

CURRICULUM VITA

Dr. Brian P. Koehler
Associate Professor of Chemistry

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Education

Ph.D. Inorganic Chemistry (August 1999)
University of Georgia (Athens, GA)

B.S. Chemistry (May 1992)
B.S. Mathematics (May 1992)
Presbyterian College (Clinton, SC)

Honors and Awards

Georgia Southern University

2009 named GSU Outstanding Advisor – Faculty Role to Nat. Academic Advising Assoc. (NACADA)
2005 promoted to rank of Associate Professor

University of Georgia

1997 Martin Reynolds Smith Prize for Outstanding Graduate Research Paper
1996 Regents Merit Supplement for Outstanding Performance in Research and Teaching
1995 and 1994 Center for Metalloenzyme Studies Research Training Grant
1994 Department of Chemistry Merit Supplement for Excellence in Teaching
1992 to 1994 Abraham Baldwin Graduate Fellowship

Presbyterian College

1992 Outstanding Senior in Chemistry
1990 Neil G. Whitelaw Scholarship
1990 James C. and Ida M. Oeland Scholarship
1990 Sigma Kappa Alpha Honor Society
1990 Omicron Delta Kappa Honor Society
1988 to 1992 The Alumni Scholarship

Research Projects and Proposals

NSF NOYCE Scholarship Proposal “SMART: Science and Math Achievement through Research and Teaching” **Funded:** \$750,000 Oct. 2008.

GSU Student Technology Fee Proposal “Smart Classroom Upgrades to Chemistry Lecture (Rm1006)” **Funded:** \$19,000 Fall 2006.

GSU Student Technology Fee Proposal “Integration of A/V Technology in Chemistry Classrooms” **Funded:** \$15,200 3/31/2006

GSU Student Technology Fee Proposal “Upgraded Computer Lab” **Funded:** \$10,160 11/15/2005.

Paulson Math & Science Student Research Award Proposal “Characterization of Accelerants From Burn Residues of Common Household Materials.” \$1094.00 **Funded:** \$837.26 11/20/2005 – 1 undergraduate student participating.

Research Project: UV-Vis and EPR spectroscopic analysis of the marine metabolite, Adenochrome (collaboration with Dr Michele Davis, GSU) – 1 semester, 1 student

Research Project: “Analysis of Plant Sterol and Fatty Acid Content in Onion” (collaboration with Dr Norman Schmidt, GSU), 2 undergraduate students participating.

GSU Student Technology Fee Proposal “Computers for Physical Chemistry Lab” \$29,517 **Funded:** \$9,717 plus 18 computers from Newton Lab 3/27/2003.

Research Project: “Analysis of Plant Sterols and Fatty Acids in a new Peanut-Based Snack Chip” (collaboration with Yao-Wen Huang, Univ. of Georgia), 3 undergraduate students participating.

Research Project: “Analysis of B-Sitosterol and Other Sterols in Black-Eyed Peas and Other Georgia Crops,” 3 undergraduate students participating.

Research Project: “Spectroscopic Characterization of the Iron Centers in marine Adenochrome,” 1 undergraduate student participating.

GSU Student Technology Fee Proposal “Chemistry Computer Lab Upgrade” **Funded:**\$31,481 5/9/2001.

NSF-CCLI (DUE 0088586): “Meeting the Needs of All General Chemistry Students: Computers and Interfaced Analytical Probes in the Laboratory.” **Funded:** \$139,000 1/1/2001-12/31/2003.

Research Project: “Designing of interactive Internet prelab exercises for the General Chemistry Laboratories,” 1 undergraduate student participating.

Undergraduate research project designing Bioinorganic experiments for the Inorganic laboratory, 1 undergraduate student participating.

Publications

Peer Reviewed - Completed while at GSU:

1. Orvis, Jessica; Orvis, Jeff, Koehler, Brian. "The Nature of Color Subtraction—A Guided Inquiry Experience" *Journal of College Science Teaching* **2007**, 36, 68-69
2. LoBue, James M. and Brian P. Koehler. "Teaching Physical Chemistry-Let's Teach Kinetics First" In *Physical Chemistry Curriculum Reform: Where Are We Now and Where Are We Going?* Ellison, M. and Schoolcraft, T. Eds. ACS Symposium Series 973; American Chemical Society, Washington, DC 2007, pp. 111-112.
3. Koehler, Brian P.; Orvis, Jessica. N. Internet-Based Prelaboratory Tutorials and Computer-Based Probes in General Chemistry. *Journal of Chemical Education* **2003**, 80, 606-608.
4. Dhawan, Ish K.; Roy, Roopali; Koehler, Brian P.; Mukund, Swarnalatha; Adams, Michael W.W.; Johnson, Michael K. Spectroscopic Studies of a Novel Tungsten-Containing Formaldehyde Oxidoreductase from the Hyperthermophilic Archaeon, *Thermococcus Litoralis*. *Journal of Biological Inorganic Chemistry* **2000**, 5, 313-327.
5. Dhawan, Ish K.; Roy, Roopali; Koehler, Brian P.; Adams, Michael W.W.; Johnson, Michael K. Spectroscopic Studies of Tungsten-Containing Formaldehyde Ferredoxin Oxidoreductase and Glyceraldehyde-3-phosphate Ferredoxin Oxidoreductase from Two Hyperthermophilic Archaea. *Journal of Inorganic Biochemistry* **1999**, 74, 112.
6. Kooter, Ingeborg M.; Koehler, Brian P.; Moguilevsky, Nicole; Bollen, Alex; Weaver, Ron; Johnson, Michael K. The Met243 Sulphonium Ion Linkage is Responsible for the Anomalous Magnetic Circular Dichroism and Optical Spectral Properties of Myeloperoxidase. *Journal of Biological Inorganic Chemistry* **1999**, 4, 684-691.

Peer Reviewed - Prior to GSU:

1. Koehler, Brian P.; Mukund, Swarnalatha; Conover, Richard C.; Dhawan, Ish K.; Roy, Roopali; Adams, Michael W. W.; Johnson, Michael K. Spectroscopic Characterization of the Tungsten and Iron Centers in Aldehyde Ferredoxin Oxidoreductases from Two Hyperthermophilic Archaea. *Journal of the American Chemical Society* **1996**, 118, 12391-12405.
 2. Park, I. Seon; Michel, Linda O.; Pearson, Matthew; Jabri, Evelyn; Karplus, P. Andrew; Wang, Shengke; Dong, Jun; Scott, Robert A.; Koehler, Brian P.; Johnson, Michael K.; Housinger, Robert P. Characterization of the Mononickel Metallocenter in H134A Mutant Urease. *The Journal of the Biological Chemical Society* **1996**, 271, 18632-18637.
 3. Koehler, Brian P.; Mukund, Swarnalatha; Conover, Richard C.; Crouse, Brian R.; Fu, W.; Adams, Michael W.W., and Johnson, Michael K. Spectroscopic Characterization of Tungsten-Containing Aldehyde Oxidoreductases. *Journal of Inorganic Biochemistry* **1995**, 59, 560
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Conference Presentations

1. April 26, 2006

International Networking for Educational Transformation Conference (Augusta, GA)

Presentation: “*Catalyzing Excitement in the Science Classroom with CBL Technology.*” LoBue, James; Koehler, B; Chassereau, K; Stanley, M; Durden, T.

2. September 23, 2005

PRISM Regional Institute

Presentation: “*Bringing CBL Technology to the Biology and Environmental Science Classroom*” and “*Catalyzing Excitement for High School Chemistry and Physical Science.*” Karen Chassereau and colleagues.

3. March 4, 2005

RISE RIG Georgia Southern University, College of Science and Technology (Statesboro, GA)

Presentation: *Genchem Labs at the Next Level: New Tools for a New Era.* Koehler, B and Orvis, J.

4. March 26, 2003

225th ACS National Meeting (New Orleans, LA)

Poster Presentation: *Phytosterols and Fatty Acids in Raw Peanuts, Defatted Pellets, and a New Peanut Snack Chip* Komisarow, Sasha N; Allgood, Anna L.; Huang, Yao-wen; Koehler, Brian P.

5. July 31, 2002

Biennial Conference on Chemical Education, Western Washington Univ. (Bellingham, Washington)

Presentation: *Internet Based Prelab Tutorials in the General Chemistry Lab.* Koehler, Brian P.

6. February 15, 2002

Georgia State Teachers Association Conference, (Savannah, Georgia)

Presentation: *Salt Water Intrusion: A Chemistry Laboratory Exploration of Solution Conductivity* Koehler, Brian P.; Orvis, Jessica N.

7. Sept. 25, 2001

Southeast Regional Meeting of the American Chemical Society, Armstrong Atlantic State University, (Savannah, Georgia)

Presentation: *Web-Based Prelabs in the General Chemistry Curriculum.* Koehler, Brian P.

8. August 1997

Summer Symposium on Molecular Biology. Pennsylvania State University (University Park, Pennsylvania)

Poster: *Spectroscopic Studies of Tungsten-containing Aldehyde Ferredoxin Oxidoreductases from Two Hyperthermophilic Archaea.* Koehler, Brian P.; Dhawan, Ish D.; Roy, Roopali; Mukund, Swarnalatha; Adams, Michael W.W.; Johnson, Michael K.

9. September 1995

International Conference on Bioinorganic Chemistry (ICBIC). (Lubek, Germany)

Poster: *Spectroscopic Characterization of Tungsten Containing Aldehyde Oxidoreductases.* Koehler, Brian P.; Mukund, Swarnalatha; Conover, Richard C.; Crouse, Brian R.; Fu, W.; Adams, Michael W.W.; Johnson, Michael K.

10. August 1994

Inorganic Biochemistry Summer Workshop. University of Georgia (Athens, Georgia)

Poster: *Ni(III)-Rubredoxin as a Model for the Nickel Center in NiFe-Hydrogenases*. Koehler, Brian P.; Verhagen, M.; Zhou, Z.H.; Adams, Michael W.W.; Johnson, Michael K.

Work Experience

January 2007 to present

College of Science and Technology Advising Center – Chemistry Representative

Duties: Advise all freshmen chemistry, pre-medical/dental, and pre-pharmacy majors on degree requirements, course sequences, expectations, and sources of support (2007-08). Advised all sophomore chemistry, pre-medical/dental, and pre-pharmacy students on courses, self-evaluating performance and progress relative to degree objectives and career goals (2008-2009).

August 2001 to present

Professor, Department of Chemistry, Georgia Southern University

Duties: Instruct undergraduate lecture and laboratory chemistry courses, serve as Departmental Web Master, maintain and install computer hardware/software/networking of departmental computer lab, integrate computers into chemistry lab program, develop research projects with undergraduate majors, served on Chemistry Strategic Planning Committee, COST Course & Curriculum Committee, Chemistry Curriculum Committee Chair, SOAR – Chemistry Faculty Advisor, GSU Scholar's Day interviewer.

August 1999 to 2001

Visiting Assistant Professor, Department of Chemistry, Georgia Southern University

Duties: Instruct undergraduate lecture and laboratory chemistry courses, serve as departmental web master (design, update and maintain departmental web site as necessary), develop research projects with undergraduate majors, serve on Assessment Committee for General Chem Program.

September 1992 - August 1999

Research Assistant for Dr. Michael K. Johnson, Dept. of Chemistry, University of Georgia.

Duties: Guide and conduct experimental research on several topics of interest to the research group; install, maintain, and repair laboratory instrumentation and interfaced computer work stations; train new graduate students in the research group and assist in projects from collaborators outside the research group; order laboratory supplies and manage expense accounts for the research group.

June 1991 – August 1991

Undergraduate Research Assistant for Dr. Felix Escher, Department of Food Science, Swiss Federal Institute of Technology, Zurich, Switzerland

Duties: Develop analytical methods of quantifying both the free and bound food-grade emulsifiers in starch utilizing methods of extraction, enzyme applications for starch degradation, derivatization and GLC analysis.

June 1990 - August 1990

Undergraduate Research Assistant for Dr. J.L. Adcock, Dept. of Chemistry, Univ. of Tennessee

Duties: Develop methods of synthesis for particular organic compounds for eventual perfluorination derivatization experiments.

Teaching Experience

August 1999 – current

Associate Professor, Department of Chemistry, Georgia Southern University

Courses: Introduction to General Chemistry (Chem 1145), Introduction to General Chemistry II (Chem 1146), Comprehensive General Chemistry (Chem1147), Allied Health Chemistry (Chem 1140), Research Methods (Chem 2031), Physical Chemistry Lab (Chem 3340L), Adv. Inorganic Chemistry (Chem 3140), Senior Seminar, Chem7090 Selected Topics (Science Teacher summer course), Conversations with Professors

January 1998 – May 1999

Lab Instructor, Department of Chemistry, University of Georgia.

Supervisor: Dr. Michael K. Johnson

Courses: Senior Inorganic and Physical Chemistry Lab (Chem 3512L), Experimental Inorganic Chemistry Lab (Chem 402L)

August 1992 – December 1997

Teaching Assistant, Department of Chemistry, University of Georgia

Supervisors: Dr. Darwin Smith, Dr. John Ruff, Dr. Kenneth Whitten, Dr. Michael A. Duncan

Courses: General Chemistry Lab (Chem122L), Experimental Inorganic Chemistry Lab (Chem 402L), General Chemistry Lab (Chemistry 121L), Advanced General Chemistry Lab (Chemistry 127L/137L), Qualitative Analysis Lab (Chem 123L)

1988 – 1992 (Fall and Spring Semesters)

Teaching Assistant, Department of Chemistry, Presbyterian College

Supervisors: Dr. David Evans, Dr. Ed Gouge, Dr. Randolph Huff

Courses: General Chemistry I & II Labs (Chem101L & 102L) and Organic Chemistry I & II Labs (Chem221L & 222L)

Relevant Skills

Operation, data interpretation, and maintenance of spectroscopic instrumentation

- EPR/ESR
- CD and MCD
- UV/Vis/NIR absorption
- FTIR
- Resonance Raman

Biological research and methodology

- Enzyme chemistry
- Hyperthermophilic bacteria
- Aerobic and anaerobic sample handling

Laboratory management

- Installing and maintaining research instrumentation
- Training new lab members
- Assisting outside collaborators

- Maintaining laboratory supplies and managing expense accounts

Computer use and maintenance

- Interfacing research instrumentation to PCs
- IBM, Macintosh, Unix operating systems
- Installing hardware
- Programming in Fortran and Basic
- Server installation and administration

Providing constructive support in team effort situations

- Assisting members within lab in sample preparation, time scheduling, and sharing of instrumentation and resources
 - Collaborating with research groups from other scientific fields
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Professional Service and Volunteer Work

PRISM Learning Community with the science department at Metter High School (2004-2006)

GSU Upward Bound Program Presentation of chemistry demonstrations and preparation of lab experience for students (Summer 2004)

Consultant for Ogechee Technical College in development of laboratory facility to support a new general chemistry course (2003).

Presentation of Chemistry lab experience and “Mad Scientist Slime Party” for GSU Eagle Science Camps for Georgia middle school students (2000-2006).

Family Science Night at Langston Chappel Middle School (2004, 2005)

Judge for various regional middle school Science Fairs (2001-2005).

Presiding Host: *General Inorganic Session*. SE Regional Meeting of the American Chemical Society. Armstrong Atlantic State University, Savannah, GA. (Sept 26, 2001)

Manuscript reviewer: *Principles of Physical Chemistry (4th ed)*, by Ignacio Tinoco

Scoutmaster, Troop 332 at Statesboro First United Methodist Church (2008-present)

Web Master for SE Region Summer Undergraduate Research Conferences (2002, 2004, 2008) and GSU Family Life Center Parents Advisory Committee (2000-2001).

Amateur Radio Service (KE4TYQ): Trained SkyWarn weather spotter for NOAA, emergency communications volunteer, and President (2003, 2005, 2006) and Treasurer (2007) of Statesboro Amateur Radio Society.

Professional References

Lisa Vance
Director, College of Science & Technology Advising Center
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Dr. Jim Lobue
Department of Chemistry
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Dr. Michael K. Johnson
Department of Chemistry
University of Georgia
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