

Brian McBurnett, Ph.D.

Curriculum Vitae

Degrees

Ph.D., University of Texas–Austin, in Inorganic Chemistry, August 1998
B.S., Texas A&M University, in Chemistry, May 1994

Experience

University of the Incarnate Word, Professor 2011–Present
Pontifícia Universidade Católica do Rio de Janeiro Spring 2012
CEIS Fulbright Scholar
University of the Incarnate Word, Associate Professor 2005–2010
Department Chair 2006–2010
University of the Incarnate Word, Assistant Professor 2004–2005
California State University–Chico, Assistant Professor 2000–2004
University of Oregon, Visiting Professor Summers 2002–2004
Northern Arizona University, Lecturer 1998–2000

Courses taught

University of the Incarnate Word 2004–Present
Inorganic Chemistry
Physical Chemistry II: Quantum Chemistry
Chemical Principles I and II
Chemical Principles Lab
General Chemistry
Biological Chemistry I
Biological Chemistry Lab
Dimensions of Wellness
Pontifícia Universidade Católica do Rio de Janeiro Spring 2012
Química Inorgânica Avançada II (Inorganic Chemistry II)
California State University–Chico 2000–2004
Chemistry Teaching Methods
General Chemistry I and II
Chemistry for Applied Sciences I
Intermediate Inorganic Chemistry I and II
Inorganic Quantitative Laboratory
Integrated Laboratory I and II
Northern Arizona University 1998–2000
General Chemistry I and II
Inorganic Chemistry I and II

Scholarship

Presentations

1. McBurnett, B.G. "Research and teaching abroad: Contrasting chemical education in Brazil and the United States" *245th American Chemical Society National Meeting - International and Multicultural Perspectives symposium* April 8, **2013**.
2. McBurnett, B.G. "The CEIS Fulbright Program and opportunities for collaboration" *Pontifícia Universidade Católica do Rio de Janeiro, Rio de Janeiro, RJ, Brazil*, June 18, **2012**.
3. McBurnett, B.G. "Establishing a sister school and opportunities for exchange" *Pontifícia Universidade Católica do Campinas, Campinas, SP, Brazil*, June 6, **2012**.
4. McBurnett, B.G. "Chemistry Career Panel" *67th Southwest Regional American Chemical Society Meeting, Austin, TX* November **2011**.
5. McBurnett, B.G. "Development of a Testable Question" *UIW EARDA Grant Writing Workshop*, October **2010**.
6. Obregon, A.J.; McBurnett, B.G. "Factors affecting retention in the foundation courses in chemistry" *239th American Chemical Society National Meeting, San Francisco, CA* March **2010**.
7. McBurnett, B. G. "Best Practices and Challenges at UIW EARDA," Invited seminar, NIH Bethesda, MD October **2009**.
8. McBurnett, B. G. "Getting Grants-Development of a one-page research proposal," Invited seminar, California State University, Chico, CA October **2009**.
9. McBurnett, B. G. "Analysis of the volatile components of *Piper Auritum* used in traditional Hispanic cuisine," *229th American Chemical Society National Meeting, San Diego, CA* **2005**
10. McBurnett, B. G. "Synthesis and Characterization of Cobalt Germanium Materials," *Humboldt State University, Arcata, CA* **2003**.
11. McBurnett, B. G. "The Math of Molecules: Symmetry and Spectroscopy," Department of Mathematics *California State University, Chico, CA* **2000**.
12. McBurnett, B. G.; Cowley, A. H. "Synthesis of Group 13 Antimonide Single Source Precursors to Electronic Materials," *214th American Chemical Society National Meeting, Las Vegas, NV*, **1997**.

Posters

1. McBurnett, B.G. "Research and teaching abroad: Contrasting chemical education in Brazil and the United States" *245th American Chemical Society National Meeting* invited Sci-Mix poster April 8, **2013**.
2. McQuiston, K.L.; Juarez, K.N.; McBurnett, B.G. "Synthesis and characterization of macrocyclic dimetallic complexes of copper, nickel, and zinc" *245th American Chemical Society National Meeting* April 8, **2013**.
3. Dunne, E.; Favila, R.; Gordon, B.; Curtiss, A.B.S.; Adrian, R.A.; Davis, J.M.; Chaudhuri, A.; Coleman, D.; Gonzalez, E.; McBurnett, B.; Stankus, J.J. "UIW chemistry club: In our element" *239th American Chemical Society National Meeting*, San Francisco, CA March **2010**.
4. Kong, S.B.; Caraway, J.D.; Gil, K.; Adrian, R.A.; Chaudhuri, A.; Davis, J.M.; Gonzalez, E. E; McBurnett, B.G.; Stankus, J.J. "UIW chemistry club: In our element" *237th American Chemical Society National Meeting*, Salt Lake City, UT **2009**.
5. Davis, J.M.; Cavazos, A.M.; Gil, K.; Ahedo, R.; Alvarez, A.; Castillo, C.; Clark, C.; Lares, M. Gonzalez, E.E.; McBurnett, B.G.; Stankus, J.J. "UIW chemistry club: In our element" *235th American Chemical Society National Meeting*, New Orleans, LA 2008.
6. Obregon, A.J.; Brown, J.; Montoya, M.; McBurnett, B.G. "The determination of antioxidant and caffeine concentrations in tea: comparison of HPLC and spectral methods," *233rd American Chemical Society National Meeting*, Chicago, IL 2007.
7. Davis, J.M.; McBurnett, B.G.; Gonzalez, E.E.; Flores, R.O. Obregon, A.J.; Cavazos, A.M. "Learning, teaching, research, and discovery: The UIW chemistry club" *233rd American Chemical Society National Meeting*, Chicago, IL 2007.
8. Ferrand, M. I.; Gonzalez, E. E.; McBurnett, B. G. "Chemical composition of *Senna multiglandulosa*," *231st American Chemical Society National Meeting, Atlanta, GA* **2006**.

9. Obregon, A. J.; Mosso, J.; Ferrand, M. I.; Zapata, A. L.; McBurnett, B. G. "Antioxidant levels in sequential infusions of tea," *231st American Chemical Society National Meeting, Atlanta, GA* **2006**.
10. McBurnett, B. G.; Mosso, J.; Lopez, A. C.; Kong, S. B.; Lee G. H. "Analysis of the volatile components of tea after sequential infusions," *229th American Chemical Society National Meeting, San Diego, CA* **2005**.
11. McBurnett, B. G.; Lopez, A. C.; Mosso, J.; Kong, S. B.; Lee G. H. "Volatile components of the leaves of *Piper Auritum*," *229th American Chemical Society National Meeting, San Diego, CA* **2005**.
12. Ball, D. B.; Butler, T. A.; McBurnett, B. G. "Synthetic progress toward novel ferrocene ligands," *227th American Chemical Society National Meeting, Anaheim, CA* **2004**.
13. Hilger, T. D.; McBurnett, B. G.; Phung, T. M.; Johnson, D. C. "Investigation of Al₂O₃/ZnO multilayer films," *227th American Chemical Society National Meeting, Anaheim, CA* **2004**.
14. McBurnett, B. G.; Silverman, J. S.; Cowley, A. H. "Synthesis and structural characterization of germanium and tin calix[4]arenes," *216th American Chemical Society National Meeting, Boston, MA* **1998**.
15. Silverman, J. S.; Cowley, A.H.; Carmalt, C.J.; McBurnett, B. G. "The synthesis of group 13 azides and amides," *214th American Chemical Society National Meeting, Las Vegas, NV* **1997**.

Publications

1. Phung, T. M.; Jensen, J. M.; Johnson, D. C.; Donovan, J. J.; McBurnett, B. G. "Determination of the Composition of Ultra-Thin Ni-Si Films on Si: Constrained Modeling of Electron Probe Microanalysis and X-ray Reflectivity Data" *X-ray Spectroscopy*, **2008**, *37*, 608.
2. McBurnett, B. G., Chavira, A. A.; Lopez, C. A., Mosso, J.; Collins, S. M. "Analysis of *Piper Auritum*: A Traditional Hispanic Herb" Chapter 6 in *Chemistry of Hispanic Foods*, American Chemical Society, **2006**.
3. Assefa, Z.; Omary, M. A.; McBurnett, B. G.; Fackler, J. P., Jr.; Patterson, H. H.; Staples, R. J.; Mohamed, A. A. "Syntheses, Structure, and Photoluminescence Properties of the 1-Dimensional Chain Compounds [(TPA)₂Au][Au(CN)₂] and (TPA)AuCl (TPA = 1,3,5-Triaza-7-phosphaadamantane)," *Inorg. Chem.*; **2002**; *41*(24); 6274-6280.
4. McBurnett, B. G.; Cowley, A. H. "Binuclear Tin and Germanium Calix[4]arenes," *Chem. Commun.* **1999**, *1*, 17.
5. Hair, G. S.; Cowley, A. H.; Jones, R. A.; McBurnett, B. G.; Voigt, A. "Arene Complexes of Al(C₆F₅)₃. Relationship to a Déjà Vu Silylium Ion," *J. Am. Chem. Soc.* **1999**, *121*, 4922.
6. Cowley, A. H.; Hair, G. S.; McBurnett, B. G.; Jones, R. A. "Novel Zwitterionic Complexes of Ti(IV) via Reaction of Lewis Acids N(C₆F₅)₃ (M=B, Al) with a titanium diene complex (\square C₅Me₄SiMe₂N-t-Bu)Ti(1,3-pentadiene)," *Chem. Commun.* **1999**, *5*, 437.
7. Silverman, J. S.; Carmalt, C. J.; Cowley, A. H.; Jones R. A.; McBurnett, B. G. "Synthesis and Structural Characterization of Some Monomeric Group 13 Amides," *Inorg. Chem.* **1999**, *38*, 296.
8. Wong, K. C.; McBurnett, B. G.; Culp, R. D.; Cowley, A. H.; Ekerdt, J. G. "Homolysis Versus \square hydride Elimination in the Decomposition of Trialkylgallium on GaAs(100)," *Surf. Sci.* **1998**, *416* (3), 480.
9. Wong, K. C.; McEllistrem, M. T.; McBurnett, B. G.; Culp, R. D.; Cowley, A. H.; Ekerdt, J. G. "Direct Evidence for the \square hydride Elimination Mechanism in the Decomposition of Triethylgallium on GaAs(100)," *Surf. Sci.* **1998**, *396* (1-3), 260.
10. Cowley, A. H.; Gorden, J. D.; Abernethy, C. D.; Clyburne, J. A. C.; McBurnett, B. G. "Preparation of a Monomeric Aluminum-Diazabutadiene Complex Via an Oxidative Addition Reaction," *J. Chem. Soc., Dalton Trans.* **1998**, *12*, 1937.
11. Carmalt, C. J.; Whaley, S. R.; Lall, P. S.; Cowley, A. H.; Jones, R. A.; McBurnett, B. G.; Ekerdt, J. G. "Titanium(IV) Azido and Imido Complexes as Potential Precursors to Titanium Nitride." *J. Chem. Soc., Dalton Trans.* **1998**, *4*, 553.
12. Silverman, J. S.; Carmalt, C. J.; Neumayer, D. A.; Cowley, A. H.; McBurnett, B. G.; Decken, A. "Azido and Amido Derivatives of Aluminium (III)," *Polyhedron* **1998**, *17*, 977.
13. Lomelí, V.; McBurnett, B. G.; Cowley, A. H. "An Indium (II)-Indium (II) Compound with Intramolecular Donor-acceptor Bonds," *J. Organomet. Chem.* **1998**, *562* (1), 123.

14. Carmalt, C. J.; Clyburne, J. A. C.; Cowley, A. H.; Lomelí, V.; McBurnett, B. G. "Germylene and Stannylene Cleavage of Lawesson's Reagent," *Chem. Commun.* **1998**, 2, 243.
15. Carmalt, C. J.; Lomelí, V.; McBurnett, B. G.; Cowley, A. H. "Cyclic Phosphenium and Arsenium Cations with 6π Electrons and Related Systems," *Chem. Commun.* **1997**, 21, 2096.
16. Assefa, Z.; McBurnett, B. G.; Staples, R. J.; Fackler, J. P., Jr. "Structures and Spectroscopic Properties of Gold(I) Complexes of 1,3,5-triaza-7-phosphaadamantane (TPA). 2. Multiple-State Emission from (TPA)AuX (X = Cl, Br, I) Complexes," *Inorg. Chem.* **1995**, 34, 4965.
17. Assefa, Z.; McBurnett, B. G.; Staples, R. J.; Fackler, J. P., Jr. "*trans*-Dicyanobis(1,3,5-triaza-7-phosphaadamantane)platinum(II), [(TPA)₂Pt(CN)₂]," *Acta Cryst. Sec. C* **1995**, C51, 1742.
18. Assefa, Z.; McBurnett, B. G.; Staples, R. J.; Fackler, J. P., Jr.; Assman, B.; Angermaier, K.; Schmidbaur, H. "Syntheses, Structures, And Spectroscopic Properties of Gold(I) Complexes of 1,3,5-Triaza-7-phosphaadamantane (TPA). Correlation of the Supramolecular Au...Au Interaction and Photoluminescence for the Species (TPA)AuCl and [(TPA-HCl)AuCl]," *Inorg. Chem.* **1995**, 34, 75.

Grants

1. CEIS Fulbright Fellowship to PUC-Rio Brazil
2. "Enhancing Research Capabilities to Encourage Minorities in Scientific Professions" Extramural Associate Research Development award National Institutes of Health \$496,800

Workshops, Honors, and Affiliations

Fulbright Association Board Member
Biomed SA Cancer Subcommittee
Collaborative Learning Leadership Workshop
UIW Faculty Senate
American Chemical Society
National Council of University Research Administrators
UIW Heritage Retreat
Collegium Fellow
NIH Extramural Associate
USDA Hispanic Serving Institutions Research Fellow