

Michael W. Lufaso, Ph.D.

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Phone: (904) 620-2226 Fax: (904) 620-3535

Education:

1998 - 2002 Ohio State University, Ph. D in Chemistry

1994 - 1998 Youngstown State University, BS Chemistry (*Summa Cum Laude*) (Minor: Mathematics)

Professional Experience:

2010-present Associate Professor of Chemistry, University of North Florida

2006-2010 Assistant Professor of Chemistry, University of North Florida

2005-2006 Postdoctoral Fellow, Dept. of Chemistry and Biochemistry, Univ. of South Carolina

2003-2004 National Research Council Postdoc., National Institute of Standards and Technology

1998-2002 Graduate Student, Inorganic Div., Department of Chemistry, Ohio State University

Research Interests:

Undergraduate research, solid state chemistry, materials chemistry, inorganic chemistry, structure-property relationships in inorganic oxides, multiferroic materials, dielectric, nanoscale ordering.

Research Grants:

External grants, funded

“Sensor Arrays for Multiple Applications” (SAMA) Funded via the Edgewood Chemical Biological Center, Department of the Army, Co-PI with PI J.S. Huebner and Co-PI’s D.F. Bowers, C.H. Choi, D.J. Cox, N.G. Patel. \$1,395,500. Period of performance - May 20, 2009 to May 20, 2011.

“Structure-Composition-Property Relationships in Complex Bi-Ni-Mn Oxide Phases” PI. Funded through Research Corporation – Cottrell College Science Award 7177. \$45,682. CCSA Brian Andreen Supplement \$3000. Period of performance - June 30, 2007 to May 31, 2010.

“Rapid Response Sensor Networking for Multiple Applications, Phase III” (RRSNMA3) Funded through the Edgewood Chemical Biological Center, Department of Defense. Co-PI with PI J.S. Huebner and Co-PI’s S. J. Chalk, D.F. Bowers, N.G. Patel. \$888,180. Period of performance - September 26, 2007 to November 18, 2009.

Internal university grants, funded

“Structure-property relationships in the sequence $\text{Bi}_2\text{Fe}_4\text{O}_9$ - $\text{Bi}_2\text{Mn}_4\text{O}_{10}$ ” UNF Dep. of Chemistry Department Award, Summer 2010, student research assistant: Zachary Kann. \$2000, 12 weeks.

“Chemistry of Photocatalysts and Photocatalysis” UNF Student Mentored Academic Research Team (SMART), Aaron Lewis, Fall 2010, student research assistant: Aaron Lewis. \$1500, 15 weeks.

“Synthesis and Characterization of Metal Oxides” UNF Department of Chemistry and Physics Department Award, Summer 2009, student research assistant: Zachary Kann. \$2000, 12 weeks.

“Synthesis and Characterization of Mixed Oxides” UNF Department of Chemistry and Physics Department Award, Summer 2007, student research assistant: Frank Snyder. \$2000, 12 weeks.

“Synthesis and Characterization of Solid State Oxides” UNF Undergraduate Research Grant Under the Auspices of the Undergraduate Academic Enrichment Program, Mary O. Borg, Director, Fall 2007, student research assistant: Frank Snyder. \$1500, 15 weeks.

UNF Office of the Provost, Tuition waiver for student research assistant on sponsored project, 2009-10, 2010-11. Student research assistant: Zachary Kann. \$2000.

Research Grant Proposals – Participant:

“Advancing Chemical Sensor Science and Technology”, PI J.S. Huebner and Co-PI’s D.F. Bowers, S.J. Chalk, J.L. Garner, L. Gasparov, N.G. Patel. \$859,060. Funded through Office of Naval Research. N00014-06-1-013. Performed research on this grant summer 2007. Period of performance - June 30, 2006 to December 1, 2007.

Research Grant Proposals – Unfunded:

“Synthesis and characterization of a new class of III-VI diluted magnetic semiconductors (DMS) and novel magnetoelectric compounds” Research Corporation For Science Advancement, Multi Investigator Cottrell College Science Award, PI with Co-PI Thomas Pekarek. \$100,000.

Department of Defense (DoD) Small Business Innovation Research (SBIR) for the Office of Naval Research (ONR) Enabling Capability (EC) program(2009) “Development of a Solid State Residual Oxidant Sensor for Treated Seawater” Co-PI with J.S. Huebner, N.G. Patel, T.B. Waggoner (UNF) and B. Touchton (Prioria Robotics, Inc.).

U.S. Department of Homeland Security proposal (2007), “Sense-All: A Ubiquitous Biological and Chemical Sensing System”. Co-PI with Jay Huebner, Doria Bowers, Daniel Cox, Dean Krusienki, Jerry Merckel, Cynthia Nyquist-Battie, and Nirmalkumar Patel.

Florida Centers of Excellence (2007), “Center of Excellence in Environmental Technologies (COEET)”, Co-PI with faculty at three universities (UWF/UNF/FGCU).

National Science Foundation, Major Research Instrumentation. Bruker SMART APEX II single Crystal X-ray diffractometer. Co-PI with Ratnasabapathy G. Iyer, Muthukrishna Raja, and Nicholas Panasik at Claflin University. The proposal was submitted for review to UNF-ORSP (2007) but was not selected at the University level to proceed with submission to NSF-MRI.

University of North Florida, Summer 2009 Scholarship Grant Program, “Synthesis and Characterization of Photocatalytic Materials”.

University of North Florida, Summer 2007 Scholarship Grant Program, “Synthesis and Characterization Bi-Ni-Mn Oxide Phases”.

University of North Florida, Department of Chemistry and Physics Student Research Award – Summer 2007, “Synthesis and Characterization of Ordered Double Perovskites”.

Manuscripts - Submitted:

Rodrigues, J. E.F. S.; Paschoal, C.W.A; Mince, K. A.; Lufaso, M.W. Dielectric relaxations of Ba_2BiTaO_6 ceramics investigated by impedance and electric modulus spectroscopies, *submitted*.

Almeida, R. M.; Paschoal, C. W. A.; Auletta, J. T.; Kann, Z. R.; M. W. Lufaso Positive temperature coefficient of resistivity effect and relaxations on $Bi_2Sn_2O_7$ ceramics, *submitted*.

Silva Júnior, F. M.; Almeida, R. M.; Paraguassu, W.; Paschoal, C.W.A.; Castro Junior, M. C.; Ayala, A. P.; Kann, Z. R.; Lufaso, M. W. Room-temperature vibrational properties of the $BiMn_2O_5$ mullite, *to be submitted*.

Publications in peer reviewed journals: * primary author, undergraduate coauthors underlined

Castro Jr, M. C.; Carvalho, E. F. V.; Paraguassu, W.; Ayala, A. P.; Snyder, F. C.; Lufaso, M. W.; Paschoal, C. W. d. A. Temperature-dependent Raman spectra of Ba₂BiSbO₆ ceramics. *Journal of Raman Spectroscopy* **2009**, 40, 1205-1210.

Castro, M. C.; Paschoal, C. W. A.; Snyder, F.C.; Lufaso, M. W. Relaxations in Ba₂BiSbO₆ double complex perovskite ceramics. *Journal of Applied Physics* **2008**, 104, 104114

* Lufaso, M. W.; Gemmill, W. R.; Mugavero III, S. J.; Kim, S.; Lee, Y.; Vogt, T.; zur Loye, H. Synthesis, structure, magnetic properties and structural distortion under high pressure of a new osmate, Sr₂CuOsO₆. *Journal of Solid State Chemistry* **2008**, 181, 623-627

* Lufaso, M. W.; Schulze, W. A.; Misture, S. T.; Vanderah, T. A. Crystal structure, magnetic, and dielectric properties of Aurivillius-type Bi₃Fe_{0.5}Nb_{1.5}O₉. *Journal of Solid State Chemistry* **2007**, 180, 2655-2660

Dewal, M. B.; Lufaso, M. W.; Hughes, A. D.; Samuel, S. A.; Pellechia, P.; Shimizu, L. S. Absorption Properties of a Porous Organic Crystalline Apohost Formed by a Self-Assembled Bis-Urea Macrocycle. *Chemistry of Materials* **2006**, 18, 4855-4864

Geselbracht, M. J.; Lisensky, G. C.; Lufaso, M. W.; Maggard, P. A.; O'Keeffe, M.; Wilkinson, A. P.; zur Loye, H.-C. "Section 6: Education" in Report from the third workshop on future directions of solid state chemistry: the status of solid state chemistry and its impact in the physical sciences. *Progress in Solid State Chemistry* **2007**, 36, 1-133

* Lufaso, M. W.; Mugavero III, S. J.; Gemmill, W. R.; Lee, Y.; Vogt, T.; zur Loye, H.-C. Pressure- and temperature-dependent X-ray diffraction studies of NdCrO₃. *Journal of Alloys and Compounds* **2007**, 433, 91-96

* Lufaso, M. W.; zur Loye, H. Continuous phase transition in Ba₃BiRuIrO₉. *Solid State Sciences* **2006**, 8, 1051-1055

* Lufaso, M. W.; Gemmill, W. R.; Mugavero, S. J.; Lee, Y.; Vogt, T.; zur Loye, H. -. Compression mechanisms of symmetric and Jahn–Teller distorted octahedra in double perovskites: A₂CuWO₆ (A= Sr, Ba), Sr₂CoMoO₆, and La₂LiRuO₆. *Journal of Solid State Chemistry* **2006**, 179, 3556-3561

* Lufaso, M. W.; Macquart, R. B.; Lee, Y.; Vogt, T.; zur Loye, H.-C. Structural studies of Sr₂GaSbO₆, Sr₂NiMoO₆, and Sr₂FeNbO₆ using pressure and temperature. *Journal of Physics: Condensed Matter* **2006**, 18, 8761-8780

* Lufaso, M. W.; Macquart, R. B.; Lee, Y.; Vogt, T.; zur Loye, H. Pressure-induced phase transition and octahedral tilt system change of Ba₂BiSbO₆. *Journal of Solid State Chemistry* **2006**, 179, 917-922

* Lufaso, M. W.; Macquart, R.; Lee, Y.; Vogt, T.; zur Loye, H.-C.. Pressure induced octahedral tilting distortion in Ba₂YTaO₆. *Chemical Communications* **2006**, 168-170

*Lufaso, M. W.; zur Loye, H.-C. Crystal structures and magnetic properties of mixed iridium-ruthenium triple perovskites. 2. $\text{Ba}_3\text{MRuIrO}_9$ (M = Li, Na, Mg, Ni, Zn, Bi, In). *Inorganic Chemistry* **2005**, 44, 9154-9161

*Lufaso, M. W.; zur Loye, H.-C. Crystal structures and magnetic properties of mixed iridium-ruthenium triple perovskites. 1. $\text{Ba}_3\text{MRuIrO}_9$ (M = lanthanide, Y). *Inorganic Chemistry* **2005**, 44, 9143-9153

Vanderah, T. A.; Siegrist, T.; Lufaso, M. W.; Yeager, M. C.; Roth, R. S.; Nino, J. C.; Yates, S. Phase Formation and Properties in the System $\text{Bi}_2\text{O}_3:2\text{CoO}_{1+x}:\text{Nb}_2\text{O}_5$. *European Journal of Inorganic Chemistry* **2006**, 2006, 4908-4914

*Lufaso, M. W.; Vanderah, T. A.; Pazos, I. M.; Levin, I.; Roth, R. S.; Nino, J. C.; Provenzano, V.; Schenck, P. K. Phase formation, crystal chemistry, and properties in the system $\text{Bi}_2\text{O}_3\text{-Fe}_2\text{O}_3\text{-Nb}_2\text{O}_5$. *Journal of Solid State Chemistry*, **2006**, 179, 3900-3910

Vanderah, T. A.; Lufaso, M. W.; Adler, A. U.; Levin, I.; Nino, J. C.; Provenzano, V.; Schenck, P. K. Subsolidus phase equilibria and properties in the system $\text{Bi}_2\text{O}_3:\text{Mn}_2\text{O}_{3\pm x}:\text{Nb}_2\text{O}_5$. *Journal of Solid State Chemistry* **2006**, 179, 3467-3477

Shull, R. D.; Provenzano, V.; Shapiro, A. J.; Fu, A.; Lufaso, M. W.; Karapetrova, J.; Kletetschka, G.; Mikula, V. The effects of small metal additions (Co,Cu,Ga,Mn,Al,Bi,Sn) on the magnetocaloric properties of the $\text{Gd}_5\text{Ge}_2\text{Si}_2$ alloy. *Journal of Applied Physics* **2006**, 99, 08K908

Levin, I.; Cockayne, E.; Lufaso, M. W.; Woicik, J. C.; Maslar, J. E. Local Structures and Raman Spectra in the $\text{Ca}(\text{Zr,Ti})\text{O}_3$ Perovskite Solid Solutions. *Chemistry of Materials* **2006**, 18, 854-860

*Lufaso, M. W.; Hopkins, E.; Bell, S. M.; Llobet, A. Crystal chemistry and microwave dielectric properties of $\text{Ba}_3\text{MNb}_{2-x}\text{Sb}_x\text{O}_9$ (M = Mg, Ni, Zn). *Chemistry of Materials* **2005**, 17, 4250-4255

Vanderah, T. A.; Levin, I.; Lufaso, M. W. An unexpected crystal-chemical principle for the pyrochlore structure. *European Journal of Inorganic Chemistry* **2005**, 14, 2895-2901

*Lufaso, M. W. Crystal structures, modeling, and dielectric property relationships of 2:1 ordered $\text{Ba}_3\text{MM}'_2\text{O}_9$ (M = Mg, Ni, Zn; M' = Nb, Ta) perovskites. *Chemistry of Materials* **2004**, 16, 2148-2156

*Lufaso, M. W.; Barnes, P. W.; Woodward, P. M. Structure prediction of ordered and disordered multiple octahedral cation perovskites using SPuDS. *Acta Crystallographica Section B-Structural Science* **2006**, 62, 397-410

Barnes, P. W.; Lufaso, M. W.; Woodward, P. M. Structure Determination of $\text{A}_2\text{M}^{3+}\text{TaO}_6$ and $\text{A}_2\text{M}^{3+}\text{NbO}_6$ Ordered Perovskites: Octahedral Tilting and Pseudosymmetry. *Acta Crystallographica Section B-Structural Science* **2006**, B62, 384-396

*Lufaso, M. W.; Woodward, P. M.; Goldberger, J. Crystal structures of disordered $\text{A}_2\text{Mn}^{3+}\text{M}^{5+}\text{O}_6$ (A = Sr, Ca; M = Sb, Nb, Ru) perovskites. *Journal of Solid State Chemistry* **2004**, 177, 1651-1659

*Lufaso, M. W.; Woodward, P. M. Jahn-Teller distortions, cation ordering and octahedral tilting in perovskites. *Acta Crystallographica Section B-Structural Science* **2004**, 60, 10-20

Byeon, S. H.; Lufaso, M. W.; Parise, J. B.; Woodward, P. M.; Hansen, T. High-pressure synthesis and characterization of perovskites with simultaneous ordering of both the A- and B-site cations, $\text{CaCu}_3\text{Ga}_2\text{M}_2\text{O}_{12}$ (M = Sb, Ta). *Chemistry of Materials* **2003**, 15, 3798-3804

*Lufaso, M. W.; Woodward, P. M. Prediction of the crystal structures of perovskites using the software program SPuDS. *Acta Crystallographica Section B-Structural Science* **2001**, 57, 725-738

Pugh, C. A.; Lufaso, M. W.; Zeller, M.; Wagner, T. R.; Curtin, L. S. The synthesis, spectroscopic, electrochemical and X-ray diffraction characterization of novel bridged ferrocene precursors for use in self-assembled monolayers. *Journal of Organometallic Chemistry* **2006**, 691, 680-686

Bequeath, D. M.; Porter, R. L.; Lufaso, M. W.; Wagner, T. R.; Kusnic, R. L.; Zeller, M.; Curtin, L. S. 1,12-Diferrocenyldodecane at 100 K. *Acta Crystallographica Section E* **2005**, 61, m1070-m1072

McCoy, A. B.; Lufaso, M. W.; Veneziani, M.; Atrill, S.; Naaman, R. Reactions of oxygen atoms with van der Waals complexes: The effect of complex formation on the internal energy distribution in the products. *Journal of Chemical Physics* **1998**, 108, 9651-9657

Lufaso, M. W.; McCoy, A. B. Effects of complex formation on reactions of oxygen with HCl and Ar-HCl. *Chemical Physics* **1998**, 239, 187-197

McCarley, T. D.; Lufaso, M. W.; Curtin, L. S.; McCarley, R. L. Multiply charged redox-active oligomers in the gas phase: Electrolytic electrospray ionization mass spectrometry of metallocenes. *Journal of Physical Chemistry B* **1998**, 102, 10078-10086

Smith, C. C.; Jacyno, J. M.; Zeiter, K. K.; Parkanzky, P. D.; Paxson, C. E.; Pekelnicky, P.; Harwood, J. S.; Hunter, A. D.; Lucarelli, V. G.; Lufaso, M. W.; Cutler, H. G. Nitration of cyclopentenecarboxaldehyde: Studies toward 1-amino-2-nitrocyclopentanecarboxylic acid. *Tetrahedron letters* **1998**, 39, 6617-6620

Title of Doctoral Dissertation and Software Development

“Perovskite Synthesis and Analysis using Structure Prediction Diagnostic Software”

SPuDS – *Structure Prediction Diagnostic Software*, details at web site:

<http://www.unf.edu/~michael.lufaso/spuds/index.html>

Courses Taught

University of North Florida, Assist./Assoc. Prof.

General Chemistry I	(CHM2045, 5 times)	http://www.unf.edu/~michael.lufaso/chem2045/
General Chemistry I Lab.	(CHM2045L, 2 times)	http://www.unf.edu/~michael.lufaso/chem2045L/
General Chemistry II	(CHM2046, 4 times)	http://www.unf.edu/~michael.lufaso/chem2046/
Honors Gen. Chem. II	(CHM2046H, 1 time)	http://www.unf.edu/~michael.lufaso/chem2046H/
Inorganic Chemistry	(CHM3610, 5 times)	http://www.unf.edu/~michael.lufaso/chem3610/
Inorganic Chemistry Lab.	(CHM3610L, 5 times)	http://www.unf.edu/~michael.lufaso/chem3610L/
Advanced Inorganic Chemistry	(CHM4612, 2 times)	http://www.unf.edu/~michael.lufaso/chem4612/
Solid State Chemistry	(CHM4627, 2 times)	http://www.unf.edu/~michael.lufaso/chem4627/
Senior Seminar in Chemistry	(CHM4931, 1 time)	http://www.unf.edu/~michael.lufaso/chem4931/
Chemical Research	(CHM4912, ongoing)	http://www.unf.edu/~michael.lufaso/

Professional Development

2011 Pearson Education Mastering Leadership Conference, New Orleans, LA
2011 Leadership Development Workshop, American Chemical Society, Fort Worth, TX
2010 Pearson Chemistry Forum, Las Vegas, NV
2008 Association of American Colleges and Universities, Engaging Science, Advancing Learning: General Education, Majors, and the New Global Century - Providence, RI

Professional Meetings and Presentations

2011 American Crystallographic Association, Invited Talk - New Orleans, LA
2011 5th International Workshop on Mullite & Mullite-type Materials, Invited Talk, Avilés, Spain
2010 Florida Inorganic and Materials Symposium, Student Presentation Talk, - Gainesville, FL
2009 Florida Inorganic and Materials Symposium, Student Presentation, Poster,- Gainesville, FL
2009 Southeastern Regional Meeting American Chemical Society, Talk - San Juan, PR
2009 North American Solid State Chemistry Conference, Invited Talk - Columbus, Ohio
2009 Pacific Rim Conference on Ceramic and Glass Technology, Inv. Talk - Vancouver, B.C.,Canada
2009 Sensors Mini-Conference, UNF, Jacksonville, FL
2008 Florida Inorganic and Materials Symposium, Student Presentation, - Gainesville, FL
2008 American Chemical Society Petroleum Research Fund Proposal-writing Workshop-Washington, DC
2008 Gordon Research Conferences-Solid State Chemistry I, Poster - New London, NH
2008 Measurement Needs for Local Structure Determination in Inorganic Materials - Gaithersburg, MD
2007 Southeastern Regional Meeting American Chemical Society, Invited Talk - Greenville, SC
2007 Denver X-ray Conference, Poster Talk – Colorado Springs, CO
2006 Gordon Research Conferences-Solid State Chemistry I, Poster - New London, NH
2005 South Carolina Academy of Sciences – Talk, Columbia, SC
2005 Army Research Lab – Invited Talk - Adelphi, MD
2004 Materials Research Society, Two Contributed Talks - Boston, MA
2004 Gordon Research Conferences-Solid State Chemistry I, Poster - New London, NH
2004 American Ceramic Society, Invited and Contributed Talks - Indianapolis, IN
2003 Sigma Xi, Poster - Gaithersburg, MD
2003 Center for Dielectric Studies, Penn. State University, Attendee - State College, PA
2003 Midwest High Temperature and Solid State Chemistry, Poster - East Lansing, MI
2003 NICEST JINS Workshop, Poster - Oak Ridge, TN
2003 Sigma Xi, Poster - Gaithersburg, MD
2002 Ohio Inorganic Weekend, Poster - Toledo, OH
2002 International Union of Crystallography, Poster - Geneva, Switzerland
2002 Gordon Research Conferences-Solid State Chemistry I, Poster - New London, NH
2002 American Conference on Neutron Scattering, Poster - Knoxville, TN
2002 Edward Hayes Graduate Research Forum, Talk - Columbus, OH
2002 Materials Research Society, Poster and Talk - San Francisco, CA
2001 Ohio Inorganic Weekend, Poster and Talk - Athens, OH
2001 Pittsburgh Diffraction Society Meeting, Poster - Covington, KY
2000 Gordon Research Conferences-Solid State Chemistry I, Poster - New London, NH
2000 American Crystallographic Association, Poster and Talk-Minneapolis-St. Paul, MN
2000 Pittsburgh Diffraction Society Meeting, Poster - Pittsburgh, PA
2000 32nd ACS Central Regional Meeting, Poster - Covington, KY
1999 Pittsburgh Diffraction Society Meeting, Poster - Columbus, OH
1999 31st ACS Central Regional Meeting, Poster - Columbus, OH

Undergraduate Student Conference Abstracts (undergraduate authors are underlined)

Wilson, J.; Rahberg, R.; Kann, Z.; Lufaso, M. (poster) “Phase relationships and properties in the $\text{Bi}_2\text{O}_3:\text{MnO}_{2-x}:\text{SnO}_2$ system”. University of North Florida, Scholars Transforming Academic Research Symposium, Jacksonville, FL April 15 (2011).

Settle, J.; Lufaso, M. (poster) “Phase Composition in the $\text{BiO}_{1.5}:\text{MnO}_{2-\delta}:\text{FeO}_{1.5}$ System”. University of North Florida, Scholars Transforming Academic Research Symposium, Jacksonville, FL April 15 (2011).

Rahberg, R.; Lufaso, M. (poster) “Development of the Ternary Phase Diagram for the Bi-In-Sn-O System at 750°C for use in Solid State Gas Sensors”. University of North Florida, Scholars Transforming Academic Research Symposium, Jacksonville, FL April 15 (2011).

Hertz, M.; Lufaso, M. (poster) “Synthesis and Characterization of a High Temperature Superconductor: $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ ”. University of North Florida, Scholars Transforming Academic Research Symposium, Jacksonville, FL April 15 (2011).

Kann, Z.R.; Hearn, E.W.; Lufaso, M. W. (poster), “Phase Equilibria in the $\text{BiO}_{1.5}:\text{FeO}_{1.5}:\text{MnO}_{2-\delta}$ System at 825°C ”. University of North Florida, Scholars Transforming Academic Research Symposium, Jacksonville, FL April 15 (2011).

Rahberg, R.; Lufaso, M. W. (poster) “Development of the Bi-In-Sn-O System at 750°C for use in Solid State Gas Sensors”. University of North Florida, 1st annual Florida Statewide Student Research Symposium, Jacksonville, FL, March 4-5, (2011).

Kann, Z.R.; Hearn, E.W.; Lufaso, M. W. (talk), “Phase Equilibria in the $\text{BiO}_{1.5}:\text{FeO}_{1.5}:\text{MnO}_{2-\delta}$ System at 825°C ”. Florida Inorganic and Material Symposium, Gainesville, FL, October 1-2 (2010).

Kann, Z.R.; Lufaso, M. W., (poster) “Phase equilibria and properties of the $\text{Bi}_2[\text{Fe,Mn}]_4\text{O}_{10-\delta}$ system”. University of North Florida Student Research Poster Session, Jacksonville, FL September 17 (2010).

Rahberg, R.; Lufaso, M. W., (poster) “Development of Bi-In-Sn-O Solid-state gas sensing materials”. University of North Florida Student Research Poster Session, Jacksonville, FL September 17 (2010).

Wilson, J.; Lufaso, M. W., (poster) “Phase relationships and properties in the $\text{Bi}_2\text{O}_3:\text{MnO}_{2-x}:\text{SnO}_2$ system”. University of North Florida Student Research Poster Session, Jacksonville, FL September 17 (2010).

Kann, Z.R.; Auletta, J.; Hearn, E.W.; Lufaso, M. W. (talk) “Phase equilibria and physical properties of the $\text{Bi}_2[\text{Fe,Mn}]_4\text{O}_{10-\delta}$ system”. University of North Florida, Scholars Transforming Academic Research Symposium, Jacksonville, FL April 23 (2010).

Kann, Z.R.; Lufaso, M. W. (poster) “Preparation and characterization of metal oxide gas sensors”. University of North Florida, Scholars Transforming Academic Research Symposium, Jacksonville, FL April 23 (2010).

Lewis, A.J.O.*.; Lufaso, M. W. (poster) “Investigation of the photocatalytic activities of several inorganic materials”. University of North Florida, Scholars Transforming Academic Research Symposium, Jacksonville, FL April 23 (2010). *Best undergraduate poster.

Rahberg, R.; Lufaso, M. W. (poster) “Development of the Ternary Phase Diagram for the Bi-In-Sn-O System at 750°C for use in Solid State Gas Sensors”. University of North Florida, Scholars Transforming Academic Research Symposium, Jacksonville, FL April 23 (2010).

Settle, J.; Lufaso, M. W. (poster) “Phase Composition in the $\text{BiO}_{1.5}\text{-MnO}_{2-x}\text{-FeO}_{1.5}$ System”. University of North Florida, Scholars Transforming Academic Research Symposium, Jacksonville, FL April 23 (2010).

Kann, Z.R.; Hearn, E.W.; Collens, J.; Lufaso, M. W. “Phase Equilibria in the $\text{BiO}_{1.5}\text{:FeO}_{1.5}\text{:MnO}_{2-\delta}$ System at 825°C ”. University of North Florida Student Research Poster Session, Jacksonville, FL October 16 (2009).

Kann, Z.R.*; Hearn, E.W.; Collens, J.; Lufaso, M. W. “Phase Equilibria in the $\text{BiO}_{1.5}\text{:FeO}_{1.5}\text{:MnO}_{2-\delta}$ System at 825°C ”. Florida Inorganic and Material Symposium, Gainesville, FL, October 9-10 (2009). *Best undergraduate poster.

Auletta, J.T.*; Hearn, E.W.; and Lufaso, M.W. (talk) “Solid Solution Limits in the $\text{Bi}_2\text{Fe}_{4-x}\text{Mn}_x\text{O}_{10-d}$ ($0 < x < 4$) System” UNF STARS, Eighth Annual Research Symposium, UNF, April 3 (2009).

Auletta, J.T.; Hearn, E.W.; Lufaso, M.W. (poster) Phase Equilibria and Physical Properties of Potential Gas Sensors in Bi:Mn:Sn:O Ternary System. UNF STARS, Eighth Annual Research Symposium, UNF, April 3 (2009).

Hearn, E.W.; Romans, M.L.; Glotzer, O.S.; Auletta, J.T.; Lufaso, M.W. (poster) Phase Equilibria of the $\text{Bi}_2\text{O}_3\text{-MnO}_2\text{-Fe}_2\text{O}_3$ System. UNF STARS, Eighth Annual Research Symposium, UNF, April 3 (2009).

Mince, K.A.; Brennan, C.R.; Auletta, J.T., Lufaso, M.W. (poster) Phase Equilibria and Physical Properties in the $\text{BiO}_{1.5}\text{-MnO}_{1.5}\text{-NiO}$ system. UNF STARS, Eighth Annual Research Symposium, UNF, April 3 (2009).

Caro, A.F.; Seemer, W.J.; Lufaso, M.W. (poster) “Determining the Phase Equilibria of the $\text{BiO}_{1.5}\text{-InO}_{1.5}\text{-SnO}_2$ System. UNF STARS, Eighth Annual Research Symposium, UNF, April 3 (2009)

Auletta, J.T.; Lufaso, M.W. (poster) Phase Equilibria in the $\text{BiO}_{1.5}\text{:MnO}_2\text{:SnO}_2$ System. Sensors Mini-conference, UNF, December 11 (2008)

Auletta, J.T.; Lufaso, M. W. Crystal Structure and Solid Solution Limits in the $\text{Bi}_x\text{Fe}_{4-x}\text{Mn}_x\text{O}_{10-\delta}$ System. University of North Florida Student Research Poster Session, Jacksonville, FL October 3 (2008).

Seemer, W.; Mince, K.; Brennan, C.; Lufaso, M. W. Phase Equilibria of the Bi-Mn-Ni-O-System. University of North Florida Student Research Poster Session, Jacksonville, FL October 3 (2008).

Auletta, J.T.; Hearn, E.W.; Lufaso, M. W. Crystal Structure and Solid Solution Limits in the $\text{Bi}_2\text{Fe}_{4-x}\text{Mn}_x\text{O}_{10-d}$ System. Florida Inorganic and Material Symposium, Gainesville, FL, United States, September 12-13 (2008).

Lufaso, M.W.; Auletta, J.; Brennan, C.R.; Carter, K.E.; Cooper, E.C.; Gillespie, R.A.; Millard, M.D.; Mince, K.A.; Seemer, W.J.; Snyder, F.C.; Thomas, W.A.; Crystal Chemistry and Phase Relations of Bi-Mn-Ni oxides. Gordon Research Conference – Solid State Chemistry I, New London, NH July 27-August 1 (2008).

Snyder, F.C.; Lufaso, M. W. “Phase Equilibria of the Bi-Mn-Ni-O-System”. University of North Florida Student Research and Portfolio Symposium, Jacksonville, FL March 28 (2008).

Snyder, F. C.; Carter, K. E.; Gillespie, R. G.; Millard, M. D.; Thomas, W. A.; Lufaso, M. W. Phase Equilibria of the $\text{Bi}_2\text{O}_3\text{-MnO}_{2-x}\text{-NiO}$ System. Abstracts, 59th Southeast Regional Meeting of the American Chemical Society, Greenville, SC, October 24-27 (2007).

Carter, K.; Kouri, N.; Seemer W.; Lufaso, M. W. Synthesis of Bi-In-Sn Oxides: Studies of Potential Gas Sensor Materials” University of North Florida Student Research Poster Session, Jacksonville, FL October 19 (2007).

Honors and Awards

UNF Presidential Professor, 2011-2013.

Pearson Mastering Faculty Advisor, 2011

Leadership Development Award, American Chemical Society, YCC, 2011

Nominated for UNF “2010-11 Distinguished Professor Award”, 2011

ACS Division of Inorganic Chemistry, Undergrad. Award in Inorganic Chem., Zachary Kann, 2010

Nominated for UNF “2008-9 Outstanding Undergraduate Teaching Award”, 2009

ACS Division of Inorganic Chemistry, Undergrad. Award in Inorganic Chemistry, Jeff Auletta, 2009

Undergraduate Research Award in Chemistry, University of North Florida, Jeff Auletta, 2009

National Research Council Postdoctoral Fellowship – 2003-4

IUCr travel Award - US National Committee for Crystallography and NASA - 2002

Ed Hayes Graduate Forum Award- Ohio State University- 2002

Gold Graduate Student Award - Materials Research Society - 2002

Ludo Frevel Crystallography Scholarship - Intl. Centre for Diffraction Data - 2002

Chung Soo Yoo Award- Poster Presentation - Pittsburgh Diffraction Society – 2000,2001

Evans Poster Session Award - Ohio State University - 2000

University Fellowship - Ohio State University - 1998

Honor's Degree - Summa Cum Laude - Youngstown State University - 1998

Undergraduate Award in Analytical Chemistry - Youngstown State University -1998

Hypercube Scholar's Award - Youngstown State University - 1998

Ralph Yingst Scholarship-Inorganic Chemistry - Youngstown State University -1997

University Scholarship - Youngstown State University - 1994 -1998

OSAC Scholarship - State of Ohio -1994-1998

Societies and Organizations

American Chemical Society (ACS), International Centre for Diffraction Data - Ceramics

Subcommittee - (ICDD), American Nano Society

Former member: American Ceramic Society (ACerS), Materials Research Society (MRS), American Crystallographic Association (ACA)

Service – Professional Journals and Organizations

Grant proposal reviewer for the following organizations:

American Chemical Society Petroleum Research Fund, Research Corporation, Department of Energy

Proposal reviewer (beamtime) for the following organizations:

Spallation Neutron Source (SNS) and High Flux Isotope Reactor (HFIR), Neutron Scattering Science Division, Oak Ridge National Laboratory (ORNL)

Referee for the following peer reviewed journals (82 manuscripts reviewed since Fall 2006)

Acta Crystallographica B, Advanced Materials, Applied Physics Letters, Chemistry of Materials, Crystal Growth and Design, European Journal of Inorganic Chemistry, Inorganic Chemistry, Journal of Alloys and Compounds, Journal of the American Ceramic Society, Journal of Applied Physics, Journal of Electroceramics, Journal of the Electrochemical Society, Journal of Materials Research, Journal of Materials Science, Journal of Physical Chemistry, Journal of Physics and Chemistry of Solids, Journal of Solid State Chemistry, Materials Chemistry and Physics, Materials Letters, Materials Research Bulletin, Physica Status Solidi (a), and Powder Diffraction.

Textbook Review

Reviewer of Inorganic Textbook (Pearson, Brooks/Cole, Oxford University Press) and General Chemistry Textbook Chapters (McGraw Hill, Brooks/Cole, Wiley)

External Ph.D Examiner for the following universities:

University of Sydney – Australia (2008); Indian Institute of Technology – Madras(2008)

Service – Professional Meetings

Session Presider – Southeastern Regional Meeting American Chemical Society (2007)

Session Presider – Chemistry section of South Carolina Academy of Sciences (2006)

Third workshop on future directions of solid-state chemistry - Education Committee – Status of Solid State Chemistry and its Impact in the Physical Sciences – Northwestern University – NSF (2006).

Discussion Leader – Gordon Research Conference – Solid State Chemistry I (2006)

Service – Outreach

Executive committee, Jacksonville section of the American Chemical Society, treasurer (2009-11), speaker selection for annual meeting (2009-11)

Organizer of Departmental seminar series at UNF, scheduled and invited seminar speakers (2006-11)

Served as a judge – North East Florida Regional Science Fair (2008-11)

Represented the Chemistry program at Week of Welcome (Fall) and Explore-a-Major (Spring) fairs to answer student questions about majoring in chemistry (2007, 2008)

Served as an advisor to majors in chemistry, attended UNF commencement ceremonies

Wrote letters of recommendation for students for employment, professional, and graduate school

Florida College/University Faculty HS Science Group member

Committee Assignments and Services – Department and University

Faculty search committees: (12 total) biochemistry (2006-7), polymer or environmental chemist (2006-7), biochemistry (2007-8), environmental chemistry (2007-8), Chair of Chemistry (2008-9), bioorganic (2009-10), bioinorganic (2009-10), experimental organic chemistry (2009-10), inorganic (2010-11), physical (2010-11), biochemistry (2010-11), environmental/analytical (2010-11).

Bylaw Committees: Third-year review and promotion and tenure, Annual Evaluations: Teaching and Service, Annual Evaluations: Scholarship, Summer rotation (2006-9)

Department Committees: Chemistry Program Assessment Committee (chair 08-9), General Education Portfolio Assessment Committee, Chemistry program brochure, Department webpage, Student Awards, Junior Writing Initiative, Pechonick Scholarship Committee, American Chemical Society Recertification Committee, Chemistry planning committee, Curriculum Committee (2006-11)

Short Courses Taken

Introduction to Symmetry Analysis and Isodisplace (2009) N. Amer. Solid State Chemistry Conf.

X-ray Crystallography Without Crystals (2007) Denver X-ray conference

Neutron Scattering Winter School, Topic: Magnetism (2004) Los Alamos National Laboratory

Pair Distribution Function Analysis Workshop (2003) Oak Ridge National Laboratory

FORTTRAN 90 Workshop - Ohio Supercomputer Center (2001)

Current Research Collaborators

Prof. Dr. C. William A. Paschoal, Departamento de Física, Universidade Federal do Maranhão, Brazil. Our research interests entail synthesis, physical property measurements including impedance analysis, and Raman spectroscopy at high and low temperatures.

Prof. Dr. Hartmut Schneider, Institute of Crystallography, University of Koeln, Koeln, Germany. Our research interests are concerning $\text{Bi}_2\text{Mn}_{4-x}\text{Fe}_x\text{O}_{10-\delta}$ and the use of single crystal X-ray diffraction, Mössbauer, scanning electron microscopy (SEM) and energy dispersive X-ray spectroscopy (EDAX).

Dr. Thomas Pekarek, Department of Physics, University of North Florida. Our research interest involves the investigation of magnetic properties and heat capacity measurements of complex mixed metal oxides.

List of Undergraduate Research Students (*Volunteer, course credit, or paid research positions*)

Matthew Millard (2007), Robert Gillespie (2007), Paul Jaghab (2007), Whitney Thomas (2007, underrepresented group), Frank Snyder (2007-8), Kami Carter (2007, underrepresented group), Shakela Williams (2007, underrepresented group), William Seemer (2007), Eric Hearn (2007-9), Naomi Kouri (2007), Antoinette Bennett (2008, underrepresented group), Robert Heatherington (2008), Everett Cooper (2008), Courtney Brennan (2008), Kathryn Mince (2008-9), Jeffrey Auletta (2008-9), Owen Glotzer (2009), Alisia Caro (2009, underrepresented group), Amber Roepe (2009), Zach Kann (2009-11), Jarod Collens (2009), Robert Rahberg (2010-11), Aaron Lewis (2010), Jessica Wilson (2010-11) Mary Hertz (2011).