

Kenneth L. Brown

Curriculum Vitae

Hope College
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Education

Oral Roberts University	Chemistry	B.S., 1993
Oklahoma State University	Chemistry	Ph.D., 1999

Positions Held

Research Assistant, Dowell Schlumberger, 1994-1995.
Analytical Chemist, Lab One Analytical, 1993-1994.
Associate Professor of Chemistry, Hope College, 2006-Present.
Assistant Professor of Chemistry, Hope College, 2002-2006.
Assistant Professor of Chemistry (Term), Hope College, 1999-2002.
Teaching Assistant, Department of Chemistry, Oklahoma State University, 1995-1999.

Publications

J. Li, J. Jiang, H. Vander Stel, A. Homkes, J. Corajod, K. Brown, and Z. Chen, "Phylogenetics and Biogeography of *Apios* (Fabaceae) inferred From Sequences of Nuclear and Plastid Genes," *International Journal of Plant Sciences*, 2014, 175(7), 764-780.

K. Brown, J. Li, K. Wirth, E. Wilkins, J. Tufts, and F. Bahema, "Determination of Genistein and Protein Content in *Apios Carnea* and *Apios Fortunei* from China, and *Apios Americana*," *Modern Applied Science*, 2014, 9(1), In Press.

K. Klunder*, F. Heckman, K.L. Brown, and G.F. Peaslee, "A Study of Dissolve Gas Dynamics in Mixed Stream Electrolyzed Water," *The Journal of Electrochemistry*, 2012, 80(8), 574-577.

K.L. Brown, X. Hou*, O. Banks*, K.A. Krueger*, J. Hinson*, G.F. Peaslee, P.A. DeYoung, S.M. Alger*, J. Benzer*, T. Neils, "Characterization of Tris (5-amino-1,10-phenanthroline) Ruthenium(II/III) Polymer Films Using Cyclic Voltammetry and Rutherford Backscattering Spectrometry," *International Journal of Chemistry*, 2011, 3(4), 12-19.

K.L. Brown, and S.B. Gray*, "Cyclic Voltammetric Studies of Electropolymerized Films Based on Ruthenium(II/III)Bis(1,10 phenanthroline)(4-methyl-4' vinyl-2,2' -bibyridine)," *International Journal of Chemistry*, 2010, 2, 2, 3-9.

Publications (cont.)

T.B. Higgins, K.L. Brown, J.G. Gillmore, J.B. Johnson, G.F. Peaslee, and D.J. Stanford, "Successful Student Transitions from the Community College to the Four-Year College Facilitated by Undergraduate Research," *Council on Undergraduate Research*, 2011, 31(3), 16-22.

K.N. Pearson, K.L. Brown, H.L. Dershem, K.W. Murray, C.C. Barney, and M.N.F. Lee, "Enriching a Culture of Research: Extending Opportunities to a Broader Community," *Council on Undergraduate Research: Broadening Participation in Undergraduate Research*, Edited by M.K. Boyd and J.L. Wesemann, 2009, 167-178.

D.J. Gonthier*, T.J. Sullivan, K.L. Brown, B. Wurtzel*, R. Lawal, K. VandenOever*, Z. Buchan*, and T.L. Bultman, "Stroma-Forming Endophyte Epichloe Glyceriae Provides Wound-Inducible Herbivore Resistance to its Grass Roots," *Oikos*, 2008, 117, 629-633.

J.S. Pinter*, K.L. Brown, P.A. DeYoung, G.F. Peaslee, "Amperometric Detection of Hydrazine by Cyclic Voltammetry and Flow Injection Analysis Using Ruthenium Modified Glassy Carbon Electrodes," *Talanta*, 2006, 71, 1219 -1225.

K.L. Brown, J.S. Pinter, *, K.E. Wing; T.R. Ruch,*; M. Ambrose* and I. Hesselsweet,* "Amperometric Detection of Glucose Involving Electropolymerized Tetraaminophthalocyanine and Ferrocene Films," *Analytical Letters*, 2005, 38(5), 769-780.

K.L. Brown, J. Shaw, M. Ambrose* and H.A. Mottola, "Voltammetric, Chronocoulometric and Spectroelectrochemical Studies of Electropolymerized Films Based on Co(III/II)- and Zn(II)-4, 9, 16, 23-Tetraaminophthalocyanine: Effect of High pH," *Microchemical Journal*, 2002, 72, 285-298.

Brown, K.L. and Mottola, H.A. "Voltammetric, Chronocoulometric, and Spectroelectrochemical Studies of Electropolymerized Films Based on Cu(II/I)- 4, 9, 16, 23-Tetraaminophthalocyanine," *Langmuir*, 1998, 14(12), 3411-3417.

Presentations and Invited Talks

Sabbatical Presentation: Overview of Research Projects, Gentex Corporation, Zeeland, MI, June 26, 2014.

Nuts and Bolts of Crafting the R&D Research Manuscript, Gentex Corporation, Zeeland, MI, June 20, 2014.

Measurements Based on Impedance: Theory and Application, Gentex Corporation, Zeeland, MI, April 3, 2014.

R-Hydroquinone Study: R-Hydroquinone, Where Are You? Gentex Corporation, Zeeland, MI, April 3, 2014.

Presentations and Invited Talks (cont.)

Academic Reality Check: Maintaining Your Passion Through the Professoriate, The 3rd Annual Michigan Alliance for Graduate Education and the Professoriate and King-Chavez-Park Future Faculty Fellows Conference, Michigan State University, East Lansing, MI, October 8, 2011.

The Development of New Electrochemical Probes: Three Dimensionally Macroporous Electrodes, Gentex Corporation, Zeeland, MI, April 20, 2010.

Chemistry Research Opportunities at Hope College, URC: Oakton Community College, Des Plaines, IL January, 2010.

Chemically Modified Electrodes: Determining Thin Film Thickness, National Organization for the Professional Advancement of Black Chemist and Chemical Engineers," Atlanta, GA, March 30, 2010.

Research Opportunities at Hope College: From Electrochemistry to Plant Physiology and Beyond, Grand Rapids Community College, Grand Rapids, MI, September 7, 2008.

Research Opportunities at Hope College: From Electrochemistry to Plant Physiology and Beyond, Harold Washington College, Chicago, IL, October 12, 2007.

Two Day Course: Mercury, Hope Academy of Senior Professionals, Holland, Michigan, April 21 & 27, 2006.

Fungi, Alkaloids, and Differential Equations: A Multidisciplinary Undergraduate Program at Hope College, Council on Undergraduate Research, Depauw University, Greencastle, IN, 2006.

Developing the Next Generation of Scientific Leaders Through a Dynamic Trio: Mentoring, Research and Education, PEW Capstone Experiences Workshop, Chicago, IL, March 4, 2006.

Cyclic Voltammetric Studies of Metal(II) Tetraaminophthalocyanine Polymer Thin Films: Electrochemistry at Hope College, Calvin College, December 2, 2004.

Cyclic Voltammetric Studies of Metal(II) Tetraaminophthalocyanine Polymer Thin Films: Electrochemistry at Hope College, University of Illinois at Urbana, April 18, 2003.

Amperometric Determination of Glucose by Electrodes Modified with Ferrocene and Tetraaminophthalocyanine, University of Michigan, Michigan Space Grant Consortium: Seventh Annual Conference, Ann Arbor, MI, October 5, 2002.

Presentations and Invited Talks (cont.)

Voltammetric and Chronocoulometric Characterization of Electropolymerized Copper (II)-4, 9, 16, 23-Tetraaminophthalocyanine Thin Films, 53rd Southwest Regional American Chemical Society Meeting, Tulsa, OK, October 2, 1997.

Synthesis and Electropolymerization of Metal(II)-Tetraaminophthalocyanine, Eighth Annual Graduate Student Research Symposium, Oklahoma State University, Stillwater, OK, March 17, 1997.

Electropolymerization of Cu(II)-and Co(II)-4, 9, 16, 23-Tetraaminophthalocyanine: Potential Rate Modifiers in Chemiluminescence-Based Sensors, 41st Annual American Chemical Society Pentasectional Meeting, Phillips Research Center, Bartlesville, OK, October 5, 1996.

Grants, Fellowships, and Awards**NASA Michigan Space Grant**

(2001-2002)-\$10,000.

Principle Investigator: Carbon Dioxide and Glucose Sensing Based on Luminol Chemiluminescence and Electropolymerized Metal(II) Tetraaminophthalocyanine.

National Science Foundation-Major Research Instrumentation

(2003-2005)-\$719,035.

Co-Principle Investigator: Acquisition of a Nuclear Microprobe System for Interdisciplinary Research and the Integration of Research and Undergraduate Education at Hope College.

National Science Foundation-Collaborative Research at Undergraduate Institutions

(2004-2008)-\$816,773.

Co-Principle Investigator: A Multidisciplinary Test of Mutualistic Benefits Fungal Endophytes Provide Their Host Plants.

National Science Foundation-Research Site for Educators in Chemistry

(2006-2007)-\$11,500.

Principle Investigator: Collaborative Research with a Hope College Research Team in the Development of Amperometric Sensors.

Jacob E. Nynehuis Faculty Development Grant

(2010-2011)-\$8,100.

Principle Investigator: Development of Electrochemical Sensors Using Three-Dimensional Ordered Macroporous Electrodes and Disposable Electrodes.

Grants, Fellowships, and Awards (cont.)**National Science Foundation-Collaborative Research at Undergraduate Institutions**

(2011-2015)- \$355,544.

Co-Principle Investigator: Mutualism Theory Using Endophytic Fungi and Their Host Grass.

Hope College-Howard Hughes Medical Institute Faculty Development Grants for Research

(2013-2014)-\$15,000.

Co-Principle Investigator: Probing Interfaces: A Collaboration between Academics and Industry on Electrode Surfaces for Biomedical Devices.

Hope College-Howard Hughes Medical Institute Faculty Development Grants for Research

(2013-2014)-\$8000.

Co-Principle Investigator: Biological and phytochemical investigations of Apios, a promising new root crop with great nutritional and medicinal value.

National Science Foundation-Research Experience for Undergraduates

(2009-2012)-\$344,333.

Principle Investigator: REU Site: Professional Excellence and Development in Science Through Undergraduate Research.

National Science Foundation-Research Experience for Undergraduates

(2013-2016)-\$275,000.

Principle Investigator: REU Site: Achieving the Next Level: Research Experiences for Underserved Populations.

NASA Graduate Fellowship, Oklahoma State University, (1995).

Dean of Natural Science and Applied Sciences Division Mentoring, Advising, and Teaching Award, (2010).

Global Shalom Fellow, Hope College, (2014).

A. Paul Schaap Fellow, Hope College, (2014).