BIOGRAPHICAL SKETCH

David T. Pierce **Associate Professor of Chemistry**

Professional Preparation

McGill University (Montreal)	B.Sc. Chemistry	1985
University of Vermont	PhD. Analytical Chemistry	1991
University of Texas - Austin	Postdoctoral Fellow	1990-1992

Appointments

1997-present	Associate Professor, University of North Dakota
1992-1997	Assistant Professor, University of North Dakota

Publications (five most closely related to the proposed research)

1. Xu, K.; Pierce, D. T.; Li, A.; Zhao, X., Nanocatalysts in Fuel Cells. In *Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry*, 2007 (in press)
2. Hazelton, S. G.; Pierce, D. T., Ultratrace Determination of Inorganic Selenium without Signal Calibration. *Anal. Chem.* **2007,** 79(12), 4558-4563. ***Article featured in AC News "Selenium sensing sans calibration" by Jeffrey M. Perkel, Analytical Chemistry, 2007, 79, 4747.***
3. Zhao, X.; Pierce, D. T.; Huan, Y., A sensitive sandwich DNA array using fluorescent nanoparticle probes. In *Methods in Molecular Biology (Totowa, NJ, United States)*, 2006; Vol. 321, pp 141-155.
4. Liang, S.; Pierce, D. T.; Amiot, C.; Zhao, X., Photoactive nanomaterials for sensing trace analytes in biological samples. *Synthesis and Reactivity in Inorganic, Metal-Organic, and Nano-Metal Chemistry* **2005,** 35(9), 661-668.
5. Applebee, M. S.; Geissler, J. D.; Schellinger, A. P.; Jaeger, R. J.; Pierce, D. T., Field Screening of Waterborne Petroleum Hydrocarbons by Thickness Shear-Mode Resonator Measurements. *Environ. Sci. Technol.* **2004,** 38(1), 234-239.

Publications (five other significant publications)

1. Pierce, D. T.; Applebee, M. S.; Lacher, C.; Bessie, J., Low Parts per Billion Determination of Sulfide by Coulometric Argentometry. *Environ. Sci. Technol.* **1998,** 32(11), 1734-1737.
2. Hatfield, T. L.; Pierce, D. T., Electrochemical remediation of metal-bearing wastewaters Part II: Corrosion-based inhibition of copper removal by iron(III). *J. Appl. Electrochem.* **1998,** 28(4), 397-403.
3. DiMaio, A.-J.; Rheingold, A. L.; Chin, T. T.; Pierce, D. T.; Geiger, W. E., Structural Consequences of Electron-Transfer Reactions. 34. Electrochemical and Structural Characterization of cis- and trans-[Cp(CO)Ru(m-As(C6H5)2)]2, Isomers That Undergo Two-Electron-Transfer Oxidations. *Organometallics* **1998,** 17(6), 1169-1176.
4. Pierce, D. T.; Hatfield, T. L.; Billo, E. J.; Ping, Y., Oxidatively Induced Isomerization of Square-Planar [Ni(1,4,8,11-tetraazacyclotetradecane)](ClO4)2. *Inorg. Chem.* **1997,** 36(14), 2950-2955.
5. Hatfield, T. L.; Kleven, T. L.; Pierce, D. T., Electrochemical remediation of metal-bearing wastewaters. Part I. Copper removal from simulated mine drainage waters. *J. Appl. Electrochem.* **1996,** 26(6), 567-574.

Patents

1. Zhao, X. J.; Pierce, D. T. Surfaces coated with target-induced fluorescent compounds for detection of target elements. *Patent Application: US* 2006-368315, March 3, 2006.
2. Pierce, D. T.; Seames, W. Automated accelerated extraction of trace elements from biomass. *Patent Application: US* 2006-471224, June 20, 2006.

Synergistic Activities:

Teaching Methods and Awards

- Pierce, D. T.; Pierce, T. W., Effective use of demonstration assessments in the classroom relative to laboratory topics. *J. Chem. Educ.* **2007,** 84(7), 1150-1155.
- University of North Dakota, Lydia and Arthur Saiki Prize for Individual Excellence in Teaching, **2004**

Participation of Groups Underrepresented in Science

- PI of NSF-Research Experience for Undergraduates program CHE-9619804, "Undergraduate Research in Chemistry: A Site Emphasizing Native American Participation," **1997-2000**, $148,000

Service to University and Wider Scientific Community

- Chair, Red River Valley Section of the American Chemical Society, **2000**
- American Water Works Association (AWWA), Standard Methods Committee, **2000-present**
- Co-Director of Alice T. Clark/UND Foundation Scholars Mentoring Program, **2006-present**

Collaborators & Other Affiliations within the Last 4 Years

Collaborators

Dr. Julia Zhao, University of North Dakota, Department of Chemistry
Dr. Wayne Seames, University of North Dakota, Department of Chemical Engineering
Dr. Evguenii Kozliak, University of North Dakota, Department of Chemistry

Graduate Students Advised (Total 9):

M.S. Students

Hina Baliyan , Chemistry 2003
Sathyendra Ghantasala, Chemical Engineering 2005 (co-advised with W. Seames, ChE)
Tara Kopplin, Environmental Engineering 2006 (co-advised with W. Seames, ChE);

Ph.D. Students

Sandra Hazelton, Chemistry (expected 2009)
Aize Li, Chemistry (expected 2010)

Graduate and Postdoctoral Advisors:

Prof. William E. Geiger	University of Vermont
Prof. Allen J. Bard, Hackerman-Welch Regents Chair	University of Texas - Austin