TIMOTHY R. WAGNER

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VITA – January 2014

EDUCATION:

1981-1986: Arizona State University, Ph.D.
Major: Solid State Chemistry
Thesis Topic: Electron Microscopy and Crystal Chemistry of Compounds Related to β-Alumina and Magnetoplumbite
Advisor: Prof. Michael O'Keeffe

1977-1981: University of Wisconsin at River Falls, B.S.
Major: Chemistry
Minors: Physics and Mathematics

PROFESSIONAL EXPERIENCE:

2003-present: PROFESSOR, Dept. of Chemistry, Youngstown State University, Youngstown, Ohio.

2003-2004: ACTING CHAIR, Dept. of Chemistry, Youngstown State University, Youngstown, Ohio.

1998-2003: ASSOCIATE PROFESSOR, Dept. of Chemistry, Youngstown State University, Youngstown, Ohio.

1992-1998: ASSISTANT PROFESSOR, Dept. of Chemistry, Youngstown State University, Youngstown, Ohio.

1990-1992: VISITING ASSISTANT PROFESSOR, Dept. of Chemistry, Illinois Institute of Technology, Chicago, Illinois.

1988-1990: POSTDOCTORAL RESEARCH FELLOW, Dept. of Materials Science, Northwestern University, Evanston, Illinois.

1986-1988: SOFTWARE DESIGN/TESTING ENGINEER, Radar Systems Group, Hughes Aircraft Company, El Segundo, California.

GRADUATE (MS) STUDENTS:

As Advisor:

- Alethea Mymo, started Fall 2011, Thesis Project: "Investigation of Novel Precursor Routes for Incorporation of Spinel-Type Phases into Ceramic-Metallic Composites Formed via the TCON Process", expected graduation, Spring 2014.
- Joshua Denmeade, started Spring 2012, Thesis Project: "Investigation of Novel Precursor Routes for Incorporation of Oxynitride Spinel Phases into Ceramic-Metallic Composites Formed via the TCON Process", graduated December, 2013.
- Kyle Myers, Thesis Title: "Investigation of Novel Precursor Routes for Incorporation of Titanium Alloys and Nano-Sized Features into Ceramic-Metallic Composites Formed via the TCON Process", graduated May, 2012.
- Ashley Wolf, Thesis Title: "Investigations of a Novel Manganite Oxyfluoride and Other Ceramic Materials", graduated December, 2011.
- Dominic Loiacona, Thesis Title: "Synthesis of β-Alumina-Type Compounds and Their Transformation via the TCON Process", graduated December, 2010.
- Aimable Ngendahimana, Thesis Title: "Investigation of Novel Routes in the Synthesis of TiNF and Compounds in the Ti-N-O-F System", graduated May, 2010.
- Anita Dasu, Thesis Title: "Studies of Mixed-Anion Manganites and Other Compounds", graduated August, 2008.
- Danielle Jack, Thesis Title: "Synthesis and Characterization of $TiN_xO_yF_z$ Compounds and Studies of Mixed Metal N-F and N-O-F Compounds via X-ray Powder Diffraction and Other Analytical Techniques", graduated August, 2007.
- Michael Strozewski, Thesis Title: "Synthesis and Crystal Chemistry of $Ca_2N_xO_{2-2x}F_x$ (x = 0 to 1) and Other Compounds", graduated August, 2007.
- Rhea Nicklow, Thesis Title: "Synthesis and Single Crystal X-Ray Diffraction Studies of Ca_2NF and Other Compounds", graduated August, 2000.
- Joseph Potkonicky, Jr., Thesis Title: "Synthesis and X-Ray Powder Diffraction Studies of Novel Nitride-Fluoride Compounds", graduated December, 1997.
- Ma'an Amad, Thesis Title: "Synthesis and X-Ray Powder Diffraction Studies of Novel Compounds Related to Beta-Alumina and Magnetoplumbite", graduated August, 1994.

Contributing Advisor (i.e. these theses each contained a chapter on Project REEL results):

- Rachel Kusnic, Thesis Title (Dr. Allen Hunter, Advisor): "Solid State Analytical Chemistry: Surface and Bulk Characterization by Complementary Methods", graduated August, 2007.
- Debbie Smith, Thesis Title (Dr Daryl Mincey, Advisor): "Analytical Methods for Toxic Metals and Proteins and Synthesis of Perovskites", graduated August, 2010.

UNDERGRADUATE RESEARCH STUDENTS:

- Mario Petrino, “Synthesis of Magnetoplumbites” Winter 1993.
- Angella Ferrett, “Perovskite Synthesis”, Summer 1993.
- Amy Cecil, “Synthesis of Compounds Related to Magnetoplumbite and Beta-alumina Phases”, Summer-Fall, 1994.
- Tim Styranec, “Synthesis and X-ray Diffraction Studies of the Magnetoplumbite-Type Oxide $KGa_3V_9O_{19}$”, Fall 1995.
- Brian Harvey, “Synthesis of Perovskite Fluorides”, Winter 1996.
- Vincent Lucarelli, “Attempted Synthesis of $BaSc_{12}O_{19}$ using $BaAl_{12}O_{19}$ as a Model”, Fall 1995 – Winter 1996.
- Tom Styranec, “Flux Growth of $Ba_2BiGa_{11}O_{20}$ and $BaTi_6Mg_6O_{19}$ Single Crystals”, Fall 1996.
- James Andrews, “Preparation and Characterization of $BaMg_6Ti_6O_{19}$ via Powder Methods”, Spring 1996.
- Leo Guler, “Investigation of Synthesis Routes for Ca_2NF”, Spring 1997.
- Tom Wakefield, "Synthesis of Ca_2NF and TiNF”, Summer 1999
- Dawn Nguyen (geology student), "Crystal Chemistry of Garnets", Summer 1999.
- Miltos Ntragatakis "Synthesis and X-ray Diffraction Studies of $CaTi(NF)_{1.5}$ and Other Compounds", Summers 1999-2001, and periodically during terms between summers.
- Matt Shipton, "Preparation of $CaGa_{12}O_{19}$", Fall 2000
- Deanna Frederick: "Powder Synthesis of Mg_2NF, Ca_2NF, and Cu_2NF", Summer 2000.
- Tarisa Craig: "Powder Synthesis of Ba_2NF & Other Compounds", Summer, Fall 2000.
- Matt Bernardina (NSF REU student), "Single Crystal X-ray Characterization of Carbohydrates" (joint project with Prof. Peter Norris), Summer 2002.
- Harry Seibel (NSF REU student): "Powder Synthesis of $Y_2(NF)_{1.5}$, Mg_3NF_3 and Mg_2NF”, Summer 2002, and “Synthesis of Single Crystalline Ba_2NF (rocksalt-type) via a Ternary Fluoride Precursor”, Summer 2003.
- William Karnofel, “Attempted Preparation and X-ray Characterization of $KTiF_3$”, Spring 2004.
- Danielle Jack, “Preparation and Crystal Structure Characterization of Doubled Cubic Ca_2NF and Other Compounds”, Spring 2004.
- Joseph Curiale, “Attempted Preparation of Mixed-Metal Inorganic Nitride Fluorides from Perovskite-type Fluorides”, Summer, Fall 2004.
- Jesse Tice, “Preparation and Single-Crystal Structure Analysis of Mg_2NF”, Spring 2005.
- Jared Mike, “Attempted Synthesis of a Doubled Cubic Phase in the Ba-N-F System”, Spring 2005.
- Jim Henning, “Attempted Preparation of $Ca(Fe_{0.5}Mn_{0.5})NF_2$ via a Novel Pervskite-type Fluoride”, Spring 2007.
- Kristin Johnson, “Synthesis and X-Ray Characterization of Single Crystalline Sr- and Ca-hexagallates”, Fall 2009.

UNDERGRADUATE RESEARCH STUDENTS (continued):

- Caleb Tatebe, "Synthesis and X-Ray Characterization of: (1) ($K_xNH_{4\ (1-x)}$) Compositions, and (2) $CaFeNF_2$ From $KFeF_3$", Spring 2010.
- Alexandria Tatebe, "Synthesis and X-Ray Characterization of Single Crystalline Mg_2NF from Ternary Fluorides", Spring 2010.
- Monica Ramunno, "Synthesis and X-Ray Characterization of $MMnNF_2$ (M = Ca, Sr, Ba) from Ternary Fluorides", Spring 2014.

INTERNAL GRANTS FUNDED:

- **DOT-CTME**: "Novel Ceramic-Metallic Composites for Lightweight Vehicle Braking Systems", **T.R. Wagner** (PI), M. Zeller, and D. Li, funded Spring 2012 for one year, $43,041.
- **DOT-CTME**: "Advanced Ceramic-Metallic Composites for Lightweight Vehicle Braking Systems", K.M. Peters (PI), B.P. Hetzel, **T.R. Wagner**, M. Zeller, and D. Wallace, funded Spring 2008 for one year, renewed Spring 2009, $100,000 **($15,000 to YSU)**.

EXTERNAL GRANTS AND CONTRACTS FUNDED AS PRINCIPAL INVESTIGATOR (over $4M total funding):

- **U.S. DIRECTED APPROPRIATIONS–ARL-DoD:** "Advanced Nanocomposite Materials for Lightweight Integrated Armor Systems", **T.R. Wagner (**YSU PI/PD), K.M. Peters (Fireline TCON PI/PD), Brian Hetzel (Firline co-PI), Virgil Solomon (YSU co-PI), Brian Vuksanovich (YSU co-PI), and M. Hripko (YSU Project Manager), funded Fall 2010, **$1,200,000**.
- **OTF-WP 08-030:** "Center for Excellence in Advanced Materials Analysis", **T.R. Wagner** (PI/PD), K.M. Peters (Fireline PI), D. Hudak, B. Hetzel, H. Marie, M. Zeller, A.D. Hunter, and C.S. Hirtzel, *Ohio Third Frontier, Wright Projects Program*, 9/08 – 9/11**, $2,115,000,** 2008–2011.
- **NSF 0737302:** "Incorporating a Meaningful Research Experience into the General Chemistry Laboratory Curriculum through Implementation of Equipment for Materials Characterization", **T.R. Wagner** (PI/PD), R.E. Beiersdorfer, and M. Zeller, *National Science Foundation – Division of Undergraduate Education – Course, Curriculum, and Laboratory Improvement – Phase I: Exploratory*, **$149,499,** 2008–2010.
- **NSF 0216705**: "RUI-IMR: Upgrade of a Transmission Electron Microscope for Materials Characterization", **T. Wagner** and R. Beiersdorfer, *National Science Foundation, Instrumentation for Materials Research, Division of Materials Research* (NSF-RUI-IMR), **$120,237**, 2002–2004.
- **NSF 0116426**: "Acquisition of a Powder X-Ray Diffractometer System", **T. Wagner**, R. Beiersdorfer, and A. Hunter, *National Science Foundation, Major Research Instrumentation, Division of Materials Research* (NSF-MRI-DMR), **$170,310**, 2001–2002.
- **NSF 9981040:** "Integration of Computer Technology into the General Chemistry Curriculum", **T. Wagner** and J. Mike, *National Science Foundation, Division of Undergraduate Education: Course, Curriculum, and Laboratory Improvement* (NSF DUE CCLI), **$94,945**, 2000–2002.

EXTERNAL GRANTS & CONTRACTS FUNDED AS PI (continued):

- **Res. Corp.**: "Synthesis and X-Ray Structure Characterizations of Nitride-Fluoride Analogs to Metal Oxides", **T. Wagner**, *Research Corporation* (Award No. CC4811), **$39,719**, 1999–2001.
- **OBoR:** "Acquisition of a Single Crystal X-ray Diffractometer", **T. Wagner**, A Hunter, J. Jackson and R. Beiersdorfer, *Ohio Board of Regents Action Fund*, **$60,000**, 1994–1996.
- **NSF 9403889:** "Acquisition of a Single Crystal X-ray Diffractometer", **T. Wagner**, A Hunter, J. Jackson and R. Beiersdorfer, *National Science Foundation, Division of Materials Research, Research at Undergraduate Insitutions(RUI) and Instruments for Materials Research Programs (IMR) Programs,* **$71,199**, 1993–1995.

EXTERNAL GRANTS FUNDED AS CO-PRINCIPAL INVESTIGATOR (over $760k total):

- **NSF 0532250**: "Ohio Consortium for Undergraduate Research: Research Experiences to Enhance Learning (REEL)," P. K. Dutta (now P. Woodward), R. T. Taylor, L. Mayer, A. D. Hunter, W. Donovan, **T. R. Wagner** (YSU Lead Investigator, 2006-2010), and others, *National Science Foundation - Division of Chemistry - Undergraduate Research Centers (URC) Program*, $3,070,000 overall, **$84,800** to YSU (mostly awarded through annual mini-proposals submitted to OSU by TRW), 01/01/2006 - 8/15/2011.
- **NSF 0130968**: "RUI - Purchase of Glove Box and Vacuum Line Systems for Materials Synthesis & Characterization", A.D. Hunter, L.S. Curtin, S.R. Lovelace-Cameron, and **T.R. Wagner**, *CHE Chemistry Research Instrumentation and Facilities Grant* (NSF RUI-CRIF-CHE), **$131,779**, 2002-2005.
- **NSF 0087210**: "WEB Accessible Single Crystal X-Ray Diffraction Facility for a Consortium of Predominantly Undergraduate Institutions", A.D. Hunter, L.M. Hoistad, A.J. Jircitano, **T. Wagner**, and E.P. Zovinka, *National Science Foundation, Division of Undergraduate Education: Course, Curriculum, and Laboratory Improvement Program* (NSF DUE CCLI), **$200,000,** 2001-2004.
- **OBoR:** "WEB Accessible Single Crystal X-Ray Diffraction Facility for a Consortium of Predominantly Undergraduate Institutions", A.D. Hunter, L.M. Hoistad, A.J. Jircitano, **T. Wagner**, and E.P. Zovinka, *Ohio Board of Regents* (OBoR CAP-491), **$75,000,** 2001-2003.
- **NSF 0097682**: "Research Experience for Chemistry at Youngstown State University: A Bridge Between Four-Year Colleges and Ph.D. Research Universities", D. Mincey, A. Hunter, J. Jackson, S. Lovelace-Cameron, and **T. Wagner,** *National Science Foundation, Division of Chemistry: Research Experience for Undergraduates* (NSF REU-CHEM), **$180,000**, 2001-2003.
- **NSF 9851107**: "Integration of Quantitative Materials Characterization Throughout the Chemistry and Physics Curricula: Purchase of Thermal Analysis, Viscometry, and Gel Permeation Chromatography Equipment", A. Hunter, S. Brower, T. Kim, **T. Wagner** and D. Mincey, *National Science Foundation, Division of Undergraduate Education: Instrumentation for Laboratory Improvement-Instrumentation Program* (NSF DUE ILI-IP), **$44,600**, 1998-2000.

EXTERNAL GRANTS FUNDED AS CO-PI (continued):

- **NSF 9403889:** "Integration of Automated GC-MS into the Undergraduate Curriculum", J. Jackson, A. Hunter, S. Schildcrout, R. Falconer and **T. Wagner**, *National Science Foundation, Division of Undergraduate Education: Instrumentation for Laboratory Improvement-Instrumentation Program* (NSF DUE ILI-IP). **$34,450**, 1995-1996.

REFEREED PUBLICATIONS:

29. E. Ramachandran, D.S. Raja, *J.L. Mike, **T.R. Wagner**, M. Zeller, K. Natarajan, "Evaluation on the role of terminal *N*-substitution in 6-methoxy-2-oxo-1,2-dihydroquinoline-3-carbaldehyde thiosemicarbazones on the biological properties of new water soluble nickel(II) complexes", *Royal Society of Chemistry Advances*, **2(22)**, 8515-8525 (2012).

28. E. Ramachandran, P. Kalaivani, R. Prabhakaran, M. Zeller, *J.H. Bartlett, ***P.O. Adero, **T.R. Wagner**, K. Natarajan, "Synthesis, characterization, crystal structure and DNA binding studies of Pd(II) complexes containing thiosemicarbazone and triphenylphosphine/triphenylarsine", *Inorg. Chim. Acta*, **385**, 94-99 (2012).

27. ***A. Yurcho, K-M. Peters, B. Hetzel, M. Zeller, **T.R. Wagner**, and V.C. Solomon, "Structural and compositional investigations of ceramic-metal composites produced by reactive metal penetration in molten Al and Al-Fe alloys", *Ceramic Transactions*, **234**, 211-222 (2012).

26. ***A. Yurcho, K-M. Peters, B. Hetzel, M. Zeller, **T.R. Wagner**, and V.C. Solomon, "Microstructural and Compositional Investigation of Al-alloy-Al_2O_3 Ceramic-Metallic Composites Synthesized by Reactive Melt Penetration", *Bul. Inst. Polit. Iaşi*, ***LVII (LXI) (4)***, 416-426 (2011).

25. M. Sridharan, K.J.R. Prasad, ***A.E. Kotheimer, **T.R. Wagner**, and M. Zeller, "Whole Molecule Disorder in a Solid Solution of Two Indoloacridines", *J. of Chem. Crystallography*, **39**, 804-811 (2009).

24. H. Seibel, P. Karen, **T.R. Wagner**, and P.M. Woodward, "Synthesis and Characterization of Color Variants of Nitrogen- and Fluorine-Substituted TiO_2", *J. Mater. Chem.*, **19**, 471-477 (2009).

23. **H. Seibel, ***P.L. Miner, P. Norris, and **T.R. Wagner**, "Crystal Structure of 1-(2,3:5,6-Di-*O*-isopropylidene-β-D-mannofuranosyl)-1H-[1,2,3]triazol-4,5-dicarboxylic acid diethyl ester", *J. of Chem. Crystallography*, **37(3)**, 157-163 (2007).

22. ***C.A. Pugh, *M.W. Lufaso, M. Zeller, **T.R. Wagner**, and L.S. Curtin, "The Synthesis, Spectroscopic, Electrochemical and X-ray Diffraction Characterization of Novel Bridged Ferrocene Precursors for use in Self-Assembled Monolayers", *J. Organometal. Chem.*, **691**, 680-686 (2006).

21. *D. Bequeath, R.L. Porter, *M.W. Lufaso, **T.R. Wagner**, ***R.L. Kusnic, M. Zeller, and L.S. Curtin, "1,12-Diferrocenyldodecane at 100 K", *Acta Cryst* , **E61**, m1070-m1072 (2005).

20. ***P. Miner, **T. Wagner**, and P. Norris, "Cu(I)-Catalyzed Synthesis of D-Mannofuranosyl-1-4-Disubstituted 1,2,3-Triazole Carbohybrids", *Heterocycles*, **65(5)**, 1035-1049, (2005).

REFEREED PUBLICATIONS (continued):

19. *D.R. Jack, M. Zeller, and **T.R. Wagner**, "Doubled-Cubic Ca_2NF," *Acta Crystallographica*, **C61**, i6-i8, (2005).

18. J. Luo, *B. Alexander, **T.R. Wagner**, and P.A. Maggard, "Synthesis and Characterization of ReO_4-Containing Microporous and Open Framework Structures", *Inorganic Chemistry*, **43**, 5537-5542 (2004).

17. **H. Seibel and **T.R. Wagner**, "Preparation and Crystal Structure of Ba_2NF," *J. Solid State Chemistry*, **177**, 2772-2776 (2004).

16. ***J.L. McCartney, ***C.T. Meta, ***R.M. Cicchillo, **M.D. Bernardina, **T.R. Wagner**, and P. Norris, "Addition of Lithiated *C*-Nucleophiles to 2,3-*O*-isopropylidene-D-erythronolacetone: Stereoselective Formation of a Furanose *C*-Disaccharide ", *Journal of Organic Chemistry*, **68(26)**, 10152-10155 (2003).

15. ***E. Lazich, **T.R. Wagner**, and A.D. Hunter, "Bis(ditolyl)phosphinoethane", M. Zeller, *Acta Cryst* , **E59**, 1721-1722 (2003).

14. **T.R. Wagner**, R.R. Gadikota, C.S. Callam, and T.L. Lowary, "1-(2',3'-anhydro-5'-*O*-benzoyl-β-D-lyxofuranoyl)-5-fluoro-uracil", *Acta Cryst.*, **E59**, 1-3 (2003).

13. R.R. Gadikota, C.S. Callam, **T. Wagner**, ***B. Del Fraino, and T.L. Lowary, "2,3-Anhydrosugars in Glycoside Bond Synthesis. Highly Stereoselective Syntheses of Oligosaccharides Containing α-and β-Arabinofuranosyl Linkages", *Journal of the American Chemical Society*, **125(14)**, 4155-4165 (2003).

12. ***D.F. Berndt, **T.R. Wagner**, and P. Norris, "Crystal structure of 1,2;5,6-di-O-isopropylidene-3-O-(phenylacetyl)-D-glucofuranose," *J. Sheville, *J. of Chem. Crystallography*, **33(5/6)**, 407-410 (2003).

11. **T. Wagner**, "Preparation and Crystal Structure Analysis of Sr_2NF," *J. Solid State Chemistry*, **169**, 13-18 (2002).

10. ***Y.Y. Root, **T. Wagner**, and P. Norris, "X-Ray crystal structure of methyl 1,2,3,4-tetra-*O*-acetyl-β-D-glucopyranuronate," *Carbohydrate Research*, **337**, 2343-2346 (2002).

9. ***R. Nicklow, **T. Wagner**, and C. Raymond, "Preparation and Crystal Structure Analysis of Ca_2NF", *J. Solid State Chem.*, **160**, 134-138 (2001).

8. P. Norris and **T. Wagner**, "Solution and Solid State Structure of the D-*talo*-2,6-anhydro-1,1-bis(ethylsulfonyl)-3,4,5-trihydroxyhexane", *Carbohydrate Research*, **322(1-2)**, 147-150 (1999).

7. "The Synthesis and Characterization of Ni, Pd, and Pt Maleonitriledithiolate Complexes: X-Ray Crystal Structures of the Isomorphous Ni, Pd, and Pt Congeners", K. Landis, A. Hunter, **T. Wagner**, L. Curtin, F. Filler and S. Jansen-Varnum, *Inorganica Chimica Acta*, **282**, 155-162 (1998).

6. "Preparation and Crystal Structure Analysis of $Ba_2BiGa_{11}O_{20}$" , **T. Wagner** and T. Styranec, *J. Solid State Chem.*, **138**, 313-320 (1998).

REFEREED PUBLICATIONS (continued):

5. "Preparation and Crystal Structure Analysis of Magnetoplumbite-Type Barium Hexagallate", **T. Wagner**, *J. Solid State Chem.*, **136**, 120-124 (1998).
4. **T. Wagner**, "HREM of Electron-Beam-Induced Damage in L-Ta_2O_5", *J. Solid State Chem.*, **91**, 189-203 (1991).
3. **T. Wagner** and M. O'Keeffe, "Bond Lengths and Valences in Aluminates with the Magnetoplumbite and β-Alumina Structures", *J. Solid State Chem.*, **73**, 211-216 (1988).
2. **T. Wagner** and M. O'Keeffe, "A Structural Model for Barium Hexagallate", *J. Solid State Chem.*, **73,** 19-26 (1988).
1. **T. Wagner** and M. O'Keeffe, "Electron Microscopy of Defects and Disorder in Barium Hexagallate", *Acta Cryst.*, **B41**, 108-112 (1985).

*Denotes YSU undergraduate student co-author; **Denotes NSF-REU student co-author (i.e. undergraduate from another university working at YSU as part of our NSF Research Experiences for Undergrad. summer program); ***Denotes YSU graduate student

LABORATORY MANUALS:

- Laboratory Experiments for General Chemistry 1515L, **Timothy R. Wagner** and Friedrich W. Koknat, Pearson Custom Publishing (Prentice Hall), Fall, 2002.
- Laboratory Experiments for General Chemistry 1516L, **Timothy R. Wagner** and Friedrich W. Koknat, Pearson Custom Publishing (Prentice Hall), Spring, 2003.

CONFERENCE ABSTRACTS AND PRESENTATIONS (Poster unless specified otherwise):

- M. Moro, K-M. Peters, B.P. Hetzel, M. Zeller, T.R. Wagner, and V.C. Solomon, "Crystallographic investigations of microscopic ceramic and metallic phases in an Al-based interpenetrated phase composite", *Microscopy & Microanalysis* **18**(Suppl 2), 1930-1931 (2012).
- A. Yurcho, K-M. Peters, B.P. Hetzel, M. Zeller, **T.R. Wagner**, and V.C. Solomon, "Electron microscopy study of co-continuous Al-Fe/Al_2O_3 composite synthesized by reactive melt penetration", *Microscopy and Microanalysis*, **17**(Suppl. 2), 1916-1917 (2011).
- V.C. Solomon, K-M. Peters, B. Hetzel, and **T.R. Wagner**, "Characterization of structure evolution in aged Al_2O_3/SiC composite refractories by electron microscopy" *Microscopy and Microanalysis*, **16**(Suppl. 2), 946-947 (2010).
- "Studies of Novel Ceramic Materials as Precursors for Preparation of Ceramic-Metallic Composites for Lightweight Vehicle Braking Systems", **K. Myers, **D. Loiacona, and **T.R. Wagner**, Ohio Transportation Consortium, Akron, OH, November 12, 2010.
- "Synthesis and Characterization of Fluoride Perovskites in the Series $K(Cu_xM_{1-x})F_3$ for M = Ni, Mn, and Co", **A.M. Wolf, and **T.R. Wagner**, ACS 42nd Central Regional Meeting, Dayton, OH, June-17-18, 2010.

CONFERENCE ABSTRACTS AND PRESENTATIONS (continued):

- "Incorporating a Meaningful Research Experience into the General Chemistry Curriculum Through Implementation of Equipment for Materials Characterization", **T.R. Wagner**, Invited Talk, NSF CCLI Symposium, ACS 240th National Meeting, Boston, MA, August 25, 2010.
- "Synthesis and Characterization of the Novel Perovskite Series $(AK_{1-x})CoF_3$ for A = Na^+ and NH_4^+", *C. Tatebe, **A.M. Wolf, and **T.R. Wagner**, ACS 42nd Central Regional Meeting, Dayton, OH, June-17-18, 2010.
- "Synthesis of $TiN_xO_yF_Z$ $(x+y+z \leq 2)$ Compounds Using Organometallic Precursors", **A. Ngendahimana, M. Zeller, and **T.R. Wagner**, North American Solid State Chemistry Conference, Columbus, OH, June 17-20, 2009.
- "Synthesis and Characterization of the Novel Perovskite Series $NaCo_xFe_{1-x}F_3$", *C. Tatebe, *C.S. Kurimski, **A.M. Wolf, and **T.R. Wagner**, ACS 41st Central Regional Meeting, Columbus, OH, May 20-23, 2009.
- "Synthesis and Characterization of a Fluoride Perovskite in the Series $NaCo_xNi_{1-x}F_3$", *C.J. Miller, *G.M. McCumber, C.M. Garland, and **T.R. Wagner**, ACS 41st Central Regional Meeting, Columbus, OH, May 20-23, 2009.
- "Ohio REEL Project: Materials Module Implementation into the General Chemistry Curriculum at Youngstown State University", **Tim Wagner** (Invited Talk), Central Regional Meeting of the ACS, May 2007.
- "YSU REEL Project: "Synthesis and Characterization of $A(M,N)F_3$ (A = K^+ or NH_4^+; M, N = Mn, Fe, Co, or Cu) Compounds", Michael Dinh, John Perko, Debbie Ann Marie Smith, and **Tim Wagner**, Central Regional Meeting of the ACS, May 2007.
- "YSU REEL Project: Synthesis and Characterization of Several $K(M,N)F_3$ (M, N = Mn, Fe, Co, Ni, Cu, Zn) Compounds", Debbie Ann Marie Smith, **Tim Wagner**, Allen Hunter, and Matthias Zeller, Central Regional Meeting of the ACS, May 2007.
- "Research Experiences to Enhance Learning (REEL) Project: Synthesis and Characterization of KCo_xCu_{1-x} (x = 0 to 1.0)", Rachel Kusnic, **Tim Wagner**, Allen Hunter, and Matthias Zeller, Central Regional Meeting of the ACS, May 2007.
- "Single Crystal Diffraction as a Routine Undergraduate Research Tool & The STaRBURSTT CyberDiffraction Consortium," A.D. Hunter, M. Zeller, **T.R. Wagner**, R. Hoff, and P. Szalay, The Council on Undergraduate Research Meeting, Greencastle, IN, June 24th-27th, 2006.
- "STEM 2020: Enabling Multidisciplinary and Multi-institutional Collaborations via Remote Instrument Access and Collaboration Procedures - The STaRBURSTT-CyberTools Project," A.D. Hunter, M. Zeller, **T.R. Wagner**, R. Hoff, and P. Szalay, The Council on Undergraduate Research Meeting, Greencastle, IN, June 24th - 27th, 2006.
- Crystal Chemistry of Novel Mixed-Anion Perovskites and Related Materials", M.S. Strozewski, D.R. Jack, and **T.R. Wagner**, ACS 38th Middle Atlantic Regional Meeting, June 4-7, 2006.

CONFERENCE ABSTRACTS AND PRESENTATIONS (continued):

- "The STaRBURSTT - CyberDiffraction Consortium Education Initiative," A.D. Hunter, M. Bond, R.J. Butcher, G. Crundwell, G. Ferrence, K. Kantardjieff, P. Szalay, **T.R. Wagner**, M. Zeller, R. Hoff, L. Ramirez, and T. Higgins, ACS National Meeting, Atlanta, March 26th, 2006, CHED 114.
- "The STaRBURSTT - CyberDiffraction Consortium Education and Undergraduate Research Initiatives," ," G. Ferrence, M. Bond, G. Crundwell, A.D. Hunter, K.A. Kantardjieff, P. Szalay, **T.R. Wagner**, M. Zeller, and R. Hoff, Pacifichem Meeting, Waikiki, Dec. 15th - 20th, 2005, CHED Abstract #156782.
- "Criteria for, and Implementation of, Remote Instrumentation Access," A.D. Hunter, P. Szalay, **T.R. Wagner**, M. Zeller, and R. Hoff, 230th ACS National Meeting, Washington, DC, Aug. 28th - Sept. 1st, 2005, ANYL-066.
- "Criteria For, and Implementation of, Remote Instrumentation Access", A.D. Hunter, P. Szalay, **T.R. Wagner**, M. Zeller, and R. Hoff, Abstracts of Papers of the American Chemical Society, 230: U206-U207 66 ANYL, Aug. 28, 2005.
- "Remote Access and Instrumentation Consortia for Undergraduate Education and Research," A.D. Hunter, M. Zeller, **T.R. Wagner**, R. Hoff, and P. Szalay, 229th American Chemical Society National Meeting, San Diego, CA, March 16th, 2005, CHED-1395.
- "Remote Access as an Enabling Technology for Undergraduate Crystallographic/Diffraction Education and Research at a Consortium of Predominantly Undergraduate Institutions", A.D. Hunter, M. Zeller, **T.R. Wagner**, R. Hoff, and P. Szaley, Abstracts of Papers of the American Chemical Society, 228: U318 061-CHED Part I, Aug. 22, 2004.
- "Remote Access as an Enabling Technology for Undergraduate Crystallographic/Diffraction Education and Research at a Consortia of Predominantly Undergraduate Institutions," A.D. Hunter, M. Zeller, **T.R. Wagner**, R. Hoff, and P. Szalay, 228th American Chemical Society National Meeting, Philadelphia, PA, August 2004, CHED-61.
- "Inorganic Nitride-Fluorides", H. Seibel and **T. Wagner**, NSF-REU Regional Undergraduate Research Symposium, Duquesne University, August, 2003.
- "Preparation and Crystal Chemistry of Nitride-Fluoride Analogs of Binary And Ternary Oxides", **T. Wagner**, Gordon Research Conferences: Solid State Chemistry I, Colby-Sawyer College, New London, New Hampshire, July 28 to Aug. 2, 2002.
- "Inorganic Nitride-Fluoride Analogs of Oxides", H. Seibel and **T. Wagner**, Ohio-Michigan NSF-REU Undergraduate Research Symposium, Kent State University, July 24, 2002.
- "Carbohydrate chemistry in the undergraduate curriculum", P. Norris, D. Baker, **T.R. Wagner**, Abstracts of Papers, 34th Central Regional Meeting of the American Chemical Society, Ypsilanti, MI, June 2002 (Chemical Education Section).
- "Preparation and X-Ray Characterization of Nitride-Fluoride Analogs of Oxides", M. Ntragatakis and **T. Wagner**, Ohio-Michigan NSF-REU Undergraduate Research Symposium, John Carroll University, July, 2001.

CONFERENCE ABSTRACTS AND PRESENTATIONS (continued):

- "Synthesis and X-ray Characterizations of Nitride-Fluoride Analogs to Binary Oxides", J. Potkonicky, R. Nicklow and **T. Wagner**, 31st Central Regional Meeting of the American Chemical Society, Columbus, OH, June 1999.
- "Synthesis, Structure and Reactions of Several Sugar-derived Bis(sulfones)" P. Norris, R. Cicchillo, A. Fluxe, H. Risley, B. Del Fraino and **T. Wagner**, 31st Central Regional Meeting of the American Chemical Society, Columbus, OH, June 1999.
- "Carbohydrate-derived Bicyclic Triazolines: Mechanism of Formation and Confirmation of Structure", P. Norris, **T. Wagner** and D. Horton, *Abstracts of Papers*, 9th European Carbohydrate Symposium, Utrecht, the Netherlands, July 1997.
- "Electron-Stimulated Damage Processes in Oxides Under Ultra High Vacuum (UHV) Conditions", M.I. Buckett, S.R. Singh, H. Fan, **T. Wagner** and L.D. Marks, Proc. 47th Ann. Meeting of the Electron Mic. Soc. of America, 636-7, 1989.

OTHER SELECTED ACTIVITIES:

- Provost's Strategic Plan Initiative Committee – charge is to establish benchmark and apply best practices in grant management, Fall 2012
- Ph.D. Program Coordinator, Materials Science & Engineering, since July 2012
- Director, YSU Center of Excellence in Materials Science and Engineering, since establishment of the Center in Fall, 2009. Also served as principal author on the proposal to create the Center; submitted internally (to Office of the Provost) in response to a call from the Ohio Board of Regents and Chancellor Fingerhut to all Ohio Universities to identify focused areas of excellence within their campuses, March 2009.
- Director, YSU Center for Advanced Materials Analysis, since 2008. Overall project management; responsible for supervision and annual evaluations of EM Instrumentation Scientist, Dr. Dingqiang Li.
- Co-presented (with Mark Peters of Fireline TCON, Inc.) talk entitled: "The Third Frontier and Research Growth in the STEM College: Challenges and Opportunities for YSU" to YSU Trustees, December 2008.
- Committee Member, Arts & Sciences Transition Team; committee charge was to establish how to divide the College of A & S resources for the new College of Science, Technology, Engineering, and Mathematics, Fall, 2006.
- Member, A&S Faculty Group with President Sweet; this group met with the President to communicate faculty perspectives on campus issues, etc., Fall, 2006.
- Committee Member, Environmental & Occupational Health & Safety Search for Associate Director, Summer, 2006.
- Dean's Search Committee, College of Arts & Sciences, 2000-2001.

YSU AWARDS AND HONORS:

- **Invited to membership in *The Honor Society of Phi Kappa Phi*** by Youngstown State University's Chapter 143, inducted February, 2012.
- **Graduate Dean's Award**, for "Superior Success in Obtaining External Funding", awarded Fall 2009.
- **Sabbatical**, for the project: "Synthesis and Characterization of Novel Mixed-Anion Ceramic and Ceramic-Metal Composite Materials", 2009-10.
- **Faculty Improvement Leave**, for the project: "Quantitative Structural Characterization of Novel Inorganic Nitride-Fluorides and Related Compounds Using the X-Ray Powder Diffraction Method", Spring 2006 semester.
- **Distinguished Professor in Scholarship**, 2004.
- **Sabbatical Leave**, for the projects: I. Synthesis and X-Ray Structure Characterizations of Nitride-Fluoride Analogs to Metal Oxide Compounds, and II. Collaborative Crystallography: Single Crystal X-Ray Structure Determinations of Samples Prepared by Other Groups; 2001-02 Academic Year.
- **Faculty Reimbursement for Advanced Studies:** Awarded **$1000** to travel to the University of Bayreuth (Germany) for a workshop on solving and refining crystal structures from powder X-ray diffraction data. Fall, 2000.
- **Research Professorship Award:** "Synthesis and X-ray Structure Characterizations of Nitride-Fluoride Analogs to Metal Oxide Compounds", 1999-2000 academic year.
- **University Research Council Grant:** "Synthesis, Structural Characterization and X-ray Microanalysis of Nitride-Fluoride Analogs to Oxide Compounds", **$2000**, 1996-97 academic year.
- **Research Professorship Award:** "Synthesis and Characterization of Novel Compounds Related to Magnetoplumbite and β-Alumina", 1995-96 academic year.
- **University Research Council Grant:** "Synthesis and Characterization of Oxides and Nitrides Related to Magnetoplumbite and β- Alumina", **$4644**, 1994-95 academic year.
- **Research Professorship Award:** "Synthesis and Characterization of Compounds Related to Magnetoplumbite and β-Alumina", 1993-94 academic year.
- **University Research Council Grant:** "Synthesis and Characterization of Compounds Related to Magnetoplumbite and β-Alumina", **$2500**, 1993-94 academic year.

HONORARY AND PROFESSIONAL SOCIETIES:

- The Honor Society of Phi Kappa Phi
- Phi Lamda Upsilon National Chemistry Honor Society
- Sigma Pi Sigma National Physics Honor Society
- American Chemical Society
- Penn-Ohio Border Section of the ACS.