

Curriculum Vita

GEORGE B. RICHTER-ADDO

**University of Oklahoma
Department of Chemistry and Biochemistry
(January 2004)**

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SECTION A: GENERAL INFORMATION

Education:

- Ph.D. - University of British Columbia (Canada), 1988
 Supervisor: Dr. Peter Legzdins
 Field of Study: Organometallic Nitrosyl Chemistry
- Honors B.Sc. - University of Cape Coast (Ghana, West Africa), 1982
 Field of Study: Chemistry
- Dip. Ed. - University of Cape Coast (Ghana, West Africa), 1982
 Field of Study: Science Education

Research and Teaching Experience:

- 2001-present Professor, Department of Chemistry and Biochemistry,
 University of Oklahoma (OU), Norman, OK
- 1998 - 2001 Associate Professor, Department of Chemistry and Biochemistry (OU)
- 1993 - 1998 Assistant Professor, Department of Chemistry and Biochemistry (OU)
- 1992 - 1993 Postdoctoral Fellow, Department of Chemistry,
 University of Utah, Salt Lake City, UT
 (Organic/Organometallic Chemistry with Dr. John A. Gladysz)
- 1989 - 1991 Postdoctoral Fellow, Department of Chemistry,
 University of British Columbia, Vancouver, British Columbia, Canada
 (Organometallic Chemistry with Dr. Peter Legzdins)
- 1988 - 1989 Postdoctoral Fellow, Department of Chemistry,
 University of Alberta, Edmonton, Alberta, Canada
 (Inorganic Polymer Chemistry with Dr. Allen D. Hunter)

Honors

- 1992 - 1993 NIH Minority Postdoctoral Fellowship, University of Utah
- 1985 - 1987 University Graduate Fellowship, University of British Columbia
- 2000 - 2004 University of Oklahoma Presidential Professor

Membership in Academic and Scientific Societies

- 1989 - present American Chemical Society

SECTION B: RESEARCH

Primary Research Publications Originating from Research at OU

12. "The First Metalloporphyrin Nitrosamine Complex: Bis(diethylnitrosamine)(*meso*-tetraphenylporphyrinato)iron(III) Perchlorate." Yi, G.-B.; Khan, M. A.; Richter-Addo, G. B. *J. Am. Chem. Soc.* **1995**, *117*(29), 7850-7851.

*Highlighted as a Science and Technology Concentrate in *Chemical and Engineering News* (Washington, D.C.) 31 July 1995 issue (p 24), and also highlighted in *New Scientist* (London) in their 26 August 1995 issue (p 14).

13. "Metalloporphyrins with X[N₂O₂]⁻ Ligands. Novel High-Spin (*N*-Phenyl-*N*-nitroso-hydroxylaminate)(*meso*-tetraarylporphyrinato)iron(III)." Yi, G.-B.; Khan, M. A.; Richter-Addo, G. B. *Inorg. Chem.* **1995**, *34*(23), 5703-5704.
14. "Synthesis, Characterization, and Electrochemistry of Ruthenium Porphyrins Containing a Nitrosyl Axial Ligand." Kadish, K. M.; Adamian, V. A.; Van Caemelbecke, E.; Tan, Z.; Tagliatesta, P.; Bianco, P.; Boschi, T.; Yi, G.-B.; Khan, M. A.; Richter-Addo, G. B. *Inorg. Chem.* **1996**, *35*(5), 1343-1348.
15. "Synthesis, Characterization, and Spectroelectrochemistry of Cobalt Porphyrins Containing Axially Bound Nitric Oxide." Richter-Addo, G. B.; Hodge, S. J.; Yi, G.-B.; Khan, M. A.; Ma, T.; Van Caemelbecke, E.; Guo, N.; Kadish, K. M. *Inorg. Chem.* **1996**, *35*(22), 6530-6538, and **1997**, *36*(12), 2696 [erratum].
16. "The First Structural Studies of Nitrosoarene Binding to Iron-(II) and -(III) Porphyrins." Wang, L.-S.; Chen, L.; Khan, M. A.; Richter-Addo, G. B. *Chem. Commun.* **1996**, (3), 323-324.
17. "Ruthenium Porphyrins Containing Nitrosyl, Nitrosamine, Thiolate, and Amine Ligands." Yi, G.-B.; Khan, M. A.; Richter-Addo, G. B. *Inorg. Chem.* **1996**, *35*(12), 3453-3454.
18. "Formal Addition of *S*- and *O*-nitroso Compounds to Metalloporphyrins." Yi, G.-B.; Khan, M. A.; Richter-Addo, G. B. *Chem. Commun.* **1996**, (17), 2045-2046.
- *Highlighted as a Science and Technology Concentrate in *Chemical and Engineering News* (Washington, D.C.) 9 September 1996 issue (p 31), and also highlighted as an Editor's Choice from the Royal Society of Chemistry on the Internet.
19. "The First Structurally Characterized Organometallic Nitrosyl Porphyrin: Structure of Ru(*ttp*)(NO)(C₆H₄F-*p*) (*ttp* = *meso*-tetratolylporphyrinato dianion)." Hodge, S. J.; Wang, L.-S.; Khan, M. A.; Young, V. G., Jr.; Richter-Addo, G. B. *Chem. Commun.* **1996**, (19), 2283-2284.

20. "Activation of Thionitrites and Isoamyl Nitrite by Group 8 Metalloporphyrins and the Subsequent Generation of Nitrosyl Thiulates and Alkoxides of Ruthenium and Osmium Porphyrins." Yi, G.-B.; Chen, L.; Khan, M. A.; Richter-Addo, G. B. *Inorg. Chem.* **1997**, *36(18)*, 3876-3885.
21. "Nitrosoarene Complexes of Manganese Porphyrins." Fox, S. J.; Chen, L.; Khan, M. A.; Richter-Addo, G. B. *Inorg. Chem.* **1997**, *36(27)*, 6465-6467.
22. "Nitrosylation of Octaethylporphyrin Osmium Complexes with Alkyl Nitrites and Thionitrites: Molecular Structures of Three Osmium Porphyrin Derivatives." Chen, L.; Khan, M. A.; Richter-Addo, G. B. *Inorg. Chem.* **1998**, *37(3)*, 533-540.
23. "Synthesis, Characterization, and Protonation of a Amide-Containing Thiolate Complex of a Ruthenium Nitrosyl Porphyrin." Yi, G.-B.; Khan, M. A.; Powell, D. R.; Richter-Addo, G. B. *Inorg. Chem.* **1998**, *37(2)*, 208-214.
24. "Synthesis, Characterization, and Molecular Structures of Diethylnitrosamine Metalloporphyrin Complexes of Iron, Ruthenium, and Osmium." Chen, L.; Yi, G.-B.; Wang, L.-S.; Dharmawardana, U. R.; Dart, A. C.; Khan, M. A.; Richter-Addo, G. B. *Inorg. Chem.* **1998**, *37(18)*, 4677-4688.
25. "Synthesis, Characterization, and Solid-State Molecular Structures of Nitrosoarene Complexes of Osmium Porphyrins." Chen, L.; Khan, M. A.; Richter-Addo, G. B.; Young, V. G., Jr.; Powell, D. R. *Inorg. Chem.* **1998**, *37(18)*, 4689-4696.
26. "Synthesis and Characterization of Osmium Nitrosyl Porphyrins Containing Organo, Halogeno and π -Oxo Ligands, and Extensions to the First Organometallic Thionitrosyl Porphyrins." Cheng, L.; Chen, L.; Chung, H.-S.; Khan, M. A.; Richter-Addo, G. B.; Young, V. G., Jr. *Organometallics*, **1998**, *17(18)*, 3853-3864.
27. "Photoinduced Metastable Linkage Isomers of Ruthenium Nitrosyl Porphyrins." Fomitchev, D. V.; Coppens, P.; Li, T.; Bagley, K. A.; Chen, L.; Richter-Addo, G. B. *Chem. Commun.* **1999**, (19), 2013-2014.
28. "Structural Consequences of Hydroxamate and Tropolonate Binding to Iron Porphyrins." Cheng, L.; Khan, M. A.; Powell, D. R.; Taylor, R. W.; Richter-Addo, G. B. *Chem. Commun.* **1999**, (19), 1941-1942.
29. "Synthesis and Characterization of Thiolate-Thiol Complexes of Ruthenium Nitrosyl Porphyrins and Their Symmetrical and Unsymmetrical Dithiolate-Bridged Bimetallic Derivatives." Lee, J.; Yi, G.-B.; Khan, M. A.; Richter-Addo, G. B. *Inorg. Chem.* **1999**, *38(20)*, 4578-4584.
30. "Interactions of Nitric Oxide and Organic Nitroso Compounds with Metalloporphyrins and Heme." Richter-Addo, G. B. *J. Porph. Phthalocyanines*, **2000**, *4(4)*, 354-357.

31. "First Observation of Photoinduced Nitrosyl Linkage Isomers of Iron Nitrosyl Porphyrins." Cheng, L.; Novoszhilova, I.; Kim, C.; Kovalevsky, A.; Bagley, K. A.; Coppens, P.; Richter-Addo, G. B. *J. Am. Chem. Soc.*, **2000**, *122*(29), 7142-7143.
32. "The First Unambiguous Determination of a Nitrosyl-to-Nitrite Conversion in an Iron Nitrosyl Porphyrin." Cheng, L.; Powell, D. R.; Khan, M. A.; Richter-Addo, G. B. *Chem. Commun.* **2000**, (23), 2301-2302.
33. "Synthesis, Characterization, Solid-State Molecular Structures, and Deprotonation Reactions of Cationic Alcohol Complexes of Osmium Nitrosyl Porphyrins." Cheng, L.; Powell, D. R.; Khan, M. A.; Richter-Addo, G. B. *Inorg. Chem.* **2001**, *40*(1), 125-133.
34. "Synthesis, Characterization, and Protonation of Octaethylporphyrin Osmium Nitrosyl Complexes Containing Axial Thiolate Ligands. X-ray Structures of an Alkyl Thionitrite (RSNO) and its (OEP)Os(NO)(SR) Addition Product." Lee, J.; Yi, G.-B.; Powell, D. R.; Khan, M. A.; Richter-Addo, G. B. *Can. J. Chem.* **2001**, *79*(5/6), 830-840.
35. "Synthesis and Molecular Structures of *N,N*-Dialkyl-4-nitrosoaniline Adducts of Formally d⁶ Metalloporphyrin of Ruthenium and Cobalt." Chen, L.; Fox, J. B., Jr.; Yi, G.-B.; Khan, M. A.; Richter-Addo, G. B. *J. Porph. Phthalocyanines*, **2001**, *5*(9), 702-707.
36. "Unexpected Nitrosyl-Group Bending in Six-Coordinate {M(NO)}⁶ π -Bonded Aryl(iron) and -(ruthenium) Porphyrins." Richter-Addo, G. B.; Wheeler, R. A.; Hixson, C. A.; Chen, L.; Khan, M. A.; Ellison, M. K.; Schulz, C. E.; Scheidt, W. R. *J. Am. Chem. Soc.* **2001**, *123*(26), 6314-6326.
37. "Kinetics Studies of the Reaction of the Ruthenium Porphyrin Ru(OEP)(CO) with the *S*-Nitrosothiol *N*-Acetyl-1-amino-2-methylpropyl-2-thionitrite." Andreasen, L. V.; Lorkovic, I. M.; Richter-Addo, G. B.; Ford, P. C. *Nitric Oxide: Biol. and Chem.* **2002**, *6*(2), 228-235.
38. "Nitrones are Suitable Ligands for Heme Models: X-ray Crystal Structure of the First Metalloporphyrin Nitrone Complex." Lee, J.; Twamley, B.; Richter-Addo, G. B. *Chem. Commun.* **2002**, (4), 380-381.
39. "Fiber-Optic Infrared Reflectance Spectroelectrochemistry: Isomerization of a Manganese Pyranil Complex." Shaw, M. J.; Henson, R. L.; Houk, S. E.; Westhoff, J. W.; Jones, M. W.; Richter-Addo, G. B. *J. Electroanal. Chem.* **2002**, *534*(1), 47-53.
40. "Synthesis and Solid-State Molecular Structures of Bis- and Mono-Nitrosobenzene Complexes of Ruthenium Porphyrins." Lee, J.; Twamley, B.; Richter-Addo, G. B. *Can. J. Chem.* **2002**, *80*(9), 1252-1258.

41. "Synthesis, Characterization, and Molecular Structures of Nitrosyl Nitrito Complexes of Osmium Porphyrins: Disproportionation of Nitric Oxide in Its Reactions with Os(P)(CO) (P = porphyrinato dianion)." Leal, F. A.; Lorkovic, I. M.; Ford, P. C.; Lee, J.; Chen, L.; Torres, L.; Khan, M. A.; Richter-Addo, G. B. *Can. J. Chem.* **2003**, *81*(7), 872-881.
42. "Crystal Structures of Ferrous Horse Heart Myoglobin Complexed with Nitric Oxide and Nitrosoethane." Copeland, D. M.; West, A. H.; Richter-Addo, G. B. *PROTEINS: Structure, Function, and Genetics* **2003**, *53*(2), 182-192.
43. "Synthesis, Characterization, and Molecular Structures of Six-Coordinate Manganese Nitrosyl Porphyrins." Zahran, Z. N.; Lee, J.; Alguindigue, S. S.; Khan, M. A.; Richter-Addo, G. B. *Dalton Trans.* **2004**, (1), 44-50.
44. "Synthesis and Molecular Structures of Nitrosoarene Metalloporphyrin Complexes of Ruthenium." Lee, J.; Twamley, B.; Richter-Addo, G. B. *Dalton Trans.* **2004**, (2), 189-196.

Reviews

45. "Binding of Organic Nitroso Compounds to Metalloporphyrins." Richter-Addo, G. B. *Acc. Chem. Res.*, **1999**, *32*(6), 529-536.
46. "Interactions of Organic Nitroso Compounds with Metals." Lee, J.; Chen, L.; West, A. H.; Richter-Addo, G. B. *Chem. Rev.* **2002**, *102*(4), 1019-1065.
47. "Introduction: Nitric Oxide Chemistry." Richter-Addo, G. B.; Legzdins, P.; Burstyn, J. *Chem. Rev.* **2002**, *102*(4), 857-859.

Book Chapter

48. "Binding and Activation of Nitric Oxide by Metalloporphyrins and Heme." Cheng, L.; Richter-Addo, G. B. In *The Porphyrin Handbook*; Kadish, K. M.; Smith, K.; Guillard, R., Eds.; Academic Press: San Diego, 2000; Volume 4. Chapter 33 (pp 219-291).

Primary Research Publications from Research Performed Prior to Arrival at OU

1. "Activation of Formaldoxime by the Cyclopentadienyldinitrosylchromium Cation." Legzdins, P.; Richter-Addo, G. B.; Einstein, F. W. B.; Jones, R. H. *Organometallics* **1987**, *6*(8), 1807-1809.
2. "Recent Organometallic Nitrosyl Chemistry." Richter-Addo, G. B.; Legzdins, P. *Chem. Rev.* **1988**, *88*(7), 991-1010.
3. "Reduction Behavior of the Complexes Cp'M(NO)X₂ (Cp' = Cp (η^5 -C₅H₅) or Cp* (η^5 -C₅Me₅); M = Mo or W; X = Cl, Br, or I): Synthesis and Characterization of the [Cp'Mo(NO)X₂]⁻ Radical Anions." Herring, F. G.; Legzdins, P.; Richter-Addo, G. B. *Organometallics* **1989**, *8*(6), 1485-1493.

4. "Insertions of Electrophiles into Metal-Carbon Bonds: Formation of New Carbon-Nitrogen Linkages Mediated by the (η^5 -Cyclopentadienyl)dinitrosylchromium Group." Legzdins, P.; Richter-Addo, G. B.; Wassink, B.; Einstein, F. W. B.; Jones, R. H.; Willis, A. C. *J. Am. Chem. Soc.* **1989**, *111*(6), 2097-2104. [Erratum: **1989**, *111*(20), 8062.]
5. "Redox-Active Phenylene-Bridged Polymetallic η^5, η^5 Complexes Containing Iron and Chromium." Richter-Addo, G. B.; Hunter, A. D. *Inorg. Chem.* **1989**, *28*(22), 4063-4065.
6. "Arene η^5, η^5 Complexes: Synthesis and Electrochemistry of (η^6 -1,4-C₆H₄XFp)Cr(CO)₃ (X = H, Me, Cl or OMe; Fp = (η^5 -C₅H₅)Fe(CO)₂)." Richter-Addo, G. B.; Hunter, A. D.; Wichrowska, N. *Can. J. Chem.* **1990**, *68*(1), 41-48.
7. "Regiospecific Condensation of Methyl Propiolate with 2,3-Dimethyl-2-butene Mediated by the Electrophilic (η^5 -Cyclopentadienyl)dinitrosyl Tetrafluoroborate Salts of the Group 6 Metals." Legzdins, P.; Richter-Addo, G. B.; Einstein, F. W. B.; Jones, R. H. *Organometallics* **1990**, *9*(2), 431-439.
8. "New Strategies for Enantioselective Syntheses of 1-Alkyl and 1,4-Dialkyl 1,2,3,4-Tetrahydroisoquinolines: Diastereoselective Additions of Nucleophiles and Electrophiles to Isoquinoline Mediated by an Easily Resolved and Recycled Chiral Transition Metal Auxiliary." Richter-Addo, G. B.; Knight, D. A.; Dewey, M. A.; Arif, A. M.; Gladysz, J. A. *J. Am. Chem. Soc.* **1993**, *115*(25), 11863-11873.
9. "Synthesis of Cyclic Imine Complexes of the Chiral Rhenium Lewis Acid [η^5 -C₅H₅)Re(NO)(PPh₃)₃]⁺ by Hydride Ion Abstraction from Amido Complexes." Cantrell, W. R., Jr.; Richter-Addo, G. B.; Gladysz, J. A. *J. Organomet. Chem.* **1994**, *472*(1-2), 195-204.
10. "Diastereoselective Additions of Nucleophiles and Electrophiles to Isoquinoline and Quinoline Mediated by an Easily Resolved and Recycled Chiral Transition Metal Auxiliary; Enantioselective Syntheses of Alkyl, Dialkyl, and Trialkyl Hydroisoquinoline Derivatives", Stark, G. A.; Dewey, M. A.; Richter-Addo, G. B.; Knight, D. A.; Arif, A. M.; Gladysz, J. A. In "Stereoselective Reactions of Metal-Activated Molecules: Proceedings of the Second Symposium held in Wurzburg, September 21-23, 1994", Werner, H.; Sundermeyer, J., Eds.; Vieweg Press: Wiesbaden, Germany. 1995, pp 51-72.

Book Publication

11. "Metal Nitrosyls." Richter-Addo, G. B.; Legzdins, P.; Oxford University Press: New York, 1992.

Conference Presentations

1. "Synthesis and Characterization of Substituted Tetraphenylporphyrins of Cobalt Containing Axially Bound Nitric Oxide", Hodge, S. J.; Yi, G. B.; Richter-Addo, G. B.: Poster Presentation at the 209th National Meeting of the American Chemical Society held in Anaheim, CA: April 2 - 6, 1995. Abstract INOR-379.
2. "Synthesis and Reactions of Cobalt Nitrosyl Porphyrins", Hodge, S. J.; Yi, G. B.; Richter-Addo, G. B.: Oral Presentation at the Oklahoma Pentasectional Meeting of the American Chemical Society held at the OCCE in Norman: April 29, 1995.
3. "A Study of the Interactions of Carcinogenic Nitrosamines With Heme Models", Richter-Addo, G. B.; Yi, G. B.: Poster Presentation at the 210th National Meeting of the American Chemical Society held in Chicago: August, 1995. Abstract INOR-574.

4. "Metalloporphyrins with Oxygen- and Nitrogen-Donor Ligands", Yi, G. B.; Richter-Addo, G. B.: Poster Presentation at the 210th National Meeting of the American Chemical Society held in Chicago: August, 1995. Abstract INOR-573
5. "Metalloporphyrins with Nitrosoarene Ligands", Chen, L.; Richter-Addo, G. B.; Wang, L.-S.: Poster Presentation at the 211th National Meeting of the American Chemical Society held in New Orleans: March, 1996. Abstract INOR-463.
6. "Nitrosamines as Ligands in Ruthenium Nitrosyl and Carbonyl Porphyrin Complexes", Yi, G.-B.; Richter-Addo, G. B.: Poster Presentation at the 211th National Meeting of the American Chemical Society held in New Orleans: March, 1996. Abstract INOR-465.
7. "Metalloporphyrins with X[N₂O₂]⁻ Ligands", Fox, J. B., Jr.; Richter-Addo, G. B.; Yi, G.-B.: Poster Presentation at the 211th National Meeting of the American Chemical Society held in New Orleans: March, 1996. Abstract INOR-466.
8. "Metalloporphyrins with Nitrosyl and/or Nitroso Ligands", Richter-Addo, G. B.: Invited Oral Presentation at the 211th National Meeting of the American Chemical Society held in New Orleans: March, 1996. Abstract INOR-624.
9. "Metalloporphyrins with Organic Nitroso Compounds as Ligands", Richter-Addo, G. B.; Yi, G.-B.; Chen, L.: Poster Presentation at the 31st International Conference on Coordination Chemistry held in Vancouver, Canada: August 18-23, 1996. Abstract 1P15.
10. "Metalloporphyrins with Organic Nitroso Compounds as Ligands", Richter-Addo, G. B.; Yi, G.-B.; Chen, L.: Poster Presentation at the Gordon Conference on Nitric Oxide held in Ventura, California, in February 1997.
11. "Nitrosamine Complexes of Osmium Porphyrins", Chen, L.; Richter-Addo, G. B.: Poster Presentation at the 213th National Meeting of the American Chemical Society held in San Francisco: April, 1997. INOR-320.
12. "Formal Addition of *S*- and *O*-Nitroso Compounds to Metalloporphyrins", Yi, G.-B.; Chen, L.; Richter-Addo, G. B.: Poster Presentation at the 213th National Meeting of the American Chemical Society held in San Francisco: April, 1997. INOR-321.
13. "Reactions of Thionitrites and Alkyl Nitrites with Metalloporphyrins of the Group 8 Metals", Richter-Addo, Yi, G.-B.; Chen, L.: Poster Presentation at the 213th National Meeting of the American Chemical Society held in San Francisco: April, 1997. INOR-319.
14. "Nitrosyl-Alkoxide and -Thiolate Complexes of Osmium Porphyrins", Chen, L.; Richter-Addo, G. B. Presentation at the Southwest Regional American Chemical Society meeting held in Tulsa: October, 1997.
15. "Nitroso and Nitrosyl Complexes of Metalloporphyrins", Richter-Addo, G. B. Presentation at the Southwest Regional American Chemical Society meeting held in Tulsa: October, 1997.
16. "Organometallic Nitrosyl (NO) and Thionitrosyl (NS) Complexes of Ruthenium and Osmium Porphyrins", L. Chen, L. Cheng, G. B. Richter-Addo. Poster presentation at the 215th National American Chemical Society meeting held in Dallas: March, 1998. INOR 175.
17. "Nitrosyl-Alkoxide and -Thiolate Complexes of Osmium Porphyrins", L. Chen, G. B. Richter-Addo. Poster presentation at the 215th National American Chemical Society meeting held in Dallas: March, 1998. INOR 390.

18. "Metalloporphyrins with Organic Nitroso Compounds as Ligands", Richter-Addo, G. B.: Invited Oral Presentation at the South African National Inorganic Conference held in Stellenbosch in January 1999.
19. "Metalloporphyrins with Organic Nitroso Compounds as Ligands", Richter-Addo, G. B.: Invited Oral Presentation at the Gordon Conference on Nitric Oxide held in Ventura, California, in February 1999.
20. "Binding and Activation of Nitric Oxide and Nitroso Compounds by Metalloporphyrins", Richter-Addo, G. B. Invited Oral Presentation at the 217th National American Chemical Society meeting held in Anaheim: March, 1999. INOR-548
21. "Metalloporphyrins with Nitric Oxide and Organic Nitroso Compounds as Ligands", Richter-Addo, G. B. Invited Oral Presentation at the 82nd National Canadian Chemical Society meeting held in Toronto: May, 1999.
22. "Novel Hydroxamate and NONOate Iron Porphyrins", Cheng, L.; Richter-Addo, G. B. Poster Presentation at the 218th National American Chemical Society meeting held in New Orleans: August, 1999. INOR-416.
23. "Synthesis, Characterization, and Deprotonation Reactions of Cationic Alcohol Complexes of Osmium Nitrosyl Porphyrins", Cheng, L.; Richter-Addo, G. B. Poster Presentation at the 220th National ACS meeting held in Washington, D. C.: August, 2000. INOR-372.
24. "Alkyl Nitrite (RONO) and -Thionitrite (RSNO) Additions to Group 8 Metalloporphyrins to give Nitrosyl Alkoxides and -Thiolates." Richter-Addo, G. B.; Lee, J. Presented at the 10th International Conference on Bioinorganic Chemistry held in Italy: August, 2001.
25. "Fiber Optic Reflectance Spectroelectrochemistry of Metal-Carbonyl Complexes." Shaw, M. J.; Westhoff, J. W.; Henson, R.; Richter-Addo, G. B.; Jones, M. Poster presentation at the 224th National ACS Meeting held in Boston: August 2002. ANYL-173.
28. "Interactions of Nitrones and Nitrosoarenes with Ruthenium Porphyrins." Richter-Addo, G. B.; Lee, J. Poster presentation at the 225th National American Chemical Society meeting held in New Orleans: March, 2003. INOR-165.
29. "Nitrosoalkane Binding to Heme Models." Sohl, C.; Lee, J.; Richter-Addo, G. B. Poster presentation at the 225th National ACS meeting held in New Orleans: March, 2003. INOR-166.
30. "Crystal Structures of Ferrous Horse Heart Myoglobin Complexed with Nitric Oxide and Nitrosoethane." Copeland, D.; West, A. H.; Richter-Addo, G. B. Poster presentation at the International Conference on Bioinorganic Chemistry in Australia, Summer 2003.
31. "If Not Iron, then Why Not Ruthenium?" Carter, S.; Richter-Addo, G. B. Poster presentation at the Southwest Regional ACS Meeting in Oklahoma City, Fall 2003.□
32. "Synthesis, Molecular Structures, and Spectroelectrochemical Studies of Six-Coordinate Manganese Nitrosyl Porphyrins." Zahran, Z.; Lee, J.; Richter-Addo, G. B. Poster presentation at the Southwest Regional ACS Meeting in Oklahoma City, Fall 2003.□
33. "Deciphering the Possible Role of Iron in NO Release from Artificial and Natural Sources." Salazar, C.; Richter-Addo, G. B. Poster presentation at the Southwest Regional ACS Meeting in Oklahoma City, Fall 2003.□
34. "Nitrosoalkane Binding to Heme Models." Sohl, C.; Richter-Addo, G. B. Poster presentation at the Southwest Regional ACS Meeting in Oklahoma City, Fall 2003.□
35. "Crystal Structures of Ferrous Horse Heart Myoglobin Complexed with Nitric Oxide and Nitrosoethane." Copeland, D.; West, A. H.; Richter-Addo, G. B. Poster presentation at the Southwest Regional ACS Meeting in Oklahoma City, Fall 2003.□

Research Seminars at Other Institutions

Wichita State University, Wichita, KS, September 6, 1995.
 Oklahoma State University, Stillwater, OK, November 2, 1995.
 Invited to the Technical University of Berlin in Germany as the OU/TUBerlin
 exchange speaker, June 1996.
 University of Wisconsin, Madison, WI, October 7, 1996.
 Wayne State University, Detroit, MI, October 24, 1996.
 University of California at Santa Barbara, CA, May 7, 1997.
 University of Washington in Seattle, WA, May 19, 1997.
 University of British Columbia, Canada, May 21, 1997.
 Simon Fraser University, Canada, May 22, 1997.
 University of Utah, Salt Lake City, UT, May 27, 1997.
 University of Miami, Florida. November, 1998.
 Albert Einstein College of Medicine, New York. May 20, 1999.
 University of Tulsa, OK, October 4, 1999.
 State University of New York (SUNY) at Buffalo, October 15, 1999.
 Southern Illinois University at Edwardsville, Spring 2001.
 Middlebury College, VT, January 18, 2002.
 University of Kansas in Lawrence, KS, March 1, 2002.
 University of Texas at Arlington, TX, September 20, 2002.
 Texas A&M University, TX, February 2003.
 Southern Illinois University at Edwardsville, March 2003.

Meetings and Workshops Attended

Conference on the "Pharmacology and Biological Chemistry of Nitric Oxide" at UCLA: July,
 1994.
 210th National Meeting of the American Chemical Society held in Chicago: August, 1995.
 211th National Meeting of the American Chemical Society held in New Orleans: March, 1996.
 31st International Conf. on Coordination Chemistry held in Vancouver, Canada: Aug. 1996.
 Gordon Conference on Nitric Oxide held in Ventura, CA, in February 1997.
 213th National Meeting of the American Chemical Society held in San Francisco: April, 1997.
 215th National Meeting of the American Chemical Society held in Dallas: April, 1998.
 Annual OCAST poster sessions held in Oklahoma City in 1995, 1996, 1997, 1999, and 2000.
 South African National Inorganic Conference held in Stellenbosch: January 1999.
 Gordon Conference on Nitric Oxide held in Ventura, CA: February 1999.
 NSF Fastlane and Budget Information Systems Workshop held at OU: March, 1999.
 217th National Meeting of the American Chemical Society held in Anaheim: March, 1999.
 82nd National Meeting of the Canadian Chemical Society held in Toronto, Canada: May, 1999.
 NSF Inorganic Chemistry Workshop held in Baltimore: May, 1999.
 218th National Meeting of the American Chemical Society held in New Orleans: August, 1999.
 5th Annual Structural Biology Symposium held in Galveston, TX: May, 2000.
 1st International Conference on Porphyrins and Phthalocyanines; Dijon, France, July, 2000

10th International Conference on Bioinorganic Chemistry held in Italy: August, 2001.
Oklahoma Academy of Sciences meeting held at Cameron University, OK: Fall, 2001.
Regional Conference on Protein Structure and Function, held at the Noble Research Center at Oklahoma State University: June 2001.
7th Annual Structural Biology Symposium held in Galveston, TX: May, 2002.
National Meeting of the American Chemical Society held in New Orleans. March, 2003.
International Conference on Cytochromes P450 held in Prague, Czech Republic. Summer, 2003.
International Conference on Bioinorganic Chemistry held in Cairns, Australia. Summer, 2003.

Other Research-Related Activities

I participated in the 9th American Crystallographic Association Summer Course for Crystallographers held at the University of Georgia in Athens, July 7-19, 2000.
I was on sabbatical leave for the calendar year 2000, and I spent this time learning biochemical techniques and protein crystallography in the laboratory of Dr. Ann West in this department.
I attended a two-week course in Macromolecular Crystallography at the Cold Spring Harbor Laboratory in the Fall of 2003.

Current Members of My Research Group

(3 Ph.D.'s have graduated from the group, and I have mentored several undergraduates for the Capstone, NSF-REU, Honors, and International exchange programs)

Postdoctorals:

1. Lilian Chooback: 2002 - present
2. Jonghyuk Lee: 2002 - present

Graduate Students:

1. Xu Nan (inorganic)
2. Daniel Copeland (biochemistry)
3. Myron Jones (analytical)
4. Shawn Carter (inorganic)
5. Carolina Salazar (analytical)
6. Zaki Zahran (inorganic)
7. Valeriya Vorozhko (biochemistry)
8. Jun Yi (analytical)

Undergraduate Student: Christal Sohl. (biochemistry)

FINANCIAL SUPPORT

Research Support from External Agencies(a) Current:

- National Institutes of Health
P.I.: G. B. Richter-Addo
Title: Reactions of *N*-Nitroso Compounds with Heme

- National Science Foundation
P.I.: G. B. Richter-Addo
Title: Reactions of Nitroso and Nitrosyl Groups with Metalloporphyrins

(b) Prior:

- National Institutes of Health - FIRST Award
P.I.: G. B. Richter-Addo
Title: Reactions of Nitrosylmetalloporphyrins
Period of Award: 8/1/96 to 7/31/01

- National Science Foundation - CAREER Program
P.I.: G. B. Richter-Addo
Title: Nitrosyl and Nitroso Metalloporphyrins
Period of Award: 5/15/96 - 10/00

- Oklahoma Center for the Advancement of Science and Technology
Health Research Award
P.I.: G. B. Richter-Addo
Title: Metalloporphyrin NONOate and Related Complexes
Period of Award: 9/97 - 8/00

- Oklahoma Center for the Advancement of Science and Technology
Health Research Award
P.I.: G. B. Richter-Addo
Title: Reactions of Nitrosylmetalloporphyrins
Period of Award: Fall 1994 - Summer 1997

- National Institutes of Health - IDeA Program
P.I.: G. B. Richter-Addo
Title: Bioinorganic Chemistry of Nitric Oxide
Period of Award: 9/30/93 - 9/29/94

- National Institutes of Health - Instrumentation Grant
P.I.: G. Dryhurst (Co-PIs: Cook, Hanna, Van der Helm, Richter-Addo)
Title: Tandem Mass Spectrometer for Biomolecular Analysis

- National Science Foundation
P.I.: G. Dryhurst (Masood Khan), with Richter-Addo as a major user.

Re: Purchase of a CCD-Equipped Single Crystal X-ray Diffractometer

- NSF Instrumentation: (2000)

Title: 300MHz NMR Spectrometer

Co-P.I.'s: Professors Dryhurst and Nicholas (with me as major user)

- Departmental 400 MHz NMR Instrumentation (1994):

I was an auxiliary user listed in the proposal (with research input).

- NSF Instrumentation: (1995)

Title: An EPR Spectrometer for Protein and Metal Spin Resonance Analyses

Co-P.I. with Klebba (P.I.), Nicholas, Ashby, Glatzhofer, Wheeler.

Financial Support from Internal Sources

Various funds for travel to conferences and for professional development in Structural Biology.

SECTION C: TEACHING

Courses Taught at OU

Fall 1993	Chem 1315 (General Chemistry; Class size = 247) Chem 6850 (Inorganic Seminar)
Spring 1994	Chem 6850 (Inorganic Seminar)
Fall 1994	Chem 6863 (Advanced Inorganic Chemistry, Bioinorganic; Class size = 11) Chem 6850 (Inorganic Seminar Coordinator)
Spring 1995	Chem 1415 (General Chemistry II; Class size = 213) Chem 6850 (Inorganic Seminar)
Fall 1995	Chem 4333 (Advanced Inorganic Chemistry; Class size = 23) Chem 6850 (Inorganic Seminar)
Spring 1996	Chem 1415 (General Chemistry II; Class size = 232) Chem 6850 (Inorganic Seminar)
Fall 1996	Chem 4333 (Advanced Inorganic Chemistry; Class size = 27) Chem 6850 (Inorganic Seminar Coordinator)
Spring 1997	Chem 5233 (Advanced Inorganic Chemistry; Class size = 4) Chem 6850 (Inorganic Seminar)
Fall 1997	Chem 5233 (Advanced Inorganic Chemistry; Class size = 7) Chem 6850 (Inorganic Seminar)
Spring 1998	Chem 5433 (Main Group Reaction Chemistry; Class size = 9) Chem 6850 (Inorganic Seminar)
Fall 1998	Chem 6850 (Inorganic Seminar Coordinator)
Spring 1999	Chem 5233 (Advanced Inorganic Chemistry; Class size = 12) Chem 1315 (General Chemistry I; Class size = 258) Chem 6850 (Inorganic Seminar Coordinator)
Fall 1999	Chem 1315 (General Chemistry I; Class size = 277) Chem 6850 (Inorganic Seminar)
2000	Chem 6970 (Departmental Colloquium)
Spring 2001	Chem 1315 (General Chemistry I) Chem 6970 (Departmental Colloquium)
Fall 2001	Chem 4333 (Advanced Inorganic Chemistry; Class size = 17) Chem 6850 (Inorganic Seminar) Chem 6970 (Departmental Colloquium; Class size = 70)
Spring 2002	Chem 5433 (Main Group Chemistry; Class size = 9) Chem 6850 (Inorganic Seminar) Chem 6970 (Departmental Colloquium; Class size = 74)
Fall 2002	Chem 6850 (Inorganic Seminar)
Spring 2003	Chem 5433 (Main Group Chemistry; Class size = 15) Chem 6850 (Inorganic Seminar)
Fall 2003	Chem 5433 (Main Group Chemistry; Class size = 5) Chem 6850 (Inorganic Seminar)
Spring 2004	Chem 1315 (General Chemistry I) Chem 6850 (Inorganic Seminar)

Newly Developed Courses and Curricula:

Fall 1994: Chem 6863 (Advanced Inorganic Chemistry - Special Topics
- Bioinorganic Chemistry)

Fall 1995: Chem 4333 - Advanced Inorganic Chemistry (modified existing
undergraduate curriculum to include topics in Organometallic Chemistry and
Bioinorganic Chemistry)

Spring 1997: Chem 5233 - Advanced Inorganic Chemistry (modified existing graduate
curriculum to include another graduate course (Chem 5433 - Main Group Chemistry) since
the latter course was not offered that academic year)

Student Advisees

I continue to serve on a large number of graduate student advisory committees (currently
35). I have also served as a reader on 8 undergraduate (Capstone) theses.

SECTION D: SERVICE

Leadership Roles at Meetings

- Chair of Inorganic Session II at the 40th Pentasectional meeting of the American Chemical Society, April 29, 1995, at the OU/OCCE in Norman, OK.
- Co-chaired of a session on "Metals in Biology" at the 31st International Conference on Coordination Chemistry held in Vancouver, Canada: August 18-23, 1996.
- Symposium organizer on "Nitric Oxide" at the 1st International Conference on Porphyrins and Phthalocyanines held in Dijon, France: July 2000.

Journals for Which I Have Refereed

Journal of Organometallic Chemistry
Organometallics
Inorganic Chemistry
Journal of Inorganic Biochemistry
Journal of the American Chemical Society
Journal of Porphyrins and Phthalocyanines
Accounts of Chemical Research
Journal of the Chemical Society, Dalton Transactions
Inorganica Chimica Acta
J. Pharmaceutical Sci.
New Journal of Chemistry
Canadian Journal of Chemistry
Nitric Oxide: Biology and Chemistry
Angew. Chem. Int. Ed.
Chemical Reviews
Synthesis and Reactivity in Inorganic and Metal-Organic Chemistry
Chemical Communications

Granting Agencies for Which I Reviewed Proposals

- American Chemical Society (PRF)
- National Science Foundation (Chemistry Division)
- National Science Foundation: I served as a member of an NSF CAREER (Chemistry) panel and an NSF CRIF panel (instrumentation program for junior faculty).
- Research Corporation
- Natural Sciences and Engineering Research Council of Canada
- National Institutes of Health (GM).
- South Carolina Research Initiative
- Louisiana State Board of Regents Research Initiative
- CRDF Armenian-US Bilateral Grants Program
- Canada Research Chairs Program
- Moldovan-U.S. Bilateral Grants Program
- International Science and Technology Center (U.S.- Former Soviet Union)
- National Research Foundation of South Africa

Committee Service and Leadership Roles

Departmental

Current:

2000-present: Chair of our Departmental Critical Space Committee.

2001-2004: Member of Committee "A" (the 3-member department Executive Committee that includes the departmental Chair).

2002-present: Chair of departmental committee to evaluate the Ph.D. program in chemistry in the U.S. (sponsored by the Carnegie Foundation for the Advancement of Teaching).

Previous:

2001-2003: Graduate Student Admissions/Recruiting Committee.

1997 - 2002: Chair of the departmental Seminar Committee.

1993-1997, 1999-2002: General Chemistry Committee.

1999, 2001: Member of the Analytical Services/Research Facilities Committee during a period of reorganization of the departmental research support services structure.

1998 - 1999: Strategic Planning Committee for the Department that produced our 10-yr strategic plan.

1998-1999, 2001: APEX (Alumni magazine) Committee

1998 - 1999: Graduate Committee.

1996-1999: Member of the Search Committees for a vacant Inorganic faculty position. I was the Chair of the Search Committee for the vacant Inorganic faculty position in the 1998-1999 search year. The 1998-1999 Search was successful.

1993-1996: Secretary at faculty meetings.

1993-1995: Library Committee.

1995-1998: Member of the departmental Safety Committee during a period of clean-up of the 4th floor of the chemistry building.

1994-1995: Member of the departmental Ad Hoc Committee on graduate student support.

1995-1997: Minority Advisor for the 1995-1998 DoE GAANN Awards.

University

2003- present Member of OU Life Sciences Initiative group.

2000 Member of a university Ad Hoc committee set up to formulate and establish an undergraduate Major in African Studies.

2000 Member of a Provost Inquiry Committee that investigated an Ethics in Research issue.

1993-present: Member of an International Programs advisory committee that explores possible collaborative research programs between OU and some African universities. I was a member of the 5-person delegation that visited the African continent (Ghana, Kenya, and South Africa) in 1998 in an effort to forge constructive collaborations with 12 universities.

1995-2003: Gave an invited presentations on "How to Write a Successful Research Proposal" to the new faculty at the OU New Faculty Lunch Seminar (c/o Dee Fink) in October of each of the years 1995-2003.

2002: Member of the faculty Selection Committee for the prestigious Cleo Cross Scholarship awarded by the OU International Office.

2002-2003: I assisted the Vice President for Research in the OU-sponsored NSF CAREER Proposal Preparation Workshop.

1995: Invited guest at OU President David Boren's round table conference honoring Wole Soyinka, a Nobel Prize winner in Literature.

1996: Member of university-wide committee to select the best OU Ph.D. thesis.

1994-1995: Gave an invited presentation (as a successful 2nd yr faculty member) to the new faculty at the OU New Faculty Lunch Seminar (c/o Dee Fink).

1997: Chaired the university-wide committee to select the recipients of the best Ph.D. thesis, and the Graduate Teaching Assistant Award in Science and Engineering. In addition, I was a judge for the Graduate Student Research Session at the OU Graduate College.

Outside the University

2000-2003: Member of the Editorial Advisory Board of *the Canadian Journal of Chemistry*.

2002-present: Member of the Canada Research Chairs College of Reviewers.

2002: Guest Editor (together with P. Legzdins and J. Burstyn) for the April 10, 2002, Thematic Issue for *Chemical Reviews* on "Nitric Oxide Chemistry".

2001: Member of the NSF Board of Committee of Visitors to evaluate the NSF CAREER Program (May 2001).

1999-2000: I reviewed the academic progress of a faculty member in South Africa by the National Research Foundation of South Africa (the equivalent of the United States' NSF).

2000-2002: Ad-hoc member of the BMT Study Section of the National Institutes of Health in February 2000, February 2001, and October 2002.

2003-2007 Member of NIH BMT Study Section.

2000 Member of the MRBS Review Panel of the National Institutes of Health in October, 2000.

1996: Member of the Resource Advisory Committee at the National Biomedical Center for Spin Trapping and Free Radical Biology and Aging Research Program, located at the Oklahoma Medical Research Foundation (OMRF).