Gaya Kanishka Marasinghe
Associate Professor of Physics

University of North Dakota *Ph: 701 777 3560*
Box 7129, Physics Department *Fx: 701 777 3523*
Grand Forks, ND 58203 *k.marasinghe@und.edu*

EDUCATION

Institution	Major	Degree	Year
University of Colombo, Colombo, Sri Lanka	Physics	B.Sc.	1983
University of Missouri-Rolla, Dept. of Physics	Physics	Ph.D.	1993

University of Missouri-Rolla, Department of Physics 8/1993 - 7/1996

Postdoctoral research - Atomic structure of novel magnetic intermetallics and vitreous iron phosphates.

EMPLOYMENT

08/2004 - Present	Associate Professor of Physics, University of North Dakota
08/2000 - 07/2004	Assistant Professor of Physics, University of North Dakota
08/1996 - 07/2000	Research Assistant Professor, Graduate Center for Materials Research University of Missouri-Rolla
08/1993 - 07/1996	Postdoctoral Fellow, Department of Physics and the Graduate Center for Materials Research, University of Missouri-Rolla
01/1986 - 07/1993	Graduate Research/Teaching Assistant, Department of Physics University of Missouri-Rolla
01/1984 - 12/1985	Assistant Lecturer in Physics, University of Colombo, Sri Lanka

SELECTED SYNERGISTIC ACTIVITIES

University Compensation Committee
University Radiation Safety Committee
Coordinator, Science, Engineering, and Mathematics for Teachers (ScEnMaT) Program
Graduate Director, Physics Department
Director - Physics Research Experience for Undergraduates Program (NSF-REU)
Mentor - Peer Guided Learning Center for students of introductory physics courses
2006 University Senate
2006 Geology and Geological Engineering graduate program evaluation committee
2006 University Committee on Communication Proficiency of Instructors
2006 College Committee for Developing Standards for A&S Elite Scholars Program
2005 University Curriculum Committee
2004 Faculty Mentor - Howard Hughs Sponsored Science in the Circle of Life Program - Physics Site
2003-2005 University Outstanding Faculty Selection Committee
2003 School of Arts and Sciences Mathematics program evaluation committee
2002-2004 NSF-DMR Research Experience for Undergraduate Review Panel
2001-2002 NSF Major Research Instrumentation Program review panel

SELECTED OTHER INTERESTS

Using technology to enhance effectiveness of physics teaching and learning
Promoting involvement of undergraduates in research.
Getting K-12 students interested in careers in science

COLLABORATORS AND OTHER AFFILIATIONS

Collaborators (last 48 months):
Naushad Ali - *Southern Illinois University-Carbondale*, Chris Benmore - *Argonne National Laboratory*, Howard Blackstead - *University of Notre Dame*, Richard Brow - *University of Missouri-Rolla*, Corwin Booth, *Lawrence Berkeley National Laboratory*, Delbert Day - *University of Missouri-Rolla*, Uwe Hoppe - *Rostock University, Germany*, William James - *University of Missouri-Rolla*, Gary J. Long - *University of Missouri-Rolla*, David Shuh - *Lawrence Berkeley National Laboratory*, Bob VonDreele - *Argonne National Laboratory*, Adrian Wright, *University of Reading, England*, William Yelon - *University of Missouri-Rolla*, Yushen Zao - *Los Alamos National Laboratory*

Thesis Advisor: Prof. Oran A. Pringle - Department of Physics, University of Missouri-Rolla
Postdoctoral Advisors: Profs. Delbert E. Day and William James - Materials Research Center, University of Missouri-Rolla
Graduate Students: Qijuan Li (M.S. 08/2002), Aaron Kempenich (M.S. 08/2004), Mehdi Ali (M.S. 08/2005), Mustafa Rajabali (M.S. 08/2005), Haistha Ganegoda (M.S. 08/2006), Aranwela Hemantha (Ph.D., current), Erandi Gunapala (Ph.D., current)

Societies: American Physical Society, American Ceramics Society

REFEREED PUBLICATIONS

61 "Exchange-coupled FeNi-X (X = CuO, NiO, and CoO) nanocomposites prepared via ball milling," S. R. Mishra, I. Dubenko, M. Khan, T. Young, H. Ganegoda, N. Ali, **G. K. Marasinghe**, IEEE Trans. Mag. 42, (2006) 2808.

60. "Normalization and sample composition analysis of high-energy x-ray scattering data," Ali M., **Marasinghe G. K.** , Hart. R, Benmore C., Wyckoff N., and Brow R., Phys. Chem. Glasses. **47**, (2006) 146.

59. "Magnetic properties of magnetically soft nanocomposite Co-SiO_2 prepared via mechanical milling," S. R. Mishra, I. Dubenko, J. Losby, **G. K. Marasinghe**, Mehdi Ali, and N. Ali, J. Nanoscience and Nanotechnology. 5 (2005) 2082.

58. "An EXAFS investigation of rare-earth local environment in ultraphosphate glasses," M. Karabulut, **G.K. Marasinghe**, E. Metwalli, R.K. Brow, C.H. Booth, J.J. Bucher, and D.K. Shuh, J. Non-Cryst. Solids. **351**, (2005) 795.

57. "Spin glass-like antiferromagnetic interactions in iron phosphate glasses," J. L. Shaw, A. C. Wright, R. N. Sinclair, **G. K. Marasinghe**, D. Holland, M. R. Lees, and C. R. Scales, J. Non-Cryst. Solids. **345**, (2004) 245.

56. "Magnetic and crystallographic properties of $NdMn_{6-x}Fe_xSn_6$ intermetallics," J. Han, G. K. Marasinghe, J. B. Yang, W. J. James, M. Chen, W. B. Yelon, Ph. l'-Heritier, I. Dubenko, and N. Ali, J. Phys. Cond. Matter, **16** (2004) 5407.

55. "Magnetic behavior of mechanically milled FeNi-CoO nano composites," S. R. Mishra, Mehdi Ali, and G.K. Marasinghe, IEEE Trans. Mag. 40, (2004) 2716.

54. "Magnetic properties of mechanically milled nanosized cupric oxide," S. R. Mishra, J. Losby, I, Dubenko, N. Ali, G.K. Marasinghe, J. Mag. Mag. Mat. **279** (2004) 111.

53. " An XAFS investigation of Platinum Impurities in Phosphate Glasses," M. Karabulut, **G. K. Marasinghe**, E. Metwalli, C. A. Click, R. K. Brow, C. H. Booth, and D. K. Shuh, J. Am. Cer. Soc. **85** (2002) 1093.

52. "An investigation of the local iron environment in iron phosphate glasses having different Fe(II) concentrations," M. Karabulut, **G. K. Marasinghe**, C. S. Ray, D.E. Day, G.D. Waddill, C.H. Booth, P.G. Allen, J.J. Bucher, D.L. Caulder, and D.K. Shuh, J. Non-Cryst. Solids. **306**, (2002) 182.

51. "The relationship between the magnetic interactions and near neighbor interatomic distance in the transition metal sublattice of $R(Mn/Fe)_6A_6$ (R = Nd or Sm, A = Ge or Sn)**," G. K. Marasinghe**, J. Han, W. J. James, W. B. Yelon, and N. Ali, J. Appl. Phys. 91 (2002) 7863.

50. "Neodymium and Erbium Coordination Environments in Phosphate Glasses ," M. Karabulut, **G. K. Marasinghe**, E. Metwalli, A. K. Wittenauer, R. K. Brow, C. H. Booth, and D. K. Shuh, Phys. Rev. B. 65 (2002) 104206.

49. "Magnetic Interactions in $Sm(Fe/Mn)_6Sn_6$ Intermetallics," J. Han, W. B. Yelon, W. J. James, **G. K. Marasinghe,** I. Dubenko, and N. Ali, Intl. J. of Mod. Phys., 15 (2001) 3223.

48. "Iron Phosphate Glasses: An Alternative to Borosilicate Glasses for Vitrifying Nuclear Wastes", **G. K. Marasinghe,** M. Karabulut, X. Fang, C. S. Ray, and D. E. Day, Environmental Issues and Waste Management Technologies VI: Ceramic Transactions, 119 (2001) 361.

47. "Mixed Rare Earth Effects in $(Sm/Gd)_2(Fe/Si)_{17}$ Intermetallics," **G. K. Marasinghe**. Weerasinghe Priyantha, Kishore Kamaraju, W. J. James, W. B. Yelon , I. Dubenko, P. Hill, N. Ali, and Ph. l'Heritier, IEEE Trans. Mag. 37 (2001) 2599.

46. "Mechanical and Structural Properties of Phosphate Glasses," M. Karabulut, E. Melnik, R. Stefan, **G. K. Marasinghe,** C. S. Ray, C. R. Kurkjian, and D. E. Day, J. Non-Cryst. Solids. **288**, (2001) 8.

45. "Electronic Structure and Magnetism of $LaNi_{5-x}Fe_x$ compounds" J.B. Yang, C. Y. Tai, **G. K. Marasinghe,** G. D. Waddill, O. A. Pringle, and W. J. James, J. Appl. Phys. **89** (2001) 7311.

44. "Magnetic and crystallographic properties of $SmMn_{6-x}Fe_xGe_6$ intermetallics," Han J., **Marasinghe G. K.**, James W. J., Chen M., Yelon W. B., l'Heritier P., and Dubenko I., IEEE Trans. Mag. 36 (2000) 3324.

43. "Structural, Electronic, and Magnetic Properties of $LaNi_{5-x}T_x$, (T=Fe, Mn)" J.B. Yang, C. Y. Tai, **G. K. Marasinghe,** G. D. Waddill, O. A. Pringle, W. J. James, and Y. Kong, Phys. Rev. B **63** (2000) 14407.

42. "Local Environment of Iron and Uranium Ions in Vitrified Iron Phosphate Glasses Studied by Fe K and U L_{III}-edge X-ray Absorption Fine Structure Spectroscopy," M. Karabulut, **G. K. Marasinghe**, C. S. Ray, D. E. Day, G. D. Waddill, C. S. Booth, J. J. Bucher, D. L. Caulder, D. K. Shuh, P. G. Allen, M-L. Saboungi, and M. Grimsditch, J. Mat. Res. 15 (2000) 1972.

41. "Vitrified Iron Phosphate Nuclear Wasteforms Containing Multiple Waste Components," **G. K. Marasinghe**, M. Karabulut, X. Fang, C. S. Ray, D. E. Day, J. J. Bucher, N. M. Edelstein, D. K. Shuh, and P. G. Allen, Environment Issues and Waste Management Technologies V:Ceramic Transactions **107** (2000) 115.

40. "A High Energy X-ray and Neutron Scattering Study of Iron Phosphate Glasses Containing Uranium," M. Karabulut, **G. K. Marasinghe**, C. S. Ray, G. D. Waddill, and, D. E. Day, Y. Badyal, M-L. Saboungi, D. Haeffner, and S. Shastri, J. Appl. Phys. **87** (2000) 2185.

39. "The Atomic and Magnetic Structure of $NdMn_{(6-x)}Fe_xGe_6$ Solid Solutions," J. Han, **G. K. Marasinghe,** W. J. James, M. Chen, W. B. Yelon, I. Dubenko, and N. Ali, J. Appl. Phys. **87** (2000) 5281.

38. "A Magnetic and Crystallographic Study of $(Sm/Gd)_2(Fe/Si)_{17}C_z$ Intermetallics," Peter C. Ezekwenna, **G. K. Marasinghe,** Joong-Hee Nam, W. J. James, W. B. Yelon, M. Ellouze, and Ph. l'Héritier. J. Appl. Phys. **87** (2000) 6716.

37. "The Crystal and Magnetic Structures of $LaNi_{5-x}Mn_x$," C. Y. Tai, **G. K. Marasinghe,** O. A. Pringle, W. J. James, M. Chen, W. B. Yelon, I. Dubenko, N. Ali, and Ph. l'Héritier, J. Appl. Phys. **87** (2000) 6731.

36. "Properties of Mixed Na_2O and K_2O Iron Phosphate Glasses "Xiangyu Fang, C. S. Ray, **G. K. Marasinghe**, D. E. Day, J. Non-Cryst. Solids 263 (2000) 293.

35. "Properties and Structure of Vitrified Iron Phosphate Nuclear Wasteforms," **G. K. Marasinghe**, M. Karabulut, C. S. Ray, D. E. Day, D. K. Shuh, P. G. Allen, M. L. Saboungi, and M. Grimsditch, J. Non-Cryst. Solids 263 (2000) 146.

34. "The Effects of Uranium Oxide High-Level Waste on the Structure of Iron Phosphate Glasses," Y. Badyal, M. Karabulut, **G. K. Marasinghe**, C. S. Ray, D. E. Day, M-L. Saboungi, D. Haeffner, and S. Shastri, MRS 556 (2000) 297.

33. "Magnetic and Crystallographic Properties of $LaNi_{(5-x)}Fe_x$," C. Y. Tai, C. Tan, **G. K. Marasinghe**, G. D. Waddill, O. A. Pringle, W. J. James, M. Chen, W. B. Yelon, J. Gebhardt and N. Ali, IEEE Trans. (Magnetics) 35(5) (1999) 3346.

32. "Oxygen and Phosphorus Coordination Around Iron in Iron-Phosphate Glasses With UO_2 or Na_2O and Crystalline Ferric Ferrous Pyrophosphate," C. S. Booth, P. G. Allen, J. J. Bucher, N. M. Edelstein, D. K. Shuh, **G. K. Marasinghe**, M. Karabulut, C. S. Ray, and D. E. Day, J. Mat. Res. 14 (1999) 2628.

31. "X-Ray Photoelectron and Mössbauer Spectroscopic Studies of Iron Phosphate Glasses Containing U, Cs, and Bi," M. Karabulut **G. K. Marasinghe**,, C. S. Ray, D. E. Day, O. Ozturk, and G. D. Waddill, J. Non-Cryst. Solids 249 (1999) 106.

30. "Effects of Melting Temperature and Time on Iron Valence and Crystallization of Iron Phosphate Glasses," C. S. Ray, X. Fang, M. Karabulut, **G. K. Marasinghe**, and D. E. Day, J. Non-Cryst. Solids 249 (1999) 1.

29. "Effects of Nuclear Waste Components on Redox Equilibria, Structural Features, and Crystallization Characteristics of Iron Phosphate Glasses," **G. K. Marasinghe**, M. Karabulut, C. S. Ray, D. E. Day, P. G. Allen, J. J. Bucher, D. K. Shuh, Y. Badyal, M. L. Saboungi, M. Grimsditch, S. Shastri, and D. Heaffner, Environment Issues and Waste Management Technologies IV:Ceramic Transactions, 93 (1999) 195.

28. "Iron Redox and Crystallization of Iron Phosphate Glasses," C. S. Ray, X. Fang, M. Karabulut, **G. K. Marasinghe**, and D. E. Day, Environment Issues and Waste Management Technologies IV:Ceramic Transactions, 93 (1999) 187.

27. "On the Structure and Radiation Chemistry of Iron Phosphate Glasses: New Insights from Electron Spin Resonance, Mössbauer, and Evolved Gas Mass Spectroscopy," D. L. Griscom, C. I. Merzbacher, N. E. Bibler, H. Imagawa, S. Uchiyama, A. Namiki, **G. K. Marasinghe**, M. Mesko, and M. Karabulut, Nucl. Instr. and Meth. B 141 (1998) 600.

26. "Redox Characteristics and Structural Properties of Iron Phosphate Glasses:A Potential Host Matrix for Vitrifying of High Level Nuclear Waste," **G. K. Marasinghe**, M. Karabulut, C. S. Ray, D. E. Day, C. H. Booth, P. G. Allen, and D. K. Shuh, Environment Issues and Waste Management Technologies III: Ceramic Transactions 87 (1998) 261.

25. "Pressure Induced Reversal of the Volume Expansion Caused by Interstitial Nitrogen in $Nd_2Fe_{17}N_3$," **G. K. Marasinghe**, W. J. James, P. C. Ezekwenna, H. Luo, W. B. Yelon, Y. Zhao, R. B. Von Dreele, M. Ellouze and Ph. l'Héritier, J. Appl. Phys. 83 (1998) 6911.

24. "Structural Features of Iron-Phosphate glasses," **G. K. Marasinghe**, M. Karabulut, C. S. Ray, D. E. Day, W. B. Yelon, C. H. Booth, P. G. Allen, and D. K. Shuh, J. Non-Cryst. Solids 222 (1997) 144.

23. "An Analysis of Iron-Iron interatomic Distances in Several Rare Earth Transition Metal Intermetallics," **G. K. Marasinghe**, Peter C. Ezekwenna, W. J. James, Z. Hu and W. B. Yelon, J. Appl. Phys. 81 (1997) 5103.

22. "Studies of V, Nb, Cr, and Zr Substituted 2:17 Compounds and Their Carbides using Neutron Diffraction," H. Luo, Z, Hu, M. Chen, W. B. Yelon, **G. K. Marasinghe**, P. C. Ezekwenna. W. J. James, W. C. Chang, and S. H. Tsai, J. Appl. Phys. 81 (1997) 4542.

21. "Magnetic and Structural Properteis of $Nd_2Fe_{17-x}Mn_x$ Solid Solutions," Peter C. Ezekwenna, **G. K. Marasinghe**, W. J. James, Z. Hu, and W. B. Yelon, J. Appl. Phys. 81 (1997) 4533.

20. "A magnetic and Moessbauer spectral study of the $Tb_2Fe_{17-x}Al_x$ solid solutions," S. R. Mishra, G. J. Long, O. A. Pringle, **G. K. Marasinghe**, D. P. Middleton, K. H. J. Buschow, and F. Grandjean, J. of Mag. Mag. Mat., 162 (1996) 167.

19. "A Neutron Diffraction and Mössbauer Spectral Study of the $Nd_2Fe_{16}TiC_x$ Solid Solutions," **G. K. Marasinghe**, Peter C. Ezekwenna, W. J. James, Gary J. Long, O.A. Pringle, W. B. Yelon, Z. Hu, and F. Grandjean, J. Appl. Phys. 79, (1996) 4587.

18. "Aluminum Site Occupation in $Y_2Fe_{14-x}Al_xB$," Z, Hu, W. B. Yelon, **G. K. Marasinghe**, and W. J. James. IEEE Trans. Mag. 32, (1996) 4386.

17. "Neutron Diffraction Structural Studies of $Nd_2Fe_{17-x}M_xC_y$," Z, Hu, W. B. Yelon, **G. K. Marasinghe**, and W. J. James. IEEE Trans. Mag. 32, (1996) 4389.

16. "Neutron Diffraction and Magnetic Studies of $Nd_2Fe_{17-x}T_x$ (T = Si, Mn)," W. B. Yelon, Z, Hu, M. Chen, H. Luo, **G. K. Marasinghe**, W. J. James, K. H. J. Buschow, D. P. Middleton, and F. Pourarian, IEEE Trans. Mag. 32, (1996) 4431.

15. "Structural and Magnetic Properties of Fe_2O_3-P_2O_5-Na_2O Glasses. Part I. Heat Treatment", A. Mogus Milankovic, Delbert E. Day, **G. K. Marasinghe**, and Gary. J. Long, Phys. Chem. Glasses 37 (1996) 57.

14. "Site Affinity of Substituent in $Nd_2Fe_{17-x}T_x$ (T = Cu, Zr, Nb, Ti, V) Alloys,"W. B. Yelon, Z. Hu, W. J. James, **G. K. Marasinghe**, J. Appl. Phys. 79 (1996) 5939.

13. "Neutron Diffraction Studies of $ErNi_{5-x}Co_x$ (x=0.68, 1.68, 2.26) Alloys", Z. Hu, W. B. Yelon, **G. K. Marasinghe**, and W. J. James, IEEE Trans. Mag. 31 (1995) 3659.

12. "A Neutron Diffraction and Mössbauer Effect Study of $Tb_2Fe_{17-x}Al_x$ Solid Solutions", **G.K. Marasinghe**, S. Mishra, O.A. Pringle, Gary J. Long, Z. Hu, W. B. Yelon, F. Grandjean, and K. H. J. Buschow. J. Appl. Phys. 76 (1994) 6731.

11. "A Magnetic, Neutron Diffraction, and Mössbauer Spectral Study of $Nd_2Fe_{17-x}Al_x$ Solid Solutions", Gary J. Long, **G.K. Marasinghe**, S. Mishra, O.A. Pringle, Z. Hu, W. B. Yelon, D. P. Middleton, K. H. J. Buschow, and F. Grandjean. J. Appl. Phys. 76 (1994) 5383.

10. "A Neutron Diffraction and Mössbauer Effect Study of the Structure and Magnetic Properties of the $Y_2Fe_{14-x}Si_xB$ Solid Solutions", **G.K. Marasinghe**, O.A. Pringle, Gary J. Long, W.B. Yelon and F. Grandjean. J. Appl. Phys. 76 (1994) 2960.

9. "A Neutron Diffraction and Mössbauer Effect Study of the $Nd_2Fe_{17-x}Si_x$ solid solutions", Gary J. Long, **G.K. Marasinghe**, S. Mishra, O.A. Pringle, F. Grandjean, K. H. J. Buschow, D. P. Middleton, W.B. Yelon, F. Pourarian, and O. Isnard. Solid State Commun. 88 (1993) 761.

8. "Preferencial Silicon Site Occupation in $Y_2Fe_{14-x}Si_xB$", **G.K. Marasinghe**, O.A. Pringle, Gary J. Long, F. Grandjean, and W.B. Yelon. IEEE Trans. Mag. 29 (1993) 2764.

7. "A Neutron Diffraction and Mössbauer Effect Study of the preferencial Silicon Site Occupation and Magnetic Structure of $Nd_2Fe_{14-x}Si_xB$", **G.K. Marasinghe**, O.A. Pringle, Gary J. Long, W.J. James, D. Xie, J. Li, W.B. Yelon and F. Grandjean. J. Appl. Phys. 74 (1993) 6798.

6. "A Neutron Diffraction and Mössbauer Effect Study of the Magnetic Structure of $Y_2(Fe_{1-x}Mn_x)_{14}B$", **G.K. Marasinghe**, O.A. Pringle, Gary J. Long, W.J. James, W.B. Yelon and F. Grandjean, Journal of Appl. Phys. 70 (1991) 6149.

5. "A Mössbauer Effect Study of a Series of $R_2Fe_{14}C$ Hard Magnetic Materials", Gary J. Long, O.A. Pringle, **G.K. Marasinghe**, F. Grandjean, K.H.J. Buschow, J. Appl. Phys. 69 (1991) 6040.

4. "A Neutron Diffraction Study of the Atomic Ordering in $Er(Fe_{1-x}Co_x)_3$", Dwayne E. Tharp, O.A. Pringle, W.J. James, **G.K. Marasinghe** and W.J. James. J. Less-Common Metals 149 (1989) 363.

3. "Mössbauer Effect Studies of $Nd_2Fe_{14-x}Si_xB$ and $Y_2Fe_{14-x}Si_xB$", O.A. Pringle, Gary J. Long, **G.K. Marasinghe** and W.J. James. IEEE Trans. Mag. 25 (1989) 3440.

2. "A Mössbauer Effect Study of $Y_2Fe_{14}B$ and its Aluminum Solid Solutions", Dwayne E. Tharp, Gary J. Long, O.A. Pringle, **G.K. Marasinghe**, W.J. James, and F. Grandjean. J. Appl. Phys. 64 (1988) 5583.

1. "Mössbauer and Neutron Diffraction Studies of $Y_2(Fe_{1-x}Mn_x)_{14}B$", O.A. Pringle, **G.K. Marasinghe**, Gary J. Long, W.J. James, W.B. Yelon and F. Grandjean, Journal of Appl. Phys. 64 (1988) 5580.

Current Support

(PI) "Synthesis of Novel High-Temperature Superconductors Using High Pressure/High Temperature Techniques: A Preliminary Study," $26,000 Faculty Research Seed Money Council, University of North Dakota. 06/15/07 - 12/31/08.

(PI) "Introduction of Material Science-Related X-ray Diffraction and Nanoscience Laboratories to Advanced Physics Laboratory." $34,000, Student Technology Fee Council, UND. 08/15/07 - 12/31/07.

(PI) NSF "Research Experience of Undergraduate (REU) Site in Physics at the University of North Dakota," $171K ($57K/yr. for 3 years), 03/15/05 – 03/14/08

(Co-PI) NSF-CCLI "Collaborative Research: Adaptation of University of Minnesota Problem Solving Labs to Introductory Physics Sequence," $76,433, 09/05 – 08/08

(Co-coordinator and co-author) U.S. DoEd * NDPI* "Improving Math & Science Literacy of Middle and high School Students of North Dakota Through Teacher-Faculty Partnerships," $1.5M ($500K/yr. for 3 yrs.), 10/01/06 - 09/30/09

*North Dakota Department of Public Instruction

Pending Support

(PI) "Magnetic Superconductors," $216,681K, NSF via subcontract to University of Notre Dame, 07/01/08 - 06/30/11

(PI) "Magnetic Superconductors," $216,681K, DoE via subcontract to University of Notre Dame, 07/01/08 - 06/30/11

(Co-PI) "MRI: Acquisition of an X-ray Diffractometer for Materials Analysis and Characterization, and Multidisciplinary Research and Teaching," $123,539, NSF Major Research Instrumentation.

Grant (> $10,000) History at UND (since August 2000)

Date Awarded	Funding Agency /Program	Title of Proposal	Amount
Oct. 2006	NDPI	(Co-coordinator and co-author) Improving Math & Science Literacy of Middle and high School Students of North Dakota Through Teacher-Faculty Partnerships	$1,500,000
Sept. 2005	NSF	(co-PI) Collaborative Research: Adaptation of University of Minnesota Problem Solving Labs to Introductory Physics Sequence	$76,433
Mar. 2005	NSF	(PI) Research Experience of Undergraduate (REU) Site in Physics at the University of North Dakota	$171,000
June. 2003	NSF	(PI) Structure-property Relationships of Novel Rare Earth-Ultraphosphate Glasses	$285,699
Apr. 2003	NDEPSCoR Infrastructure	(PI) Acquisition of Multi Purpose Thermo-Mechanical Analysis System (**Multi-user instrument**)	$100,000
Apr. 2002	NDEPSCoR Infrastructure	(PI) Acquisition of a Research-grade FTIR/FTRaman Spectrometer (**Multi-user instrument**)	$120,000
Apr.2002	NDEPSCoR Research Seed	(PI) Magnetic Property Measurements at High Pressure and Temperature	$37,478
Feb.. 2001	Faculty Research Seed Money Council	(PI) A Preliminary Study of the Atomic Structure of Novel Vitreous Rare Earth Ultraphosphates: a Potential High Energy Laser Medium	$14,931
May. 2001	NSF	(PI) Acquisition of a Variable Temperature Automated X-ray Diffractometer for Materials Science Related Research and Education	$149,000

Unfunded Proposals (> $10,000) at UND

Submitted	Funding Agency /Program	Title of Proposal	Amount Requested
May 2006	NSF	(Co-PI) Development of Nanoscience and Nanotechnology Education in North Dakota	$200,000
Nov. 2005	NSF	(PI) Collaborative Research: Structure Property Relationships of Novel Rare Earth Glasses	$386,000
Jan. 2003	NSF-MRI	(SSP)* Improving the Solids Analysis Capability of the University of North Dakota by Scanning Auger Microscopy and X-ray Photoelectron Spectroscopy	$1,622,713
Dec. 2002	NSF-CCLI	(Co-PI) Comprehensive Revision of upper division laboratory instruction.	$181,436
Dec. 2002	NSF	(PI) Collaborative Research: the Dependence of Magnetic Interactions on the Spatial Arrangement of Atoms in Magnetic Materials	$273,166
Sept. 2002	NSF-REU	(PI) Research Experience for Undergraduate Site in Physics at the University of North Dakota	$141,888
June. 2002	DoD-EPSCoR	(PI) Structure-property Relationships of Novel Rare Earth-ultraphosphate Laser Glasses	$507,074
Apr. 2001	DoE	(PI) Structure-property Relationships of Novel Vitreous Rare Earth Ultraphosphates: a Potential High Peak Power, High Energy Laser Material	$424,207
Sept. 2001	DoD	(PI) The Dependence of Magnetic Interactions on the Spatial Arrangement of Atoms in Magnetic Materials	$382,986
May. 2001	U.S. Civilian R&D Corporation	(PI) Magnetostriction Effects in Transition Metal Intermetallics (In Collaboration with the Moscow State University, Russia)	$80,000
Mar. 2001	Research Corporation	(PI) A Preliminary Investigation of the Relationship Between Near-neighbor Interatomic Distances and Magnetic Exchange Interactions in Selected Intermetallics	$35,000