Win, E.M. Logothetis, R.E. Soltis, H.K. Plummer, and L.E. Wenger, " Preparation and Properties of Co/SiO_2 and Co_3O_4/SiO_2 Composites", in Physical Phenomon in Granular Materials, edited by G.D. Cody, T.H. Geballe, and P. Sheng (Mat. Res. Soc., Pittsburgh, 1990), Vol. 195, pp. 605-610.
62. L. Henry, L.E. Wenger, G.D. Khattak, and A. Tari, "A Calorimetric Study of the Magnetic Order in $Ho(Co_{1-x}Rh_x)_2$ Alloys", Phys. Rev. B 43, 689-697 (1991).
63. K. Chang, G. Yong, L.E. Wenger, and J.T. Chen, "Observation of Nonbolometric Responses to Microwave Irradiation on YBaCuO Films", J. Appl. Phys. 69, 7316-7318 (1991).
64. L-Q. Wang, G-H. Chen, L.E. Wenger, and J.T. Chen, "Reproducible Resistance Transitions near Room Temperature in Single Crystal $YBa_2Cu_3O_{7-\delta}$ with Regional Defects, Physica C 185-189, 607-608 (1991).
65. J.T. Chen, L.E. Wenger, L-Q. Wang, and G-H. Chen, "Near Room Temperature Resistive Transitions in Single Crystals of $YBa_2Cu_3O_{7-\delta}$ with Defects", in AIP Conference Proc. 251, edited by Y.H. Kao, A.E. Kalyeros, and H.S. Kwok (AIP, New York, 1992), pp. 459-466.
66. L-Q. Wang, M.S.M. Minhaj, J.T. Chen, and L.E. Wenger, "Construction of a Simple Low-Field Solenoid for the Quantum Design@ SQUID Magnetometer", Rev. Sci. Instrum. 64, 3018-3019 (1993).
67. M.S.M. Minhaj, S. Meepagala, J.T. Chen, and L.E. Wenger, "Thickness Dependence on the Superconducting Properties of Thin Nb Films", Phys. Rev. B 49, 15235-15240 (1994).
68. M.S.M. Minhaj, J. Obien, D-C. Ling, J.T. Chen, and L.E. Wenger, "Magnetization Studies of Near-Room-Temperature Flux-Trapping Phenomenon in CuO-Based Materials", J. of Superconductivity 7, 715 (1994).
69. D.C. Ling, K. Chang, J.T. Chen, and L.E. Wenger, "Observation of Microwave Induced dc Voltages in a $YBa_2Cu_3O_{7-\delta}$ Single Crystal", Physica C 235-240, 3291-3292 (1994).
70. M.S.M. Minhaj, David J. Thompson, L.E. Wenger, and J.T. Chen, "Paramagnetic Meissner Effect in a Niobium Disk", Physica C 235-240, 2519-2520 (1994).
71. R. Naik, A. Poli, D. McKague, A. Lukeszew, and L.E. Wenger, "Strain-induced Perpendicular Magnetic Anisotropy of <100> Oriented Ni-Cu Superlattices", Phys. Rev. B 51, 3549-3553 (1995).
72. G.D. Khattak, L.E. Wenger, David J. Thompson, M.A. Salim, A.B. Hallak, M.A. Daous, and E.E. Khawaja, "Study of Valency States of Copper in Copper -Phosphate Glasses", J. Materials Science 30, 4032-4036 (1995).
73. David J. Thompson, M.S.M. Minhaj, L.E. Wenger, and J.T. Chen, "Observation of Paramagnetic Meissner Effect in Niobium Disks", Phys. Rev. Lett. 75, 529-532 (1995).
74. D.C. Ling, Grace Yong, J.T. Chen, and L.E. Wenger, "Experimental Evidence for Intra- and Inter-unit-cell Josephson Junctions in a $YBa_2Cu_3O_{7-\delta}$ Single Crystal", Phys. Rev. Lett. 75, 2011-2014 (1995).
75. G.D. Khattak, E.E. Khawaja, L.E. Wenger, David J. Thompson, M.A. Salim, A.B. Hallak, and M.A. Daous, "Compositional Dependent Loss of Phosphorous in the Formation of Transition-Metal -Phosphate Glasses", J. Non-Crystal. Solids 194, 1-12 (1996).
76. D.C. Ling, J.T. Chen, and L.E. Wenger, "Microwave-Induced dc Voltages in a $YBa_2Cu_3O_{7-\delta}$ Single Crystal", Phys. Rev. B 53, 15300-15304 (1996).
77. David J. Thompson, L.E. Wenger, and J.T. Chen, "Paramagnetic Meissner Effect in Conventional Nb Superconductors", J. Low Temp. Phys. 105, 509-514 (1996).
78. David J. Thompson, L.E. Wenger, and J.T. Chen, "Inducing the Paramagnetic Meissner Effect in Nb Disks by Surface Ion Implantation", Phys. Rev. B 54, 16096-16100 (1996).

79. D.C. Ling, J.T. Chen, and L.E. Wenger, "Evidence for Intrinsic Josephson Junctions in a Single Crystal of $YBa_2Cu_3O_{7-\delta}$", Chinese J. Phys. 34, 442-449 (1996).
80. David J. Thompson, L.E. Wenger, and J.T. Chen, "Inducing and Enhancing the Paramagnetic Meissner Effect in Nb Disks", Czech. J. of Physics 46, S3 – 1195-1196 (1996).
81. J.T. Chen, D.C. Ling, and L.E. Wenger, "Intrinsic Josephson Junctions in $YBa_2Cu_3O_{7-\delta}$ Single Crystals", Czech. J. of Physics 46, S3 – 1257-1258 (1996).
82. G.D. Khattak, M.A. Salim, A.S. Al-Harthi, David J. Thompson, and L.E. Wenger, "Structure of Molybdenum-Phosphate Glasses by X-ray Spectroscopy (XPS)", J. Non-Crystal. Solids 212, 180-191 (1997).
83. Susil K. Putatunda, R. Naik, and L.E. Wenger, "Development of a Nickel-Based Superalloy (Putalloy) with Rhenium and Platinum", Materials and Manufacturing Processes 13, 671-691 (1998).
84. V.M. Naik, S. Hameed, R. Naik, L. Pust, L.E. Wenger, G.D. Dunifer, and G.W. Auner, "Effect of [111] Texture on the Perpendicular Magnetic Anisotropy of Co/Ni Multilayers", J. Appl. Phys. 84, 3273-3277 (1998).
85. L. Pust, L.E. Wenger, and M.R. Koblischka, "Detailed Investigation of the Superconducting Transition of Niobium Disks Exhibiting the Paramagnetic Meissner Effect", Phys. Rev. B 58, 14191-14194 (1998).
86. G.W. Auner, P. Siy, R. Naik, L. Wenger, G-Y. Liu, and L.J. Schwiebert, "A Combined Research/Educational Curriculum in Smart Sensors and Integrated Devices", Proc. of International Conf. on Engineering Education (1998).
87. L. Pust, L.E. Wenger, and M.R. Koblischka, "Details of the Superconducting Phase Transition in Nb Showing the Paramagnetic Meissner Effect", Phys. Stat. Sol. 212, R13-R14 (1999).
88. G.D. Khattak, M.A. Salim, L.E. Wenger, and A.H. Gilani, "X-ray Photoelectron Spectroscopy (XPS) and Magnetization Studies of Iron-Sodium Borate Glasses", J. Non-Crystal. Solids 244, 128-136 (1999).
89. L. Pust, L.E. Wenger, R.A. Lukaszew, Y. Sheng, D. Litvinov, Y. Wang, C. Uher, and R. Clarke, "Temperature Dependence of the Magnetization Reversal in Co-(fc)-BN-Co(poly-hcp) Structures", J. Appl. Phys. 85, 5765-5767 (1999).
90. Susil K. Putatunda, T. Nielsen , John Valenzuela, R. Naik, and L.E. Wenger, "Development of a New Soft Magnetic Material (Fe with 1% Al) for Automotive Applications", Adv. in Powder Metall. & Particulate Mat'ls. 8, 29-36 (1999).
91. G.D. Khattak, M.A. Salim, L.E. Wenger, and A.H. Gilani, "X-ray Photoelectron Spectroscopy (XPS) and Magnetization Studies of Copper-Vanadium Phosphate Glasses", J. Non-Crystal. Solids 262, 66-79 (2000).
92. Susil K. Putatunda, T. Nielsen, P. Talagala, R. Naik, and L.E. Wenger, "Soft Magnetic Properties of Fe-(1% wt) Al Alloy Processed by Powder Metallurgy", Materials and Manufacturing Processes 15, 405-418 (2000).
93. L.E. Wenger, L. Pust, and M.R. Koblischka, "Investigation of the Paramagnetic Meissner Effect on Nb Disks", Physica B 284-288, 797-798 (2000).
94. Petru S. Fodor and L.E. Wenger, "Paramagnetic Meissner Effect In Nb Disks", Physica C 341-348, 2043-2044 (2000).
95. Manawadevi Y. Udugala-Ganahenege, Mary Jane Heeg, Lew M. Hryhorczuk, L.E. Wenger, and John F. Endicott, "Electron/Atom Transfer In Halo-Bridged Homobimetallic Complexes: Structure and Donor-Acceptor Properties of Face-to-Face Dicopper Complexes with Tetra-azamacrocyclic Ligands", Inorganic Chemistry 40, 1614-1625 (2001).
96. S. Hameed, P. Talagala, R. Naik, L.E. Wenger, V.M. Naik, and R. Proksch, "Analysis of Disordered Stripe Magnetic Domains in Strained Epitaxial Ni (001) Films", Phys. Rev. B 64, 184406-6 (2001).
97. M.A. Salim, G.D. Khattak, Petru S. Fodor, and L.E. Wenger, "X-ray Photoelectron Spectroscopy (XPS) and Magnetization Studies of Iron-Vanadium Phosphate Glasses", J. Non-Crystal. Solids 289, 185-195 (2001).
98. S. Hameed, P. Talagala, R. Naik, L.E. Wenger, and V.M. Naik, "A Study of Disordered Stripe Magnetic Domains Observed In Epitaxial Ni Films", J. Magn. Magn. Mater. 242-245, 1264-1266 (2002).
99. R. Naik, S. Hameed, P. Talagala, R. Naik, V.M. Naik, and L.E. Wenger, "Comparative Study of Stripe Magnetic Domains In Epitaxial Ni(111) and Co(0001) Films", J. Appl. Phys. 91, 7550-7552 (2002).
100. P.S. Fodor, G. Tsoi, and L.E. Wenger, "Fabrication and Characterization of $Co_{(1-x)}Fe_x$ Alloy Nanowires", J. Appl. Phys. 91, 8186-8188 (2002).
101. M. Chinkhota, P.S. Fodor, G.D. Khattak, and L.E. Wenger, "Investigation of the Magnetic Properties In Strontium-Borate Vanadate Glasses", J. Appl. Phys. 91, 8269-8271 (2002).
102. C.S. Lue, F.H. Hsu, H.H. Li, H.D. Yang, Y.-K. Kuo, P.S. Fodor, and L.E. Wenger, "Thermal Hysteresis In the Charge-Density-Wave Transition of $Lu_5Rh_4Si_{10}$", Phys. Rev. B 66, 033101-4 (2002).

103. P. Talagala, P. Fodor, D. Haddad, R. Naik, L.E. Wenger, P.P. Vaishnava, and V.M. Naik, "Determination of Magnetic Exchange Stiffness and Surface Anisotropy Constants in Epitaxial $Ni_{1-x}Cu_x(001)$ Films", Phys. Rev. B 66, 144426-6 (2002).
104. M.A. Salim, G.D. Khattak, N. Tabet, and L.E. Wenger, "X-ray Photoelectron Spectroscopy (XPS) Studies of Copper-Sodium Tellurite Glasses", J. Electron Spectroscopy & Related Phenomena 128, 75-83 (2003).
105. A. Mekki, G.D. Khattak, D. Holland, M. Chinkhota, and L.E. Wenger, "Structure and Magnetic Properties of Vanadium Silicate Glasses", J. Non-Crystal. Solids 318, 193-201 (2003).
106. P.S. Fodor, G.M. Tsoi, and L.E. Wenger, "Zero Magnetization States in Electrodeposited $Co_{0.45}Fe_{0.55}$ Nanowire Arrays", J. Appl. Phys. 93, 7035-7037 (2003).
107. P.S. Fodor, G.M. Tsoi, and L.E. Wenger, "Modeling of Hysteresis and Magnetization Curves for Hexagonally Ordered Electrodeposited Nanowires", J. Appl. Phys. 93, 7438-7440 (2003).
108. A. Mekki, G.D. Khattak, P.S. Fodor, and L.E. Wenger, "Structure and Magnetic Properties of Lead Vanadate Glasses", J. Non-Crystal. Solids 330, 156-167 (2003).
109. S.C. Perera, P.S. Fodor, G.M. Tsoi, L.E. Wenger, and S.L. Brock, "Application of De-silylation Strategies to the Preparation of Transition Metal Pnictide Nanocrystals: The Case of FeP", Chem. Mater. 15, 4034-4038 (2003).
110. S.C. Perera, G.M. Tsoi, L.E. Wenger, and S.L. Brock, "Synthesis of MnP Nanocrystals by Treatment of Metal Carbonyl Complexes with Phosphines: A New, Versatile Route to Nanoscale Transition Metal Phosphides", J. Am. Chem. Soc. 125, 13960-13961 (2003).
111. D.B. Haddad, H. Dai, R. Naik, C. Morgan, V.M. Naik, J.S. Thakur, G.W. Auner, L.E. Wenger, H. Lu, and W.J. Schaff, "Optical and Electrical Properties of Low to Highly-Degenerate InN Films", Mat. Res. Symp. Proc. 798, Y12.7.1-6 (2004).
112. R. Naik, E. Kroll, D. Rodak, G.M. Tsoi, E. McCullen, L.E. Wenger, R. Suryanarayanan, V.M. Naik, P.P. Vaishnava, Q. Tao, and P. Boolchand, "Magnetic Properties of Iron-Oxide and (Iron, Cobalt)-Oxide Nanoparticles Synthesized in Polystyrene Resin Matrix", J. Magn. Magn. Mater. 272-276, e1239-e1241 (2004).
113. T. Sudyoadsuk, R. Suryanarayanan, P. Winotai, and L.E. Wenger, "Suppression of Charge-Ordering and Appearance of Magnetoresistance in a Spin-Cluster Glass Manganite $La_{0.3}Ca_{0.7}Mn_{0.8}Cr_{0.2}O_3$", J. Magn. Magn. Mater. 278, 96-106 (2004).
114. A. Lezau, M. Trudeau, G.M. Tsoi, L.E. Wenger, and D. Antonelli, "Mesostructured Fe Oxide Synthesized by Ligand Assisted Templating with a Chelating Triol Surfactant", J. Phys. Chem. B 108, 5211-5216 (2004).
115. G.D. Khattak, A. Mekki, and L.E. Wenger, "Local Structure and Redox State of Copper in Tellurite Glasses", J. Non-Crystal. Solids 337, 174-181 (2004).
116. K. Somaskandan, G.M. Tsoi, L.E. Wenger, and S.L. Brock, "Isovalent Doping Strategy for Manganese Introduction into III-V Diluted Magnetic Semiconductor Nanoparticles: InP:Mn", Chem. Mater. 17, 1190-1198 (2005).
117. R. Naik, U. Senaratne, N. Powell, E.C. Buc, G.M. Tsoi, V.M. Naik, P.P. Vaishnava, and L.E. Wenger, "Magnetic Properties of Nanosized Iron Oxide Particles Precipitated in Alginate Hydrogels", J. Appl. Phys. 97, 10J313-3 (2005).
118. G.M. Tsoi, U. Seraratne, R.J. Tackett, E.C. Buc, R. Naik, P.P. Vaishnava, V.M. Naik, and L.E. Wenger, "Memory Effects and Magnetic Interactions in γ-Fe_2O_3 Nanoparticle System", J. Appl. Phys. 75, 10J507-3 (2005).
119. G.M. Tsoi, L.E. Wenger, U. Seraratne, R.J. Tackett, E.C. Buc, R. Naik, P.P. Vaishnava, and V. Naik, "Memory Effects in a Superparamagnetic γ-Fe_2O_3 System", Phys. Rev. B 72, 014445 (2005).
120. K.T. Szacilowski, P. Xie, Y.S. Malkhasian, M.J. Heeg, M.Y. Udugala-Ganehenege, L.E. Wenger, and J.F. Endicott, "Solid-State Structures and Magnetic Properties of Halide-Bridged, Face-to-face *bis*-Nickel(II-Macrocyclic Ligand Complexes. Ligand Mediated Interchanges of Electronic Configurations", Inorganic Chemistry 44, 6019-6033 (2005).
121. A. Mekki, G.D. Khattak, and L.E. Wenger, "Structural and Magnetic Properties of MoO_3-TeO_2 Glasses", J. Non-Crystal. Solids 351, 2493-2500 (2005).
122. G.D. Khattak, N. Tabet, and L.E. Wenger, "Structural Properties of Strontium-Vanadate and Strontium-Borovanadate Glasses", Phys. Rev. B 72, 104203-6 (2005).
123. A. Mekki, G.D. Khattak, and L.E. Wenger, "Structural and Magnetic Investigations of Fe_2O_3-TeO_2 Glasses", J. Non-Crystal. Solids 352, 3326-3331 (2006).
124. P.P. Vaishnava, U. Senaratne, E. Buc, R. Naik, V.M. Naik, G. Tsoi, L.E. Wenger, and P. Boolchand, "Magnetic Properties of Cobalt-Ferrite Nanoparticles Embedded in Polystyrene Resin", J. Appl. Phys. 99, 08G702-3 (2006).

125. N.D. Lipham, G.M. Tsoi, and L.E. Wenger, "Synthesis and Characterization of Sr-doped Lanthanum Manganite Nanoparticles", IEEE Trans. Magnetics 43, 3088-3090 (2007).
126. P.P. Vaishnava, U. Senaratne, E.C. Buc, R. Naik, V.M. Naik, G.M. Tsoi, and L.E. Wenger, "Magnetic Properties of γ-Fe_2O_3 Nanoparticles Incorporated in a Polystyrene Resin Matrix", Phys. Rev. B 75, 0214413-10 (2007).
127. J.A. Aitken, G.M. Tsoi, L.E. Wenger, and S.L. Brock, "Phase Segregation of MnP in Chalcopyrite Dilute Magnetic Semiconductors: A Cautionary Tale", Chem. Mater. 19, 5272-5278 (2007).
128. P.S. Fodor, G.M. Tsoi, and L.E. Wenger, "Investigation of Magnetic Interactions in Large Arrays of Magnetic Nanowires", J. Appl. Phys. 103, 07B713 (2008).
129. L.E. Wenger, G.M. Tsoi, R. Suryanarayanan, and T. Sudyuodsak, "Effect of Cr-doping on the Magnetic and Electrical Properties of $La_{0.4}Ca_{0.6}MnO_3$", J. Appl. Phys. 103, 07F723 (2008).
130. L.E. Wenger, G.M. Tsoi, P.P. Vaishnava, U. Senaratne, E.C. Buc, R. Naik, and V.M. Naik, " Magnetic Properties of γ-Fe_2O_3 Nanoparticles Precipitated in Alginate Hydrogels ", IEEE Trans. Magnetics 44, 2760-2763 (2008).
131. G.D. Khattak, A. Mekki, and L.E. Wenger, "X-ray Photoelectron Spectroscopy (XPS) and Magnetic Susceptibility Studies of Vanadium Phosphate Glasses", J. Non-Crystal. Solids 355, 2148-2155 (2009).
132. A. Mekki, G.D. Khattak, and L.E. Wenger, "XPS and Magnetic Studies of Vanadium Tellurite Glasses", J. Electron Spectroscopy & Related Phenomena 175, 21-26 (2009).
133. K. Somaskandan, K. Gregg, G.M. Tsoi, L.E. Wenger, and S.L. Brock, "Ternary Heterostructured Phosphide Nanoparticles: MnP@InP", J. Mater. Chem. 20, 375-380 (2010).
134. G.M. Tsoi, L.E. Wenger, Y.-H.A. Wang, and A. Gupta, "Magnetic Properties of Chalcogenide Spinel $CuCr_2Se_4$ Nanocrystals", J. Magn. Magn. Mater. 322, 142-147 (2010).
135. S.A. Thomas, G.M. Tsoi, L.E. Wenger, Y.K. Vohra, and S.T. Weir, "Magnetic and Structural Phase Transitions in Erbium at Low Temperatures and High Pressures", Phys. Rev. B **84**, 144415-5 (2011).
136. N.S. Myoung, V.V. Fedorov, S.B. Mirov, and L.E. Wenger, "Temperature and Concentration Quenching of Mid-IR Photoluminescence in Iron Doped ZnSe and ZnS Laser Crystals", J. Luminenscence **132**, 600-606 (2012).
137. S.A. Thomas, G.M. Tsoi, L.E. Wenger, Y.K. Vohra, and S.T. Weir, "Magnetic Transitions in Erbium at High Pressures", J. Appl. Phys. **111**, 07E104-3 (2012).
138. J. Ballinger, L.E. Wenger, Y.K. Vohra, and A.S. Sefat, "Magnetic Properties of Single Crystal $EuCo_2As_2$", J. Appl. Phys. **111**, 07E106-3 (2012).
139. S.A. Thomas, W.O. Uhoya, G.M. Tsoi, L.E. Wenger, Y.K. Vohra, G.N. Chestnut, S.T. Weir, C.A. Tulk, and A.F. Moriera Dos Santos, "Neutron Diffraction and Electrical Transport Studies on the Incommensurate Magnetic Phase Transition in Holmium at High Pressures", J. Phys.: Condens. Matter **24**, 216003-6 (2012).
140. G.M. Tsoi, W. Malone, W.O. Uhoya, J.E. Mitchell, Y.K. Vohra, L.E. Wenger, A.S. Sefat, and S.T. Weir, "Pressure-induced Superconductivity in $Ba_{0.5}Sr_{0.5}Fe_2As_2$", J. Phys.: Condens. Matter **24**, 495702-5 (2012).

Research Funding (past twenty years)

National Science Foundation, "UAB ADVANCE Institutional Transformation Award", $3,615,842 (with C. Peel, L. Lucas, J. A. Linney, W. Gunther-Canada, and E.I. Capilouto), 9/06 - 6/10.

National Science Foundation, "MRI - Acquisition of High Resolution Scanning Probe Hall Microscope", $ 123,000 (with B. Nadgorny, P. Hoffmann, I. Avrutsky, & S. Brock), 9/01 - 8/04.

National Science Foundation, "REU Site for Smart Sensors and Integrated Microsystems Research", $ 299,625 (with G. Auner, R. Naik, & P. Siy), 6/01 - 5/04.

National Science Foundation, "IGERT - Smart Sensors and Integrated Devices", $2,625,000 (with G. Auner (PI), G-Y. Liu, R. Naik, P. Siy, & L. Schwiebert), 6/98 - 5/03.

NATO, "Current and Flux Distributions in Superconductors near Their Critical Temperatures", $8,000, 12/96 - 12/97.

Air Force Office of Scientific Research/DoD-AASERT, "Synthesis and Characterization of CuO Superconductors with Anomalous Transitions above 200 K", $148,975 (with J.T. Chen), 5/93 - 11/96.

Air Force Office of Scientific Research/BMDO, "Synthesis and Characterization of CuO-based Superconductors with High-Transition Temperatures", $48,840 (with J.T. Chen), 6/93 - 12/94.

Air Force Office of Scientific Research, "Investigations of YBaCuO Superconducting Materials with T_C above 200 K", $223,465 (with J.T. Chen), 10/91 - 10/94.

Invited Presentations and Lectures

"Low Temperature Specific Heat of $(V_{1-x}Cr_x)_2O_3$ and $(V_{1-x}Al_x)_2O_3$", L.E. Wenger and P.H. Keesom, Low Temperature Conference LT 14, Helsinki, Finland, August, 1975.

"Magnetic Order of AuFe Alloys: A Calorimetric Investigation", L.E. Wenger and P.H. Keesom, Low Temperature Conference LT 14, Helsinki, Findland, August, 1975.

"Calorimetric Investigation of the Spin Glass: CuMn", L.E. Wenger and P.H. Keesom, Magnetism and Materials Conference, Philadelphia, PA, December 11, 1975.

"A Calorimetric Investigation of $CoO\text{-}Al_2O_3\text{-}SiO_2$ Glass", L.E. Wenger and P.H. Keesom, Second International Symposium on Amorphous Magnetism, Troy, NY, August 27, 1976.

"A Calorimetric Investigation of an Yttrium-Dysprosium Spin Glass", L.E. Wenger, Magnetism and Magnetic Material Conference, Minneapolis, MN, November 8, 1977.

"Frequency Dependence of the ac Susceptibility of CuMn Spin Glasses", L.E. Wenger and Timothy A. Meert, International Conference on Magnetism, Munich, FRG, September 6, 1979.

"Calorimetric, Resistance, and Susceptibility Investigations of $(V_{1-x}Ti_x)_2O_3$ at Low Temperatures", L.E. Wenger, P.H. Keesom, Guldad Khattak, and S. Nagata, International Conference on Magnetism, Munich, FRG, September 6, 1979.

"Magnetic Investigations of the Yttrium-Dysprosium Spin Glasses", L.E. Wenger, International Conference on Magnetism, Munich, FRG, September 1979.

"Dynamical Behavior of the Susceptibility Around the Freezing Temperature in (EuSr)S", D. Hüser, L.E. Wenger, A.J. van Duyneveldt, and J.A. Mydosh, Recontre sur les Verres de Spin, Orsay, France, January 25, 1983.

"Relaxation Effects in Insulating Spin-Glasses", L.E. Wenger, Heidelberg Colloquium on Spin Glasses, Heidelberg, FRG, May 30, 1983.

"Evidence of Spin-Density-Wave Transition in Dilute Yttrium-Gadolinium Alloys", L.E. Wenger, and J.A. Mydosh, Magnetism and Magnetic Materials Conference, Pittsburgh, PA, Nov. 9, 1983.

"Cooling Rate Effect Upon the Field-Cooled Magnetization of an Insulating Spin-Glass", L.E. Wenger and J.A. Mydosh, Magnetism and Magnetic Materials Conference, Pittsburgh, PA, November 10, 1983.

"Reverse ac Josephson Experiments in Y-Ba-Cu-O at 240 K", L.E. Wenger, J.T. Chen, C.J. McEwan, and E.M. Logothetis, Materials Research Society Meeting, Anaheim, CA, April 24, 1987.

"Josephson Effects in High-T_C Superconductors", L.E. Wenger, 1987 Conference of European-Materials Research Society, Strasbourg, France, June 3, 1987.

"Reverse ac Josephson Experiments in Y-Ba-Cu-O at 240 K", L.E. Wenger, NATO Workshop on Narrow Band Phenomena, Staverden, The Netherlands, June 4, 1987.

"Josephson Effects in Y-Ba-Cu-O Superconductors from 77 K to 300 K", L.E. Wenger, High-T_C Superconductivity Workshop, University of Western Ontario, London, Ontario, Canada, September 11, 1987.

"High-T_C Superconductivity in Oxide Compounds", L.E. Wenger, Physics Colloquium, Wayne State University, Detroit, MI, April 16, 1987.

"High T_C Superconductivity in Oxide Compounds", L.E. Wenger, Seminar, General Electric Company, Cleveland, OH, May 11, 1987.

"Josephson Effects in High-T_C Superconductors", L.E. Wenger, Seminar, Kamerlingh Onnes Laboratorium, Leiden, The Netherlands, June 5, 1987.

"High-Temperature Superconductivity in Ceramic Materials", L.E. Wenger, Michigan Section of the American Ceramic Society, Bloomfield Hills, MI, July 22, 1987.

"Current Status of High-Temperature Superconductivity", L.E. Wenger, Presentation, Michigan Technology Council Meeting, Southfield, MI , September 17, 1987.

"Josephson Effects in High-Temperature Superconductors", L.E. Wenger, Seminar, Central Michigan University, Mt. Pleasant, MI, October 15, 1987.

"Josephson Effects in Ba-Y-Cu-O Superconductors at 90 K and Above", L.E. Wenger, Seminar, Oakland University, Rochester, MI, October 29, 1987.

"Superconductivity and Its Applications", L.E. Wenger, Lecture, Wayne State University Chapter of APICS, Detroit, MI, November 5, 1987.

"Superconductivity", L.E. Wenger, Presentation, Detroit Edison Power Club, Detroit, MI, November 19, 1987.

"Superconductors", L.E. Wenger, Presentation, Rotary Club of Albion, Albion, MI, December 10, 1987.

"Search for High-Temperature Superconductors", L.E. Wenger, Seminar, Albion College, Albion, MI, December 10, 1987.

"Josephson Coupling in Thin Films and Composities of Y-Ba-Cu-O Materials", R.E. Soltis, E.M. Logothetis, W. Win, L.-X. Qian, K. Chang, J. T. Chen, T. Kushida, and L.E. Wenger, 2nd Annual Conference on Superconductivity and Applications, Buffalo, NY, April 20, 1988.

"High-Temperature Superconductivity", L.E. Wenger, Seminar, Western Michigan University, Kalamazoo, MI, January 19, 1988.

"Search for Higher Temperature Superconductors", L.E. Wenger, Invited Speaker, Junior Science and Humanities Symposia, Wayne State University, Detroit, MI, March 11, 1988.

"High Temperature Superconductors and Applications", L.E. Wenger, Lecture, WSU College of Lifelong Learning, Detroit, MI, March 12, 1988.

"Josephson Properties in High-Temperature Superconductors", L.E. Wenger, Seminar/Presentation, Ford Scientific Research Laboratory, Dearborn, MI, May 3, 1988.

"High-Temperature Superconductivity", L.E. Wenger, Presentation, Michigan Association of Energy Engineers, Detroit, MI, September 14, 1988.

"Progress in High-Temperature Superconductivity", L.E. Wenger, Invited Lecture, Michigan Chapter of the American Association of Physics Teachers (MAAPT), Lake Superior State University, Sault Ste. Marie, MI, October 8, 1988.

"Superconductivity", L.E. Wenger, Presentation, Michigan Professional Engineering Society (Ann Arbor Chapter), Ann Arbor, MI, October 27, 1988.

"Superconducting Material Development and Electromagnetic Sensor Applications", L.E. Wenger, Presentation, Society of Automotive Engineers, Dearborn, MI, November 2, 1988.

"Progress in High-Temperature Superconductivity", L.E. Wenger, (invited), Metropolitan Detroit Science Teachers Association, Troy, MI, November 5, 1988.

"Superconductivity", L.E. Wenger, Presentation, American Society of Metallurgy (ASM), Farmington Hills, MI, November 14, 1988.

"Electrical and Magnetic Properties on Several Phases of YBaCuO Single Crystals", L.E. Wenger, 175th Electrochemical Society Meeting, Los Angeles, CA, May 10, 1989.

"High-Temperature Superconductivity", L.E. Wenger, Theta Tau Engineering Society, Wayne State University, Detroit, MI, February 21, 1989.

"Investigations of YBaCuO Materials with Near-Room-Temperature Resistivity Transitions", L.E. Wenger and J.T. Chen, AFOSR Review Meeting, University of California-San Diego, LaJolla, CA, May 5, 1992.

"Experimental Evidence for Superconductivity above 200 K", L.E. Wenger and J.T. Chen, Room-Temperature Superconductivity Workshop, Bodega Bay, CA, October 19, 1992.

"Search for Room-Temperature Superconductivity", L.E. Wenger, seminar, Miami University, Oxford, OH, October 7, 1992.

"Search for Room Temperature Superconductivity", L.E. Wenger, seminar, University of Michigan, Ann Arbor, MI, February 1, 1994.

"Evidence for Room Temperature Superconductivity", L.E. Wenger, seminar, University of Utah, Salt Lake City, UT, February 17,1994.

"High-Temperature Superconductivity Research", L.E. Wenger, seminar, Wright Laboratory, Wright-Patterson AFB, Dayton, OH, March 16, 1994.

"The Quest for Room-Temperature Superconductivity", L.E. Wenger, seminar, Purdue University, West Lafayette, IN, September 30, 1994.

"Paramagnetic Meissner Effect in Conventional and High-T_C Superconductors", L.E. Wenger, (invited) March Meeting of the American Physical Society, St. Louis, MO, March 22, 1996.

"Paramagnetic Meissner Effect in Conventional Nb Superconductors", David J. Thompson, L.E. Wenger, and J.T. Chen, International Conference on Physics and Chemistry of Molecular and Oxide Superconductors, Karlsruhe, Germany, August 3, 1996.

"Inducing and Enhancing the Paramagnetic Meissner Effect in Nb Disks", David J. Thompson, L.E. Wenger, and J.T. Chen, XXI International Conference on Low Temperature Physics, Prague, Czech Republic, August 9, 1996.

"The Paramagnetic Meissner Effect: Evidence for *d*-wave Superconductivity or Just an Extrinsic Superconducting Property?", L.E. Wenger, Colloquium, Western Michigan University, Kalamazoo, MI, April 2, 1996.

"Paramagnetic Meissner Effect: A Surface Superconducting Phenomenon?", L.E. Wenger, seminar, Argonne National Laboratory, Argonne, IL, November 3, 1997.

"An Unusual Superconducting Phenomenon: The Paramagnetic Meissner Effect", L.E. Wenger, seminar, Department of Physics, Southern University, Baton Rouge, LA, November 18, 1997.

"Paramagnetic Meissner Effect in Nb Disks", L.E. Wenger, (invited) 1999 Taiwan International Conference on Superconductivity and 6th Workshop on Low Temperature Physics, Kenting, Taiwan, August 18, 1999.

"Paramagnetic Meissner Effect In Nb Disks", Petru S. Fodor and L.E. Wenger, Sixth International Conference on Materials and Mechanisms of Superconductivity - High Temperature Superconductors, Houston, TX, February 21, 2000.

"An Unusual Superconducting Phenomenon: The Paramagnetic Meissner Effect" L.E. Wenger, seminar, Department of Physics, Oakland University, Rochester, MI, November 2, 2000.

"Studies of Magnetic Nanowire Arrays in Hexagonally Ordered Porous Alumina", L.E. Wenger, (invited) The Eight Workshop on Spin Polarization & Magnetic Effects in Nanosystems, Michigan State University, E. Lansing, MI, October 5, 2002.

"Studies of Magnetic Nanostructures Electrodeposited in Hexagonally Ordered Porous Alumina" L.E. Wenger, colloquium, Department of Physics, University of Toledo, Toledo, OH, October 31, 2002.

"Zero Magnetization States in Electrodeposited $Co_{0.45}Fe_{0.55}$ Nanowire Arrays", P.S. Fodor, G.M. Tsoi, and L.E. Wenger, 47th Annual Magnetism & Magnetic Materials Conference, Tampa, FL, November 13, 2002.

"Magnetic Properties of γ-Fe_2O_3 Nanoparticles Precipitated in Alginate Hydrogels", L.E. Wenger, colloquium, Department of Physics, IUPUI, Indianapolis, IN, December 10, 2010.

"Magnetic Transitions and Magnetic Structures in Erbium", L.E. Wenger, seminar, High-Pressure Physics Group, UAB, Birmingham, AL, June 1, 2011.

Patents

"Materials Having a Zero Resistance Transition Temperature above 200 K and Method for Maintaining the Zero Resistance Property", L.E. Wenger, J.T. Chen, and E.M. Logothetis, U.S. Patent No. 5,232,904; Issued August 3, 1993.

TEACHING ACTIVITIES

Course Taught (UAB)

PH 100	preparatory physics course
PH 201	intro college physics (algebra-based) I
PH 202	intro college physics (algebra-based) II

Course Taught (Wayne State University)

AST 2010	introductory descriptive astronomy course
PHY 1020	introductory physical science course
PHY 2130	introductory general physics (algebra-based) course (I)
PHY 2140	introductory general physics (algebra-based) course (II)
PHY 5550	advanced undergraduate electronics lecture & lab course (non-physics majors)
PHY 5600	advanced undergraduate electricity & magnetism course (I)
PHY 5620	advanced undergraduate electronics lecture & lab course (physics majors)
PHY 6450	undergraduate & graduate-level material and device characterizations lecture & lab course
PHY 6500	undergraduate & graduate-level thermodynamics & statistical mechanics course
PHY 6890	advanced undergraduate physics laboratory course
PHY 7050	introductory graduate-level solid-state physics course
PHY 7570	advanced graduate-level solid-state physics course
UGE 1000	freshman-level university & its libraries course (honors)

Curriculum Development (Wayne State University)

- introduced and utilized computer-graded homework assignments in introductory general physics course, PHY 2130. Developed a complete set of questions with solutions for individualized student responses. This was the first time that a lecturer had utilized computer-grading of quantitative homework beyond a multiple-choice framework in a Wayne State physics course. (Fall 2001)

- co-developed new interdisciplinary course, PHY 6450, Materials and Device Characterization, for our IGERT-Smart Sensors and Integrated Devices program. This 4-credit-hour lecture and laboratory course focused on the principles and operation of several characterization techniques and instrumentation. These include x-ray and electron diffraction, scanning probe microscopies, optical, electrical, and magnetic characterization techniques. (Winter 2000)

- initiated curricular changes in undergraduate applied physics program. The applied physics program permitted students to incorporate traditional physics with courses in other science/engineering disciplines to form one of four degree options: semiconductor, material, optics, and computational physics. (Summer 1998)

- developed experiments and wrote laboratory manual for the electronics courses, PHY 5620 (physics majors) and PHY 5550 (non-physics majors). The manual accompanied the lecture portion of the electronics courses at the senior and graduate student level with the emphasis being on digital and analog integrated circuits and consisted of 12 lab exercises with labs#6 through 10 leading to the student actually building a digital capacitance meter at the conclusion of lab#10 from the circuits set-up in the preceding lab exercises. (Winter 1989 through Fall 1991)

- introduced a graduate-level solid-state physics course, "Long Range Order in Solids" (PHY 7570), to provide a more advanced course in condensed matter physics for our doctoral students. This 2-credit-hour lecture course focused on the nature of the ordering found in superconductivity and magnetism, the two major areas of condensed matter physics research in the department. The lectures contained examples from the scientific literature in order for the students to learn by analyzing real experimental data. (Winter 1991)

Thesis Supervision (Wayne State University)

Ph.D. Theses:

Upul Senaratne (2004), "Synthesis and Characterization of Magnetic Oxide Nanoparticles in Polymer Matrices", co-advisor.

Petru S. Fodor (2002), "Study of Magnetic Nanostructures in Hexagonally Ordered Porous Alumina".

Rick Soltis (1999), "Investigations into the Theory and Applications of Oxygen Sensors Based on the Zirconia Electrochemical Cell".

David J. Thompson (1996), "Studies of the Paramagnetic Meissner Effect in Niobium Disks".

Jonathan Obien (1996), "Synthesis and Characterization of YBaCuO Materials Exhibiting a Magnetic Anomaly at 336 K".

David J. Kubinski (1995), "Dependence of Giant Magnetoresistance on the Size and Composition of Ferromagnetic 3d-Metal Precipitates in an Ag Matrix".

Mohamedo S. Minhaj (1994), "Fabrication and Magnetic Characterization of Layered Superconductors".

Kent J. Chang (1994), "Electrodynamic Response of High T_c Oxide Thin Films to Microwave Radiation".

Laurence L. Henry (1991), "Calorimetric and Magnetic Study of the $Ho(Co_{1-x}Rh_x)_2$ System in the 2 K to 95 K Temperature Range".

Winston Win (1990), "Investigation of the Microstructure in Copper-Oxide Superconductors by the ac Susceptibility Method".

Gary W. Hunter (1987), "Spin-Density-Wave Transitions in Dilute YGd Alloys".

William J. Kaiser (1983), "Optical Properties of Small Metal Particle Composite Systems: Au-SiO_2".

Timothy A. Meert (1982), "ac Susceptibility Study of Disordered Magnetic Materials".

M.S. Theses:

Daniel Rodak (2003), "*In-Situ* Preparation and Characterization of Magnetic Nanoparticles", co-advisor.

Mir Wali (1990), "Electrical and Magnetic Characterization of $YBa_{2-x}Sr_xCu_3O_x$ and $YBa_2Cu_3O_7$: Y_2BaCuO_5 Composites".

Mazhar Uddin Rana (1987), "Low Field ac Magnetic Susceptibility Measurements of Manganese Aluminosilicate Glasses".

Mark K. Kullen (1987), "A Small-Sample Calorimetric System".

Tie Wang (1986), "Cooling-Rate Dependence Upon the Field-Cooled-Magnetization of Insulating Spin-Glass Systems".

J. Scott Payson (1982), "Calorimetric Study of Dilute Yttrium-Gadolinium Alloys".

Timothy A. Meert (1979), "The Frequency Dependent Susceptibility of Cobalt Aluminosilicate Glasses".

M.A. Essays:

John P. Hilburger (1992), "Suppression of Diamagnetic Susceptibility in Various Shaped Superconductors".

SERVICE ACTIVITIES

The University of Alabama at Birmingham

Vice Chair	UAB College of Arts & Sciences Faculty Affairs Committee	2012-2014
Member	UAB College of Arts & Sciences Faculty Affairs Committee	2011-2014
Member	UAB CAS FAC Sub-committee on Reorganization of CAS Administrative Structure	2013-2014
Member	UAB CAS FAC Sub-committee on Revision of CAS P&T Procedures	2013-2014
	UAB CAS FAC website administrator	2012-2014
Reviewer	External Reviewer of Physics BS Program Accreditation King Fahd University of Petroleum & Minerals, Saudi Arabia	2014
Reviewer	Research Proposals & Final Reports for Dean of Scientific Research King Fahd University of Petroleum & Minerals, Saudi Arabia	2011-2014
Reviewer	External Reviewer of PhD Dissertations, University of Punjab, Pakistan	2011, 2012, 2013
Member	UAB Physics departmental Faculty Handbook Revision Committee	2011-2012
	UAB Physics departmental website administrator	2011-2015
Member	UAB Graduate Student Tuition & Health Insurance Remission Committee	2010
Member	UAB ARRA Stimulus Working Group – NSF, DoE, NASA	2009
Member	UAB Center for Biophysical Sciences & Engineering Advisory Committee	2008 - 2010
Member	UAB Strategic Enrollment Management Steering Committee	2007 - 2009
co-PI	National Science Foundation UAB ADVANCE: Increasing the Participation & Advancement of Women in Academic Science & Engineering Careers program	2006 - 2010
Member	UAB ADVANCE Program Steering Committee	2006 - 2010
Chair	UAB Center for Nanoscale Materials & Biointegration Advisory Committee	2005 - 2010
Member	UAB Center for Computational & Structural Dynamics Advisory Committee	2005 - 2010
Member	UAB Periodic Career (Faculty Post-tenure) Review Committee	2007
Member	UAB Economic Rules Committee (Academic Affairs Budgeting Committee)	2004, 2007
Member	UAB Science & Technology Honors Chair Search Committee	2005
Member	UAB Library Planning Committee	2005
Member	UAB Learning Communities Committee	2004
Member	UAB Alabama Mathematics, Science, & Technol. Initiative Advisory Committee	2007 - 2009
Member	Council for the Colleges of Arts & Sciences Metropolitan/Urban Institutions Committee	2008
Chair	Alabama Council of Arts & Sciences Deans	2005 - 2009
Chair	Physics Program Assessment – King Fahd University of Petroleum & Minerals (Saudi Arabia)	2005
Member	National Science Foundation IGERT review panel	2005
Member	National Science Foundation IGERT pre-proposal review panel	2004

Wayne State University

Advisor	Wayne State University Fulbright Program	1992-93
Graduate Program Advisor	WSU Department of Physics & Astronomy	1986-87
Committee Chair		
	WSU Chemistry Chair Search Committee	2000-01
	WSU Psychology Chair Review Committee	2000
	WSU College of Science Teaching Portfolio Committee	1997, 1998
	WSU College of Science Teaching Award Committee	1997, 1998
	WSU College of Science Salary Committee	1997, 1998
	WSU University Libraries Committee	1997-99
	WSU Academic Senate Research Committee	1992-94
	WSU Physics Ph.D. Qualifying Exam Committee	1985-86, 1990-91
	WSU Physics Graduate Committee	1986-87
Committee Member		
	WSU Mechanical Engineering Review Advisory Panel	2002
	WSU College of Science Life Sciences Advisory Committee	2000-03
	WSU Provost Budget Reinvention Committee	2001-02
	WSU University Procurement Card Committee	2000-02
	WSU Dean of Libraries Search Committee	1999-01
	WSU College of Lifelong Learning Advisory Committee	1996-99

WSU University Policy & Procedures Advisory Committee	1996-99
WSU University Libraries Committee	1996-99
WSU Ad Hoc Committee on the Common Textbook/Common Syllabus	1998
WSU Media Production Services Advisory Committee	1996-98
WSU University Centers & Institutes Advisory Committee	1994-99
WSU BOG Faculty Recognition Committee	1997
WSU Academic Senate Policy Committee	1994-96
WSU Academic Senate Research Committee	1991-97
WSU Scholarships and Fellowships Review Panel for Graduate-Professional Scholarships	1993
WSU Scholarships and Fellowships Review Panel for Rumble Fellowships	1993
WSU Faculty Research Award Committee	1985
WSU College of Science Elections Committee	1996
WSU Mathematics Chair Review Committee	1995
WSU Liberal Arts Salary Committee	1990, 1991
WSU Physics Chairperson Review Committee	1984-85, 1988-89
WSU Physics Executive (Personnel) Committee	1985-89, 1990-92, 1994-96
WSU Physics Ph.D. Qualifying Exam Committee	1984-86, 1990-91
WSU Physics Graduate Committee	1986-88, 1989-91
WSU Physics Undergraduate Committee	1992-94
WSU Physics Salary Committee	1986, 1988, 1991, 1995