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Degrees

Ph.D. in Physical Chemistry with Certification in Chemical-Physics, University of Florida, Gainesville, FL., December 1992. Dissertation title: Infrared, Optical and Luminescence Studies of Quasi-One-Dimensional Charge Transfer Salts and Polymers. Advisor: D.B. Tanner.

B.S. in Chemical Engineering, University of Illinois, Urbana, IL, May 1987. Honors thesis: Effect of Aging Time on the Mechanical Properties of J2 Polymer. Advisor: P.H. Geil.

Professional Experience

Professor, Department of Chemistry, University of Tennessee, Knoxville, TN 37996. 8/07 - Present.

Spectroscopic investigations of complex solids focusing on bulk vs. nanoscale and size/shape effects in nano-materials, chemical and physical tuning of materials, and spin-lattice-charge-orbital coupling effects. Active collaborations at Argonne, Oak Ridge, and the National High Magnetic Field Laboratory (TLH and LANL).

Associate Professor, Department of Chemistry, University of Tennessee, Knoxville, TN 37996. 8/02-7/07.

Spectroscopic studies of novel electronic and magnetic solids. Materials of interest include single molecule magnets, ladder compounds, layered transition metal oxides, metal halides, and dichalcogenides, inorganic nanotubes and nanoparticles, organic molecular conductors and superconductors. Strong collaborations at Argonne, Oak Ridge, and the National High Magnetic Field Laboratory (TLH and LANL).

Co-Director of the Chemical Physics Program, University of Tennessee, Knoxville, TN 37996. 5/01-Present.

Assistant Professor, Department of Chemistry, University of Tennessee, Knoxville, TN 37996. 1/01-8/02.

Spectroscopic studies of novel electronic and magnetic solids: high-spin molecular magnets, ladder compounds, multiply-bonded fullerene polymers, low-dimensional magnetic oxides, inorganic nanotubes. Strong working collaborations at Argonne, Oak Ridge, and the National High Magnetic Field Laboratory.

Associate Professor, Department of Chemistry, State University of New York at Binghamton, Binghamton, NY 13902-6016. 9/00-1/01.

Spectroscopic studies of transition metal oxides with tunable dimensionality and impurity substitutions, inorganic molecular magnets, organic molecular conductors, and fullerene polymers. Active collaborations at Argonne, Brookhaven, Los Alamos, and the National High Magnetic Field Laboratory.

Visiting Scientist, National High Magnetic Field Laboratory, Tallahassee, FL. 7/97, 1/99-2/99, 5/09.

Magneto-optic measurements of low-energy excitations in spin-Peierls materials and vibrational mode contributions to superconductivity in organic solids.

Assistant Professor, Department of Chemistry, State University of New York at Binghamton, Binghamton, NY 13902-6016. 1/95-9/00.

Spectroscopic studies of magnetic oxides, layered electronic materials, organic molecular conductors and superconductors, multiply bonded fullerene polymers. Technology in education and integration of new equipment into the instructional labs. Strong working collaborations at the National High Magnetic Field Laboratory.

Postdoctoral Research Associate, Centre de Recherche en Physique du Solide, Département de Physique, Université de Sherbrooke, Sherbrooke, Québec, Canada. 2/93-1/95. Supervisors: M. Poirier and S. Jandl.

Variable temperature microwave dielectric and Raman scattering studies of low-dimensional electronic and magnetic solids in the presence of a magnetic field.

Graduate Research Assistant, Departments of Chemistry and Physics, University of Florida, Gainesville, FL. 8/88-1/93. Advisor: D.B. Tanner.

Spectroscopic (infrared, optical and luminescence) studies of structural phase transitions, charge transport, color and light emission properties in solid state electronic materials.

Research Assistant, University of Illinois Composite Center, Urbana, IL. 5/87-8/87. Advisor: P.H. Geil.

Thermal, mechanical, and viscoelastic characterization of polymers for use in high performance composites. Final report: The Effect of Water Absorption on the Properties of J2 Copolymer.

Undergraduate Research, University of Illinois, Urbana, IL, 1/86-8/87. Advisor: P.H. Geil.

Structure/property relationships in high performance polymers such as PEEK and J2. Thermal, mechanical, and viscoelastic characterization.

Project Engineer, 3M Corporation, Chemical Division Engineering, St. Paul, MN. 5/86-8/86.

Project responsibilities in costing, design and process analysis, both in the research laboratory and at the manufacturing plant.

Laboratory Technician, Zenith Electronic Corporation, Display Device Research and Development, Glenview, IL. 5/85-8/85 and 5/84-8/84.

Tested photoresists, resins and cataphoretic deposition techniques of phosphors for use on a high resolution color CRT and index line display.

Teaching Experience

Courses taught at SUNY-Binghamton

Term	Course	Enrollment	Innovations
Spring '95	Polymer Science	13	New course.
Fall '95	Intro. Physical Chem.	92	Multimedia
Fall '95	Departmental Colloquium	~15	–
Spring '96	Polymer Science	10	Industrial Field Trips
Spring '96	Departmental Colloquium	~15	–
Fall '96	Intro. Physical Chem.	110	Expanded Multimedia
Fall '96	Departmental Colloquium	~15	–
Spring '97	Polymer Science	14	Polymer Laboratory
Fall '97	Physical Chem. Lab.	~36	Yes, 2 new expts.
Spring '98	Chemistry of Solids	~40	Yes, new course.
Spring '98	Organic Molecular Conductors	4	New course, 100 % on-line.
Fall '98	General Chemistry	~230	Multimedia
Fall '98	Scientific Writing	2	Yes, new course.
Spring '99	Research Semester	–	–
Fall '99	General Chemistry	~650	–
Fall '99	Scientific Writing	1	–
Spring '00	Organic Molecular Conductors	7	Improved on-line interaction
Fall '00	Introduction to Physical Chemistry	110	Improved Multimedia

Courses taught at the University of Tennessee

Term	Course	Enrollment	Innovations
Fall '01	General Chemistry	~80	–
Fall '01	Departmental Colloquium	~100	–
Spring '02	Chemistry of Advanced Materials	6	New course.
Spring '02	Departmental Colloquium	~100	–
Fall '02	Physical Chemistry Lab I	15	–
Spring '03	Thermodynamics and Kinetics	7	–
Fall '03	Physical Chemistry Lab I	12	Updated Lab Manual
Spring '04	Quantum, Spectroscopy, & Stat. Mech.	18	–
Fall '04	General Chemistry	380	–
Spring '05	Physical Chemistry Lab I	5	Updated Lab Manual
Fall '05	Physical Chemistry Lab I	15	New Theor. Prop. Expt.
Spring '06	Physical Chemistry Lab I	4	Rebuilt VP and VLE Expts
Fall '06	NanoMaterials	32	New Course
Spring '07	Physical Chemistry Lab I	4	TA Training
Fall '08	NanoMaterials	15	Many New Topical Lectures
Spring '09	Physical Chemistry Lab I	5	TA Training
Spring '09	Physical Chemistry Lab II	7	New Course, TA Training

Publications

1. *Planarizing Polyaromatic Polymers Based on Imine Chemistry*, K.B. Al-Jumah, K.B. Wagener, T.E. Hogen-Esch, J.L. Musfeldt, and D.B. Tanner, *Polymer Preprints* **30**, 173 (1989).
2. *Optical Properties of NPrQn (TCNQ)₂ Through the Phase Transition*, K. Kamarás, C.S. Jacobsen, V. Zelezný, J.L. Musfeldt, and D.B. Tanner, Proceedings of the 1990 International Conference on Synthetic Metals, *Synth. Met.* **41-43**, 1839 (1991).
3. *Spectral Studies of the Phase Transition in NPrQn (TCNQ)₂*, J.L. Musfeldt, K. Kamarás, and D.B. Tanner, *Phys. Rev. B.* **45**, 10197 (1992).
4. *Temperature Dependence of the Infrared and Optical Properties of DMTM(TCNQ)₂*, J.L. Musfeldt, C.C. Homes, M. Almeida, and D.B. Tanner, *Phys. Rev. B.* **46**, 8777 (1992).
5. *Electron-Phonon Coupling in a Quarter-Filled TCNQ Salt*, C.C. Homes, J.L. Musfeldt, and D.B. Tanner, *Phys. Rev. B* **48**, 16799 (1993).
6. *A Method for the Determination of the Optical Properties of Highly Conjugated Pigments*, J.L. Musfeldt, D.B. Tanner, and A.J. Paine, *J. Opt. Soc. Am. A* **10**, 2648 (1993).
7. *Raman Scattering and Microwave Cavity Studies of the Structural Phase Transition in the Quasi-One-Dimensional Ferromagnet TMNB*, J.L. Musfeldt, M. Poirier, S. Jandl, and J.-P. Renard, *J. Chem. Phys.* **100** 7677 (1994).
8. *Luminescent Polymers with Discrete Emitter Units*, J.L. Musfeldt, J.R. Reynolds, D.B. Tanner, J.P. Ruiz, J. Wang, and M. Pomerantz, *J. Polymer Sci.: Polym. Phys. Ed.* **32**, 2395 (1994).
9. *Optical Absorption, Luminescence, and Redox Switching Properties of Polyphenylene Derivatives*, J.R. Reynolds, A.D. Child, J.P. Ruiz, J.L. Musfeldt, P. Balanda, B. Sankaran, F. Larmat, and D.B. Tanner, *Mat. Res. Soc. Symp. Proc.*, **328**, 191 (1994).
10. *Photoabsorption and Photoluminescence of Polymers with Discrete Emitter Units*, J.L. Musfeldt, J.R. Reynolds, D.B. Tanner, J.P. Ruiz, J. Wang, and M. Pomerantz, *Polymer Preprints* **35**, 259 (1994).
11. *Microwave Dielectric Studies of the Spin-Density Wave State in (TMTSF)₂PF₆*, J.L. Musfeldt, M. Poirier, P. Batail, and C. Lenoir, *Phys. Rev. B.* **51**, 8347 (1995).

12. *H–T Behavior of the Spin–Density Wave Condensate in (TMTSF)₂AsF₆*, J.L. Musfeldt, M. Poirier, P. Batail, and C. Lenoir, *Europhys. Lett.* **30**, 105 (1995)
13. *Microwave Dielectric Studies of the Low Temperature Phase in (TMTSF)₂AsF₆*, J.L. Musfeldt, M. Poirier, P. Batail, and C. Lenoir, *Phys. Rev. B.*, **52**, 15983 (1995).
14. *Microwave Dielectric Studies of the Spin–Density Wave State in (TMTSF)₂PF₆*, J.L. Musfeldt, M. Poirier, P. Batail, and C. Lenoir, *Phys. Rev. B.* **53**, 457(E) (1996).
15. *Using Technology to Brighten Student Employment Prospects*, J.L. Musfeldt and A. Kim, *Proceedings of the 5th SUNY Conference on Instructional Technologies*, 107 (1996).
16. *H–T Behavior of the Spin–Density Wave Condensate in (TMTSF)₂AsF₆*, J.L. Musfeldt, *Mol. Cryst. Liq. Cryst.* **284**, 121 (1996).
17. *An Infrared Investigation of the Broken Symmetry Ground State in GeCuO₃*, J.L. Musfeldt, Y.J. Wang, S. Jandl, M. Poirier, A. Revcolevschi, and G. Dhalenne, *Phys. Rev. B.*, **54**, 469 (1996).
18. *Phonons in Pure and Doped GeCuO₃ Spin–Peierls Crystals: Raman and Ultrasonic Studies*, S. Jandl, M. Poirier, M. Castonguay, P. Fronsès, J.L. Musfeldt, A. Revcolevschi, and G. Dhalenne, *Phys. Rev. B.*, **54**, 7318 (1996).
19. *Optical Observation of the Interplay between Elastic and Magnetic Energy in a Spin–Peierls System*, G. Li, J.L. Musfeldt, Y.J. Wang, S. Jandl, M. Poirier, A. Revcolevschi, and G. Dhalenne, *Phys. Rev. B. Rapid Commun.*, **54**, R15633 (1996).
20. *Infrared Studies of the Phase Transition in TEA(TCNQ)₂*, V. Železny, J.L. Musfeldt, and D.B. Tanner, *Advanced Materials for Optics and Electronics*, **6**, 353 (1996).
21. *Thermodynamics of the β–Naphthol/Acetamide Phase Diagram by Thermal Analysis Techniques*, A. Kim and J.L. Musfeldt, *Chem. Educ.*, **2(3)**, 03129-7 (1997).
22. *Optical Exploration of the Magnetic Field vs. Temperature Phase Diagram in GeCuO₃*, V.C. Long, J.L. Musfeldt, T. Schmiedel, A. Revcolevschi, and G. Dhalenne, *Phys. Rev. B., Rapid Commun.*, **56**, R14263 (1997).
23. *A Distributed Network Based Materials Course*, J.S. Lee, M.B. Preiss, G. Li, J.L. Musfeldt, K.P. Mooney, M.J. Naughton, C. Rivera, L. Mihaly, and P. Naughton, *Proceedings of the 7th Annual SUNY Conference on Instructional Technology*, 71 (1998).
24. *Understanding Chemical Structure/Physical Property Relationships in Polymers through Molecular Modeling and Thermal Analysis Techniques*, A. Kim and J.L. Musfeldt, *J. Chem. Ed.*, **75**, 893 (1998).
25. *Far-Infrared Studies of Spin–Peierls Materials in a Magnetic Field*, G. Li, J.S. Lee, V.C. Long, J.L. Musfeldt, Y.J. Wang, M. Almeida, A. Revcolevschi, and G. Dhalenne, *Chem. Materials*, **10**, 1115 (1998).
26. *Preparation and Separation of C₆₀ Photopolymers for the Physical Chemistry Instructional Laboratory*, J. Pigos and J.L. Musfeldt, *Chem. Educ.*, **3(4)**, 04223-4 (1998).
27. *Far-Infrared Study of the Jahn–Teller–Distorted C₆₀ Monoanion in C₆₀–Tetraphenylphosphoniumiodide*, V.C. Long, J.L. Musfeldt, K. Kamarás, A. Schilder, and W. Schutz, *Phys. Rev. B.*, **58**, 14338 (1998).
28. *A Distributed Network–Based Course in Organic Molecular Conductors*, J.S. Lee, M.B. Preiss, G. Li, J.L. Musfeldt, K.P. Mooney, M.J. Naughton, C. Rivera, L. Mihaly, and P. Naughton, *J. Mater. Educ.*, **20**, 91 (1998).
29. *Infrared Studies of the Broken Symmetry Ground States in η–Mo₄O₁₁*, Z. Zhu, J.L. Musfeldt, Y.J. Wang, J. Sarro, Z. Fisk, H. Negishi, and M. Inoue, *Synth. Met.*, **103**, 2238 (1999).
30. *Optical Properties of (ET)₂SF₅CH₂CF₂SO₃: a Novel Superconductor with Large Discrete Counterions*, J. Dong, J.L. Musfeldt, J.A. Schlueter, J.M. Williams, and G.L. Gard, *Synth. Met.*, **103**, 1892 (1999).

31. *Far-Infrared Study of C₆₀ Tetraphenyl phosphonium Iodide*, V.C. Long, J.L. Musfeldt, K. Kamarás, A. Schilder, and W. Schutz, *Synth. Met.*, **103**, 2435 (1999).
32. *Infrared Studies of Low Temperature Symmetry Breaking in the Perhennate Family of BEDT-TTF Based Organic Molecular Conductors*, S.M. Baker, J. Dong, G. Li, Z. Zhu, J.L. Musfeldt, J.A. Schlueter, M.E. Kelly, R.D. McMin, and J.M. Williams, *Phys. Rev. B.*, **60**, 931 (1999).
33. *Spectroscopic Studies of η -Mo₄O₁₁ at High Magnetic Fields*, Z. Zhu, J.L. Musfeldt, Y.J. Wang, J. Sarrao, Z. Fisk, H. Negishi, and M. Inoue, *Proceedings of the Physical Phenomena at High Magnetic Fields III Conference*, 610 (1999).
34. *Optical Properties of β'' -(ET)₂SF₅CH₂CF₂SO₃: a Layered Molecular Superconductor with Large Discrete Counterions*, J. Dong, J.L. Musfeldt, J.A. Schlueter, J.M. Williams, G.L. Gard, *Phys. Rev. B.*, **60**, 4342 (1999).
35. *Optical Properties of β'' -(ET)₂SF₅CHFCF₂SO₃: Changing Physical Properties via Chemical Tuning of the Counterion*, I. Olejniczak, B. Jones, Z. Zhu, J. Dong, J.L. Musfeldt, J.A. Schlueter, J.M. Williams, G.L. Gard, *Chem. Mater.*, **11**, 3160 (1999).
36. *High Field Optical Response of η -Mo₄O₁₁*, Z. Zhu, V. C. Long, J.L. Musfeldt, X. Wei, J. Sarrao, Z. Fisk, H. Negishi, M. Inoue, H.-J. Koo, and M.-H. Whangbo, *J. Phys. IV. (France)*, **9**, 251 (1999).
37. *Optical Properties of a Supramolecular Assembly Containing Polydiacetylene*, J.M. Pigos, Z. Zhu, and J.L. Musfeldt, *Chem. Mater.*, **11**, 3275 (1999).
38. *Analysis of the Polarized Optical Excitations by Electronic Band Structure Calculations: Organic Superconductor β'' -(ET)₂SF₅CH₂CF₂SO₃*, H.-J. Koo, M.-H. Whangbo, J. Dong, I. Olejniczak, J.L. Musfeldt, J.A. Schlueter, and U. Geiser, *Solid State Commun.* **112**, 403 (1999).
39. *Polarized Optical Reflectance and electronic Band Structure of α' -NaV₂O₅*, V.C. Long, J.L. Musfeldt, X. Wei, H.-J. Koo, M.-H. Whangbo, J. Jeygoudez, and A. Revcolevschi, *Phys. Rev. B.*, **60**, 15721 (1999).
40. *Polarized Optical Reflectance and Electronic Structure of Charge Density Wave Materials η - and γ -Mo₄O₁₁*, Z. Zhu, S. Chowdhary, J.L. Musfeldt, H. Negishi, M. Inoue, J. Sarrao, Z. Fisk, H.-J. Koo, and M.-H. Whangbo, *Phys. Rev. B.*, **61**, 10057 (2000).
41. *Far-Infrared Vibrational Properties of High-Pressure-High-Temperature C₆₀ Polymers and the C₆₀ Dimer*, V.C. Long, J.L. Musfeldt, K. Kamarás, G.B. Adams, J.B. Page, Y. Iwasa, W.E. Mayo, *Phys. Rev. B.*, **61**, 13191 (2000).
42. *Optical Properties of β'' -(ET)₂SF₅RSO₃ (R = CH₂CF₂, CHFCF₂, and CHF): Changing Electronic Properties via Chemical Tuning of the Counterion*, B.R. Jones, I. Olejniczak, J. Dong, J.M. Pigos, Z. Zhu, A.D. Garlach, J.L. Musfeldt, J.A. Schlueter, H.-J. Koo, M.-H. Whangbo, P.G. Nixon, R.W. Winter, and G.L. Gard, *Chem. Mater.*, **12**, 2490 (2000).
43. *Optical Investigation of a τ -Phase Organic Molecular Conductor: τ -(EDO-(S,S)-DMEDT-TTF)₂(AuBr₂)(AuBr₂)_y with y \approx 0.75*, I. Olejniczak, J.L. Musfeldt, G.C. Papavassiliou, and G. Mousdis, *Phys. Rev. B.*, **62**, 15634 (2000).
44. *Optical Properties of τ -(EDO-(S,S)-DMEDT-TTF)₂(AuBr₂)(AuBr₂)_y with y \approx 0.75*, I. Olejniczak, J.L. Musfeldt, G.C. Papavassiliou, and G. Mousdis, *XII Polish Conference, Molecular Crystals 2000*, 258 (2000)
45. *Low Energy Excitations Impurity Substituted CuGeO₃*, B.R. Jones, A.B. Sushkov, J.L. Musfeldt, Y.J. Wang, A. Revcolevschi, and G. Dhalenne, *Phys. Rev. B.*, **63**, 134414 (2001).
46. *Electronic Transitions in Doped and Undoped Copper Germanate*, G. Yu Rudko, V.C. Long, J.L. Musfeldt, H.-J. Koo, M.-H. Whangbo, A. Revcolevschi, G. Dhalenne, and D.E. Bernholdt, *Chem. Mater.*, **13**, 939 (2001).
47. *Infrared and Optical Properties of β' -(ET)₂SF₅CF₂SO₃: Evidence for a 45 K Spin Peierls Transition*, J.M. Pigos, B.R. Jones, Z.T. Zhu, J.L. Musfeldt, C.C. Homes, J.A. Schlueter, B.H. Ward, U. Geiser, H.-J. Koo, M.-H. Whangbo, P.G. Nixon, R.W. Winter, and G.L. Gard, *Chem. Mater.* **13**, 1326 (2001).

48. *Optical Studies of the β'' -(ET)₂SF₅RSO₃ (R = CH₂CF₂, CHF₂, and CHF) System: Chemical Tuning of the Counterion*, I. Olejniczak, B.R. Jones, J. Dong, J.M. Pigos, Z. Zhu, A.D. Garlach, J.L. Musfeldt, J.A. Schlueter, H.-J. Koo, M.-H. Whangbo, P.G. Nixon, R.W. Winter, and G.L. Gard, *Synth. Met.*, **120**, 785 (2001).
49. *Using Electronic Structure Changes to Map the H-T Phase Diagram of α' -NaV₂O₅*, A.B. Sushkov, J.L. Musfeldt, S.A. Crooker, J. Jegoudez, and A. Revcolevschi, *Phys. Rev. B. Rapid Commun.*, **63**, 220401(R) (2001).
50. *Magnetic Field Effects on the Far-Infrared Absorption in Mn₁₂-Acetate*, A.B. Sushkov, B.R. Jones, J.L. Musfeldt, Y.J. Wang, R.A. Achey, N.S. Dalal, *Phys. Rev. B.*, **63**, 214408 (2001).
51. *Far-Infrared Investigation of η -Mo₄O₁₁: Using a Magnetic Field to Open the Gap*, Z. Zhu, J.L. Musfeldt, Y.-J. Wang, H. Negishi, M. Inoue, J. Sarrao, and Z. Fisk, *Ferroelectrics*, **249**, 51 (2001).
52. *Vibrational Properties of the One-Dimensional S=1/2 Heisenberg Antiferromagnet Copper Pyrazine Dinitrate*, B.R. Jones, P.A. Varughese, J.M. Pigos, I. Olejniczak, J.L. Musfeldt, C.P. Landee, M.M. Turnbull, and G.L. Carr, *Chem. Mater.*, **13**, 2127 (2001).
53. *Far-Infrared Investigation of C₆₀ High-Pressure-High-Temperature Polymers and Dimer*, V.C. Long, J.L. Musfeldt, K. Kamaras, Y. Iwasa, W. Mayo, *Ferroelectrics*, **249**, 135 (2001).
54. *Vibrational Properties of Monophosphate Tungsten Bronzes (PO₂)₄(WO₃)_{2m} (m=4,6)*, Z.T. Zhu, J.L. Musfeldt, Z.S. Teweldemedhin, and M. Greenblatt, *Chem. Mater.*, **13**, 2940 (2001).
55. *Local Symmetry Breaking in K₂V₃O₈ as Studied by Infrared Spectroscopy*, J. Choi, J.L. Musfeldt, G. Ragghianti, D. Mandrus, B.C. Sales, and J.R. Thompson, *Phys. Rev. B.*, **65**, 054101 (2002).
56. *Diffuse Optical Excitations in Mn₁₂-Acetate*, S.M. Oppenheimer, A.B. Sushkov, J.L. Musfeldt, R. Achey, N.S. Dalal, *Phys. Rev. B*, **65**, 054419 (2002).
57. *Optical Investigation of Na₂V₃O₇ Nanotubes*, J. Choi, J.L. Musfeldt, Y.J. Wang, M.-H. Whangbo, P. Millet, and J. Galy, *Chem. Mater.*, **14**, 924 (2002).
58. *Far-Infrared Vibrational Properties of Tetragonal C₆₀ Polymer*, Z.T. Zhu, J.L. Musfeldt, K. Kamarás, G.B. Adams, J.B. Page, V.A. Davydov, L.S. Kashevarova, and A.V. Rakhmanina, *Phys. Rev. B*, **65**, 085413 (2002).
59. *Electrodynamics of High Spin Molecular Magnet Materials: What's New with Mn₁₂-Acetate*, J.L. Musfeldt, A.B. Sushkov, S.M. Oppenheimer, Y.J. Wang, R.A. Achey, and N.S. Dalal, *Molecular Low-Dimensional and Nanostructured Materials for Advanced Applications*, A. Graja, ed., **149**, Kluwer Academic Publishers, 2002.
60. *Anisotropic ab-Plane Optical Response of the Charge Density Wave Superconductor P₄W₁₄O₅₀*, Z.T. Zhu, J.L. Musfeldt, Z.S. Teweldemedhin, and M. Greenblatt, *Phys. Rev. B.*, **65**, 214519 (2002).
61. *Dimensionality Effects on the Optical Properties of (PO₂)₄(WO₃)_{2m} (m = 2, 4, 6, and 7)*, Z.T. Zhu, J.L. Musfeldt, H.J. Koo, M.-H. Whangbo, Z.S. Teweldemedhin, and M. Greenblatt, *Chem. Mater.*, **14**, 2607 (2002).
62. *Vibrational Properties of Impurity Substituted α' -NaV₂O₅*, J. Choi, J.L. Musfeldt, G. Yu. Rudko, J. Jegoudez, and A. Revcolevschi, *Solid State Commun.*, **123**, 167 (2002).
63. *Spacial and Local Disorder in β'' -(ET)₂SF₅RSO₃ Alloys (R=CH₂CF₂, CHF, and CHF₂)*, A.D. Garlach, J.L. Musfeldt, J.M. Pigos, B.R. Jones, P.A. Varughese, M.H. Whangbo, J.A. Schlueter, U. Geiser, G. Gard, *Chem. Mater.*, **14**, 2969 (2002).
64. *Low-Energy Excitations in the Magneto-Optic Response of α' -NaV₂O₅*, A.B. Shushkov, J. L. Musfeldt, X. Wei, S.A. Crooker, J. Jegoudez, and A. Revcolevschi, *Phys. Rev. B*, **66**, 054439 (2002).
65. *Spin-Vibrational Coupling in the Far-Infrared Spectrum of Mn₁₂-Acetate*, A.B. Sushkov, J.L. Musfeldt, Y.J. Wang, R.M. Achey, and N.S. Dalal, *Phys. Rev. B*, **66**, 144430 (2002).
66. *Interchain Impurity Substitution Effects on the Low-Energy Excitations in CuGeO₃*, J. Choi, J. L. Musfeldt, Y.J. Wang, A. Revcolevschi, and G. Dhalenne, *Solid State Commun.*, **125**, 271 (2003).

67. *Far-Infrared Vibrational Properties of Linear C₆₀ Polymers: a Comparison between Neutral and Charged Materials*, Z.T. Zhu, J.L. Musfeldt, K. Kamarás, G.B. Adams, J.B. Page, and V.A. Davydov, *Phys. Rev. B*, **67**, 045409 (2003). This article was also reprinted in the *Virtual Journal of Nanoscale Science and Technology*, **7(6)** (2003).
68. *Magnetic Field Dependent Vibrational Modes in κ -(ET)₂Cu(SCN)₂*, I. Olejniczak, J. Choi, J.L. Musfeldt, Y.J. Wang, J.A. Schlueter, and R.A. Klemm, *Phys. Rev. B.*, **67**, 174502 (2003).
69. *Vibrational Properties of Cu(Pz)₂(ClO₄)₂: Evidence for Enhanced Low-Temperature Hydrogen Bonding in Square Lattice S = 1/2 Antiferromagnets*, J. Choi, J.D. Woodward, J.L. Musfeldt, C.P. Landee, and M.M. Turnbull, *Chem. Mater.*, **15**, 2797 (2003).
70. *Optical Properties of the Molecule-Based Magnet K₆[V₁₅As₆O₄₂(H₂O)]·8H₂O*, J. Choi, L.A.W. Sanderson, J.L. Musfeldt, A. Ellern, and P. Kögerler, *Phys. Rev. B.*, **68**, 064412 (2003).
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Books and Review Articles

1. *Spin-Peierls Materials*, J.L. Musfeldt, in *Magnetism: Molecules to Materials*, J.S. Miller and M. Drillon, eds., pp. 90-135, (Wiley-VCH, Weinheim, 2001).

Book Reviews

1. *Handbook of Applied Solid State Spectroscopy* edited by D.R. Vij, reviewed by J.L. Musfeldt, *J. Am. Chem. Soc.* **129**, 3028 (2007).
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Invited Presentations

1. *Magnetoelastic coupling through the antiferromagnetic-to-ferromagnetic transition in quasi-two-dimensional $[\text{Cu}(\text{pyz})_2\text{HF}_2]\text{BF}_4$ using infrared spectroscopy*, to be presented at the International Conference on Clusters and Nanostructures, Jekyll Island, GA, Feb. 17, 2010.
2. *Dynamical charge and structural strain in MoS_2 and MnO nanoparticles*, to be presented at the University of Texas at San Antonio, San Antonio, TX, Nov. 20, 2009.
3. *Magnetoelastic coupling in complex materials*, Department of Physics, University of Florida, National High Magnetic Field Laboratory, Gainesville, FL, Oct. 5, 2009.
4. *Optical properties of iron oxides: the new iron age*, 2009 Workshop on Optics in the New Split Coil High Field Magnet, National High Magnetic Field Laboratory, Tallahassee, FL, Oct. 30, 2009.
5. *Dynamical charge and structural strain in MoS_2 and MnO nanoparticles*, Inorganic Nanotubes Workshop, San Sebastian, Spain, September, 2009.
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15. *Direct Evidence for Magnetoelastic Coupling in $\text{Ni}_3\text{V}_2\text{O}_8$* , American Chemical Society National Meeting, New Orleans, LA, April 6, 2008.
16. *Discovery of High-Energy Magneto-Dielectric Effects in Multiferroic Materials*, Indo-Japan-US Workshop on Complex Oxides, Calcutta, India, Feb. 6, 2008.
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18. *Complexity Under Spatial Confinement*, Wayne State University, Detroit, MI, Jan. 17, 2008.
19. *Bulk vs. Nanoscale WS_2 : Finite Size Effects and Solid State Lubrication*, Acoustical Society of America National Meeting, Salt Lake City, UT, June 2007.
20. *Optical Properties of Molecular Magnets*, 83rd Annual Florida Meeting and Exposition, American Chemical Society, Orlando, FL, May 2007.

21. *Discovery of High Energy Magneto-Dielectric Effects in Frustrated Kagome Lattice Materials*, Dresden High Field Laboratory, Rossendorf, Germany, March 2007.
22. *Optical Spectroscopy as a Microscopic Technique to Investigate Changes in the Bulk Properties of Novel Materials*, Department of Physics, Mississippi State University, Feb. 27, 2007.
23. *Observation of Field Dependent Magnetic Parameters in the Magnetic Molecule Ni_4Mo_{12}* , International Workshop on "Clusters - A Bridge Across Disciplines", Jekyll Island, GA, Dec. 2006.
24. *High Energy Magneto-Dielectric Properties of Complex Solids*, Department of Chemistry, SUNY-Binghamton, Binghamton, NY, Oct. 13, 2006.
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49. *Spectroscopy of Inorganic Nanotubes: What We Learn from the $Na_2V_3O_7$ System*, Research Institute for Solid State Physics and Optics, Hungarian Academy of Sciences, Budapest, Hungary, May 16, 2002.
50. *Spectroscopy of Novel Vanadates: α' - NaV_2O_5 Ladders and $Na_2V_3O_7$ Nanotubes*, Department de Physico-Chimie des Solide, Université Paris-Sud, Orsay, France, April 9, 2002.
51. *Vibrational Studies of Molecular Magnet Materials*, Max-Planck-Institut for Physik Komplexer System, Dresden, Germany, Jan. 11, 2002.
52. *Vibrational Studies of High-Spin Molecular Magnet Materials*, Department of Chemistry, Georgia Institute of Technology, Atlanta, GA. Dec. 6, 2001.
53. *Electrodynamics of High-Spin Molecular Magnet Materials: What's New with Mn_{12} -Acetate?*, Department of Physics, University of Kentucky, Lexington, KY. Nov. 13, 2001.
54. *Vibrational Studies of Molecular Magnet Materials in High Magnetic Fields*, Institute for Molecular Sciences, Polish Academy of Sciences, Poznan, Poland, July 18, 2001.
55. *Spectroscopic Studies of Novel Electronic and Magnetic Materials*, Solid State Division, Oak Ridge National Laboratory, Oak Ridge, TN, April 26, 2001.
56. *Low Energy Excitations in Multiply Bonded Fullerene Polymers and Incorporation into OLEG Devices*, Electrochemical Society Meeting, Washington, DC, March 28, 2001.
57. *Vibrational Properties of Molecular Magnet Materials* Department of Chemistry, North Carolina State University, Raleigh, NC. March 23, 2001.
58. *Infrared Spectroscopy of Molecular Magnet Materials*, Clark University Allen Symposium on Molecular Magnets, Worcester, MA, Nov. 3, 2000.
59. *Spectroscopic Studies of Magnetic Materials*, NSF Workshop on Solid State Chemistry, Mt. Hood, OR., Oct. 15, 2000.
60. *Spectroscopic Studies of Transition Metal Oxide Materials in High Magnetic Fields*, Solid State Chemistry Gordon Conference, Colby-Sawyer College, VT, Aug. 1, 2000.
61. *Cryogenics in Materials Spectroscopy*, Advanced Research Systems, Allentown, PA, July 28, 2000.
62. *Spectroscopic Studies of Spin-Peierls Materials*, Los Alamos National Lab, Los Alamos, NM, Jul 14, 2000.

63. *Low Energy Excitations in Doped CuGeO₃*, Laboratoire de Physiochimie, Universite Paris-Sud, Orsay France, April 18, 2000.
64. *Spectroscopic Studies of Transition Metal Oxide Materials in High Magnetic Fields*, Department of Chemistry, University of Tennessee, Knoxville, TN, April 6, 2000.
65. *Far Infrared Vibrational Properties of High-Temperature-High-Pressure Polymers and C₆₀ Dimer*, Department of Physics, Clemson University, South Carolina, March 9, 2000.
66. *Spectroscopic Studies of Transition Metal Oxide Materials in High Magnetic Fields*, Solid State Chemistry Group, Department of Chemistry and Chemical Biology, Cornell University, Ithaca, NY, Nov. 15, 1999.
67. *Optical Studies of Spin-Peierls Materials in High Magnetic Fields*, Department of Chemistry, Washington State University, Pullman, WA, Nov. 12, 1999.
68. *Optical Studies of Oxide-Based Materials in High Magnetic Fields*, Institute of Physics, Academy of Sciences, Zagreb, Croatia. June 18, 1999.
69. *Optical Properties of Solids in High Magnetic Fields*, Department of Chemistry, University of Florida, Gainesville, FL, May 21, 1999.
70. *Optical Properties of Solids in High Magnetic Fields*, Pacific Northwest National Laboratory, Richland, WA., May 1, 1999.
71. *Optical Studies of Oxide-Based Materials in High Magnetic Fields*, American Physical Society National Meeting, Atlanta, GA, March 1999.
72. *Optical Properties of β'' -(ET)₂SF₅RSO₃: Changing Physical Properties by Chemical Tuning of the Counterion*, Electronic Phenomena in Layered Molecular Conductors and Superconductors, Argonne National Laboratory, Chicago, IL. Jan. 15, 1999.
73. *Spectroscopic Studies of Low-Dimensional Materials in High Magnetic Fields*, Department of Materials Science, Rensselaer Polytechnic, Troy, NY. Nov. 19, 1998.
74. *Infrared Studies of the Broken Symmetry Ground States in η -Mo₄O₁₁*, International Congress on Synthetic Metals, Montpellier, France, July 1998.
75. *Spectroscopic Studies of Novel Materials*, Department of Physics, Clark University, Boston, MA, Feb. 19, 1998.
76. *Spectroscopic Studies of Novel Materials*, Department of Chemistry, Florida State University, Tallahassee, FL, Jan. 8, 1998.
77. *Spectroscopic Studies of Spin-Peierls Materials in a Magnetic Field*, Institute of Physics, Czech Academy of Sciences, Prague, Czech Republic, May 22, 1997.
78. *Spectroscopic Studies of Spin-Peierls Materials in a Magnetic Field*, Research Institute for Solid State Physics, Budapest, Hungary, May 18, 1997.
79. *Spectroscopic Studies of Materials in a Magnetic Field*, Department of Physics, Syracuse University, Syracuse, NY, Feb. 28, 1997.
80. *Spectroscopic Studies of Materials in a Magnetic Field*, Department of Chemistry, Rensselaer Polytechnic, Troy, NY, Nov 23, 1996.
81. *Spectroscopic Studies of Magnetically Driven Phase Transitions*, "Solid State Materials Summer School" sponsored by NSF-DMR at the State University of New York at Binghamton, Binghamton, NY, June 12, 1996.
82. *Far-Infrared Studies of GeCuO₃ in a Magnetic Field*, BT & T Molecular Crystal Group, National High Magnetic Field Laboratory, Tallahassee, FL, May 14, 1996.

83. *H-T Behavior of the Spin-Density Wave Condensate in TMTSF-Based SDW Materials*, "Chemistry and Properties of Low-Dimensional Conductors and Superconductors" Symposium at the 1995 PacifiChem Meeting, Honolulu, HI, Dec. 1995.
84. *Spectroscopic Studies of Spin-Peierls Compounds in a Magnetic Field*, Department of Chemistry, Syracuse University, Syracuse, NY, Nov. 7, 1995.
85. *Magnetic Field Effects in Solids*, Department of Chemistry, State University of New York at Brockport, Brockport, NY, Oct. 3, 1995.
86. *Magnetic Field Effects in Solids*, Department of Chemistry, State University of New York at Geneseo, Geneseo, NY, Sept. 26, 1995.
87. *H-T Behavior of the Spin-Density Wave Condensate in (TMTSF)₂AsF₆*, Department of Physics, State University of New York at Binghamton, Binghamton, NY, Feb. 13, 1995.
88. *H-T Behavior of the Spin-Density Wave Condensate in (TMTSF)₂AsF₆*, Xerox Webster Research Center, Webster, NY, Nov. 11, 1994.
89. *Spectral Studies of Low-Dimensional Electronic and Magnetic Solids*, Department of Chemistry, State University of New York at Binghamton, Binghamton, NY, Oct. 14, 1994.
90. *Microwave Dielectric Studies of the Spin-Density Wave State in (TMTSF)₂PF₆*, Molecular Sciences Research Center, Pacific Northwest Laboratories, Richland, WA, June 28, 1994.
91. *Microwave Dielectric Studies of the Spin-Density Wave State in (TMTSF)₂PF₆*, CST-14, Los Alamos National Laboratory, Los Alamos, NM, March 11, 1994.
92. *Spectral Studies of Low-Dimensional Electronic and Magnetic Solids*, University of Missouri at St. Louis, St. Louis, MO, Feb. 28, 1994.
93. *Experimental Studies of Structural Phase Transitions in Semiconducting Organic Charge-Transfer Salts*, Department of Physics, Université de Sherbrooke, Sherbrooke, Canada, Nov. 11, 1993.
94. *Experimental Studies of Structural Phase Transitions in Semiconducting Organic Charge-Transfer Salts*, Department of Physics, University of California at Santa Barbara, Santa Barbara, CA, Dec. 10, 1992.
95. *Optical Properties of NPrQn(TCNQ)₂ through the Structural Phase Transition*, Department of Chemistry, University of Florida, Gainesville, FL, April 16, 1991.

Presentations

1. *Magnetoelastic interactions in complex materials*, Research in High Magnetic Fields, Dresden, Germany, July, 2009.
2. *Optical properties of Bi(Fe,Mn)O₃: polar oxides for solar energy applications*, North American Solid State Chemistry Conference, Columbus, OH, June 18, 2009.
3. X.S. Xu, M. Angst, T.V. Brinzari, R.P. Herman, J.L. Musfeldt, A.D. Christianson, D. Mandrus, B.C. Sales, S. McGill, J.-W. Kim, and Z. Islam, *Charge order, dynamics, and magnetostructure transition in LuFe₂O₄*, American Physical Society National Meeting, Pittsburg, PA, March 2009.
4. Q.-C. Sun, X.S. Xu, J.L. Musfeldt, R. Tenne, A. Zak, S. Baker, and A.D. Christianson, *Dynamical charge and structural strain in MoS₂ and MnO nanoparticles*, American Physical Society National Meeting, Pittsburg, PA, March 2009.
5. J.M. White, J.L. Musfeldt, S.A. Crooker, J. Singleton, R.D. McDonald, C. Landee, M. Turnbull, and H.M. Christen, *Magnetolectric coupling in a quantum spin ladder*, American Physical Society National Meeting, Pittsburg, PA, March 2009.

6. J.L. Musfeldt, L.I. Vergara, T.V. Brinzari, L.C. Tung, Y.J. Wang, J.A. Schlueter, and J.L. Manson, *Ferromagnetic transition coupled to magnetoelastic interactions*, American Physical Society National Meeting, Pittsburg, PA, March 2009.
7. T.V. Brinzari, X.S. Xu, J.L. Musfeldt, S. McGill, H.D. Zhou, and C.R. Weibe, *Photophysical properties of Kagome-like $Nd_3Ga_5SiO_{14}$* , Workshop on Magnetoelectric Interaction Phenomena in Crystals, (MEIPIC6), Santa Barbara, CA, January, 2009.
8. L.I. Vergara, J. Cao, J.L. Musfeldt, N. Rogado, R.J. Cava, F. Yen, R.P. Chaudhury, and B. Lorenz, *Magnetoelastic coupling in multiferroic $Ni_3V_2O_8$* , Workshop on Magnetoelectric Interaction Phenomena in Crystals, (MEIPIC6), Santa Barbara, CA, January, 2009.
9. J.L. Musfeldt*, S. Brown, L.I. Vergara, J. Cao, M.M. Conner, A.C. McConnell, H.I. Southerland, J.L. Manson, J.A. Schlueter, M.D. Phillips, M.M. Turnbull, and C.P. Landee, *Hydrogen bonding and multiphonon structure in copper pyrazine coordination polymers*, American Crystallographic Association, Knoxville, TN, June 2008.
10. J.A. Schlueter*, K.A. Funk, J.L. Manson, S. Brown, and J.L. Musfeldt, *Hydrogen Bond Mediated Magnetic Superexchange: Deuterium Isotope Effect in $CuF_2(H_2)_2(\text{pyrazine})$* , American Crystallographic Association, Knoxville, TN, June 2008.
11. X.S. Xu*, T.V. Brinzari, J.L. Musfeldt, M. Angst, and D.G. Mandrus, *Optical Properties of LuF_2O_4* , American Physical Society National Meeting, New Orleans, LA, March 2008.
12. T. Brinzari*, O.A.I. Swader, J.L. Musfeldt, C. Tian, M.-H. Whangbo, and J.A. Schlueter, *Color Properties, Hydrogen Bonding, and Magnetic Interactions in $(TBA)_3[Ni(NCS)_5]$* , American Physical Society National Meeting, New Orleans, LA, March 2008.
13. L.I. Vergara*, J. Cao, J.L. Musfeldt, N. Rogado, R.J. Cava, F. Yen, R.P. Chaudhury, and B. Lorenz, *Direct Evidence of Magnetoelastic Coupling in $Ni_3V_2O_8$* , American Physical Society National Meeting, New Orleans, LA, March 2008.
14. J.L. Musfeldt*, S. Brown, R.T. Clay, S. Mazumdar, M. Mas-Torrent, C. Rovira, J.C. Dias, R.T. Henriques, and M. Almeida, *Investigating the Charge Ordering Pattern in the Organic Spin Ladder Candidate $(DTTTF)_2Cu(mnt)_2$* , American Physical Society National Meeting, New Orleans, LA, March 2008.
15. X.S. Xu*, R.C. Rai, T.V. Brinzari, J.L. Musfeldt, D.J. Singh, S. Lee, S.-W. Cheong, Y.H. Chu, R. Ramesh, and S. McGill, *Optical Properties of $BiFeO_3$ Thin Films and Single Crystal*, American Physical Society National Meeting, New Orleans, LA, March 2008.
16. J.L. Musfeldt*, J. Cao, M. Pederson, R. Klemm, and P. Kogerler, *Magneto-Infrared Investigation of $Mo_{12}Ni_4$ Molecular Magnet*, American Physical Society National Meeting, New Orleans, LA, March 2008.
17. J.L. Musfeldt*, S. Brown, R.T. Clay, S. Mazumdar, M. Mas-Torrent, C. Rovira, J.C. Dias, R.T. Henriques, and M. Almeida, *Investigating the Charge Ordering Pattern in the Organic Spin Ladder Candidate $(DTTTF)_2Cu(mnt)_2$* , International Symposium on Crystalline Organic Metals, Superconductors, and Ferromagnets, Peniscola, Spain, Sept 2007.
18. D. Singh*, R.C. Rai, J. Cao, L. Vergara, S. Brown, J.L. Musfeldt, G. Lawes, and R. Cava, *Optical Properties and Magnetic Field-Induced Phase Transitions in the Ferroelectric State of $Ni_3V_2O_8$* , 19th American Conference on Crystal Growth and Epitaxy, Salt Lake City, UT, July, 2007.
19. J.L. Musfeldt*, R.C. Rai, J. Cao, L. Vergara, S. Brown, D. Singh, G. Lawes, and R. Cava, *Discovery of High Energy Magneto-Dielectric Effects in Frustrated Kagome Lattice Materials*, International Conference on Strongly Correlated Electron Systems, Houston, May 2007.
20. J.L. Musfeldt*, S. Brown, I. Mihut, J.B. Betts, A. Migliori, R. Rosentsveig, and R. Tenne, *Bulk vs. Nanoscale WS_2 : Quantum Size Effects and Solid State Lubrication*, First Symposium on Transition Metal Chalcogenide Nanostructures, Rathen, Germany, March 2007.

21. S. Brown, J.L. Musfeldt*, I. Mihut, J.B. Betts, A. Migliori, A. Zak, and R. Tenne, *Bulk vs. Nanoscale WS₂: Finite Size Effects and Solid State Lubrication*, American Physical Society National Meeting, Denver, CO, March 2007.
22. L.I. Vergara*, R.C. Rai, J. Cao, S. Brown, J.L. Musfeldt, D.J. Singh, G. Lawes, N. Rogado, R.J. Cava, and X. Wei, *High-Energy Magneto-Dielectric Effect in Co₃V₂O₈*, American Physical Society National Meeting, Denver, CO, March 2007.
23. R.C. Rai*, J. Cao, S. Brown, J.L. Msufeldt, D. Kashinathan, D.J. Singh, G. Lawes, N. Rogado, R.J. Cava, and X. Wei, *Optical Properties and Magnetic Field-Induced Transitions in the Ferroelectric State of Ni₃V₂O₈*, American Physical Society National Meeting, Denver, CO, March 2007.
24. J. Cao, Y.J. Wang, S. Park, and S.-W. Cheong, *Direct Evidence of Spin-Phonon Coupling in Multiferroic DyMn₂O₅ via Magneto-Infrared Measurements*, American Physical Society National Meeting, Denver, CO, March 2007.
25. J.L. Musfeldt*, S. Brown, J. Cao, M.M. Conner, A.C. McConnell, H.I. Southerland, J.L. Manson, J.A. Schlueter, M.D. Phillips, M.M. Turnbull, and C.P. Landee, *Hydrogen Bonding and MultiPhonon Structure in Copper Pyrazine Coordination Polymers*, American Physical Society National Meeting, Denver, CO, March 2007.
26. J.L. Musfeldt*, R.C. Rai, J. Cao, S. Brown, X. Wei, D. Kasinathan, D. Singh, G. Lawes, B. Sales, and D. Mandrus, *Magneto-Dielectric Properties of Complex Materials*, Solid State Chemistry Gordon Conference, New London, NH, July 26, 2006.
27. J. Cao*, J.T. Haraldsen, S. Brown, J.L. Musfeldt, J.R. Thompson, B.C. Sales, R. Rahaman, T. Saha-Dasgupta, and C.C. Torardi, *Vibrational and Electronic Properties of Complex Vanadyl Phosphates*, Solid State Chemistry Gordon Conference, New London, NH, July 26, 2006.
28. J. Gryko* and J.L. Musfeldt, *Optical Properties of Type II Silicon Clathrates and the Doping-Induced Metal-Insulator Transition*, RSEC Symposium, University of Tennessee, Knoxville, TN, August 2006.
29. S. Brown*, R.D. Luttrell, J. Cao, J.L. Musfeldt, R. Rosentsveig, and R. Tenne, *Dynamics of Bulk vs. Nanoscale WS₂: Local Strain and Charging Effects*, American Physical Society National Meeting, Baltimore, MD, March 2006.
30. R. Rai*, J. Cao, J.L. Musfeldt, X. Wei, J. Schnack, M. Bruger, M. Luban, P. Kögerler, E. Morosan, R. Fuchs, R. Modler, and H. Nojiri, *Field-Dependent Magnetic Parameters in Ni₄Mo₁₂: Magnetostriction at the Molecular Level?*, American Physical Society National Meeting, Baltimore, MD, March 2006.
31. Y. Iwasa*, N. Akima, S. Brown, A. Barbour, J. Cao, J. L. Musfeldt, *Strong Anisotropy of the THz Absorption Spectra of Stretch-Aligned Single Walled Carbon Nanotubes*, American Physical Society National Meeting, Baltimore, MD, March 2006.
32. S. Brown*, J. Cao, J.L. Musfeldt, M. Mas-Torrent, C. Rovira, R.T. Henriques, and M. Almeida, *Investigating the Charge Ordering Pattern in the Organic Spin Ladder (DTTTF)₂Cu(mnt)₂*, American Physical Society National Meeting, Baltimore, MD, March 2006.
33. A.M. Barbour*, R.D. Luttrell, J. Choi, J.L. Musfeldt, D. Zipse, N.S. Dalal, D.W. Boukhvalov, M.I. Katsnelson, A.I. Lichtenstein, P. Kögerler, V.V. Dobrovitski, and B.N. Harmon, *Understanding the Gap in Polyoxovanadate Molecule-Based Magnets*, American Physical Society National Meeting, Baltimore, MD, March 2006.
34. J. Cao*, J.T. Haraldsen, R.C. Rai, S. Brown, J.L. Musfeldt, X. Wei, Y.J. Wang, M. Apostu, R. Suryanarayanan, and A. Revcolevschi, *Magneto-Optical Investigation of the Field-Induced Transition in Bilayer Manganese Oxide (La_{0.4}Pr_{0.6})_{1.2}Sr_{1.8}Mn₂O₇*, American Physical Society National Meeting, Baltimore, MD, March 2006.
35. S. Brown*, J. Cao, J.L. Musfeldt, N. Dragoe, Y. Yokoyama, S. Ito, A. Takeda, T. Miyazaki, H. Takagai, H. Shimotani, F. Cimpoesu, and R.J. Cross, *Microscopic Evidence of Negative Thermal Expansion in Fullerenes*, 6th International Symposium on Crystalline Organic Metals, Superconductors, and Ferromagnets, Key West, FL, September 2005.

36. J. L. Musfeldt*, R. Wesolowski, J.T. Haraldsen, J. Cao, I. Olejniczak, J. Choi, Y.J. Wang, and J.A. Schlueter, *Understanding the Totally Symmetric Intramolecular Vibrations in κ -Phase Organic Superconductors*, 6th International Symposium on Crystalline Organic Metals, Superconductors, and Ferromagnets, Key West, FL, September 2005.
37. R.D. Luttrell*, S. Brown, J. Cao, J.L. Musfeldt, R. Rosentsveig, and R. Tenne, *Understanding the Low-Energy Dynamics of Inorganic Fullerene-Like WS_2 Nanoparticles*, NanoMechanics: Sensors and Actuators, Knoxville, TN, May 2005.
38. R. Rai*, J. Cao, J.L. Musfeldt, B.C. Sales, D. Mandrus, and X. Wei, *Magnetochromism in the Quasi-2D Heisenberg Antiferromagnet, $K_2V_3O_8$* , American Physical Society Meeting, Los Angeles, CA, March, 2005.
39. J. Cao*, J.T. Haraldsen, J.L. Musfeldt, J.R. Thompson, T. Barnes, M.-H. Whangbo, S. Zvyagin, and C.C. Torardi, *Understanding Hydrogen Bonding and Low-Energy Magnetic Excitations in $VOHPO_4 \cdot 1/2H_2O$* , American Physical Society Meeting, Los Angeles, CA, March, 2005.
40. S. Brown*, J. Cao, J.L. Musfeldt, N. Dragoe, and A. Revcolevschi, *Understanding the Dynamics of $Kr@C_{60}$: a Far-Infrared Vibrational Study*, American Physical Society Meeting, Los Angeles, CA, March, 2005.
41. R.D. Luttrell*, S. Brown, J. Cao, J.L. Musfeldt, R. Rosentsveig, and R. Tenne, *Understanding the Low-Energy Dynamics of Inorganic Fullerene-Like WS_2 Nanoparticles*, American Physical Society Meeting, Los Angeles, CA, March, 2005.
42. J. Cao, J.T. Haraldsen, K. Geisfeldt, J.L. Musfeldt, W. Tian, D. Mandrus, and T. Barnes, *Understanding Local Structure and the Magnetically Driven Phase Transition in $LiMO_2$ ($M = V, Co$)*, American Physical Society Meeting, Los Angeles, CA, March, 2005.
43. J.T. Haraldsen*, R. Wesolowski, J. Cao, J.L. Musfeldt, I. Olejniczak, J. Choi, Y.J. Wang, and J.A. Schlueter, *Understanding the Totally Symmetric Intramolecular Vibrations in κ -Phase Organic Superconductors*, American Physical Society Meeting, Los Angeles, CA, March, 2005.
44. J.T. Haraldsen*, T. Barnes, and J.L. Musfeldt, *Magnetic Observables for Small Antiferromagnetic $S = 1$ and $S=3/2$ Spin Clusters*, American Physical Society Meeting, Los Angeles, CA, March, 2005.
45. J. Haraldsen*, T. Barnes, and J.L. Musfeldt, *Inelastic Neutron Scattering Calculations for $S = 1/2$ Tetramers: Predictions for $NaCuAsO_4$* , SouthEast American Physical Society Meeting, Oak Ridge, TN, Nov. 11, 2004.
46. J. Cao*, J. Choi, J.L. Musfeldt, S. Lutta, and M.S. Whittingham, *Effect of Sheet Distance on the Optical Properties of Vanadate Nanotubes*, Concepts and Materials for Molecular Electronics and Nanotechnology, Poznan, Poland, Sept. 15, 2004.
47. R. Luttrell*, J. Cao, J.L. Musfeldt, R. Tenne, *Understanding the Low-Energy Dynamics of WS_2 Inorganic Fullerene-Like Nanoparticles*, Solid State Chemistry Gordon Conference, New London, NH., July 26, 2004.
48. J. Cao*, J. Choi, J.L. Musfeldt, S. Lutta, and M.S. Whittingham, *Effect of Sheet Distance on the Optical Properties of Vanadate Nanotubes*, Solid State Chemistry Gordon Conference, New London, NH., July 26, 2004.
49. J.L. Musfeldt*, *Magnetochromism in Transition Metal Oxides and Halides*, J. Choi, J. Woodward, J.T. Haraldsen, D. Mandrus, S. Ramanathanan, A. Revcolevschi, C. Landee, M. Turnbull, Solid State Chemistry Gordon Conference, New London, NH., July 26, 2004.
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51. J.L. Musfeldt*, R. Wesolowski, J. Choi, A. Sushkov, S. Oppenheimer, J.M. North, R. Achey, N. Dalal, A. Ellern, and P. Kogerler, *Electronic Structure of Molecule-Based Magnets: Mn_{12} -acetate, V_{15} , and Fe_8Br_8* , International Conference on Synthetic Metals, Wollongong, Australia, June 2004.

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55. T. Mayerhofer*, R. Keding, Z. Shen, and J.L. Musfeldt, *Optical Isotropy in Solids - Testing the Limits of a Well-Understood Concept*, 105th Annual Meeting of the German Society for Applied Optics, Bad Kreuznach, Germany, June 1, 2004.
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60. R. Wesolowski*, J.T. Haraldsen, J.L. Musfeldt, T. Baruah, N. Bernstein, and M.R. Pederson, *Understanding the Electronic Structure of [(C₆H₁₅N₃)₆Fe₈(μ₃-O)₂(μ₂-OH)₁₂]Br₇(H₂O)Br·8H₂O Molecular Magnet*, American Physical Society Meeting, Montreal, Canada, March 2004.
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Current External Support

Dates	Title	Program	Amount
7/06 - 7/09	Spectroscopic Investigations of Complex Electronic and Magnetic Materials	BES - DOE	\$293,450
5/06 - 5/010	Low Energy Spectroscopy as a Probe of Structure-Property Relations in Organic Solids	DMR - NSF	\$360,000

Honors

Creativity Extension of CAREER Award, Division of Materials Research, National Science Foundation, 2000-2001.

Visiting Scientist, National High Magnetic Field Laboratory, Tallahassee, FL. 7/97; 1/99-2/99.

CAREER Development Award, Division of Materials Research, National Science Foundation, 6/96-6/00.

Undergraduate Composite Center Fellowship, University of Illinois, Urbana, IL. 1/87-8/87.

James Scholar, University of Illinois, Urbana, IL. 8/83-8/84.

Service

Co-Director, Chemical Physics Program, University of Tennessee 5/01 - Present.

Organizer, Symposium on Multiferroic Materials, American Chemical Society Meeting, Spring 2008.

Lead Organizer, Multiferroics and Beyond, Residential Summer School sponsored by the ICMR, to be held at UCSB Summer 2008.

Lead American Organizer, ICMR-JNCASR Winter School in Bangalore on Functional Oxides.

Member, Organizing Committee, Workshop on Novel Electronic Materials, Lexington, KY., May 2008.

Organizer, UT Chemical Physics Workshops, 2002 - 2007.

Organizer, Women in Science Symposium, University of Tennessee, Oct. 2007.

Chair, Organizing Committee, TannerFest2005, Gainesville, FL., April 2005.

Member, Organizing Committee, ISCOM, Key West, FL., Sept. 2005.

Organizer, *Spectroscopy at High Magnetic Fields Symposium*, 1998 and 1999 American Physical Society National Meetings, Los Angeles, CA. and Atlanta, GA., respectively.

Member and Secretary, National User's Committee, National High Magnetic Field Laboratory, Tallahassee, FL. Term: 5/98-4/01.

Member, NSF Workshop on Materials Chemistry Planning Committee and Grand Challenge Workshop of Nanoscience and Nanotechnology, 2001 and 2003, respectively.

Reviewer for National Science Foundation, Department of Energy, Petroleum Research Fund, Civillian Research and Development Fund

IMR/MRI Program Review Panel, DMR, NSF, 5/01 and 5/03.

NIRT Panel Review, CHE, NSF, 3/05.

Board Member of the National Research Council COBASE Review Team, 2003 - 2005.

Reviewer for Phys. Rev. B, Phys. Rev. Lett., Chem. Materials, J. Am. Chem. Soc., Inorg. Chem., J. Cryst. Growth, Solid State Commun., J. Solid State Chem., Synth. Met.

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