



The Chemistry Department is offering CHM 2440 - Organic Chemistry I in summer 2011. For details please [click here](#).

Paid summer research opportunities in Chemistry:

1. [Richard and Ellen Keiter Summer Research Fellowship](#).

The [Midwest Organic Solid-State Chemistry Symposium](#) - will be held at EIU on June 10-11, 2011.



Welcome our new faculty member [Dr. Mary Konkle](#), a Biochemist.

Fall 2010 Dean's List: Congratulations!

Name	major
Egan, Ann E.	Chemistry
Kuenneth, Tayler C.	Science Teacher Cert Chemistry
Livshits, Olga	Chemistry
Logsdon, Kimberly S.	Science Teacher Cert Chemistry
Obenchain, Daniel A.	Chemistry
Pontow, Brendan W.	Science Teacher Cert Chemistry
Wiseman, Joshua D.	Chemistry
non-majors who are an integral part of the department	
Bowen, Tamara R.	Biological Sciences
Elmuti, Lena F.	Biological Sciences
Kunz, Andrew R.	Geology
Prosser, Stephanie D.	Biological Sciences

Presley, Gerald N.	Biological Sciences
Jurkowski, Don L.	Pre Engineering

Summer classes offered by the Chemistry Department (Click here to search for details):

CHM 1040G The World of Chemistry

CHM 2040G Practical Chemistry

CHM 4400 Undergraduate Research

CHM 4410 Independent Study

CHM 5040 Chem Analysis for NS Teachers

CHM 5080 Biochemistry for NS Teachers

CHM 5890 Graduate Research

CHM 1310G General Chemistry I

CHM 1315G General Chemistry Laboratory I

EIU Chemistry Research News

Dr. Semeniuc's article: 8-Quinoline based ligands and their metallic derivatives: A structural and statistical investigation of quinoline – stacking interactions article was amongst the top ten accessed on the web from the online version of New Journal of Chemistry

Chemistry names on the fall semester 2009 Dean's List

Anderson, Valencia O. (CHM)

Bolokowicz, Andrew J. (CHM)

Cross, Jacob T. (CHM)

Payea, Matthew (CHM)

Bartels, Joshua C. (SCIC)

Carter, Sarah C. (SCIC)

Sturm, Kiley J. (SCIC)

Veach, Jedidiah J. (SCIC)

Congratulations to Drs. Rebecca Peebles and Gopal Periyannan for being awarded COS Early Research Support Awards.

Terry Rotsch, a graduate of Eastern's MS Chemistry program, has been chosen as one of the 13 EIU Outstanding Graduate Alumni.

The Fall 2009 EIU Outstanding Student Teacher named by the Department of Student Teaching at EIU:

Lindsey Vogt (aka Lindsey Shamhart), BS Science Teacher Cert (Chem Specialization)

Congratulations to the following students and faculty on being awarded Spring 2010 Undergraduate Research Grants from the EIU Council on Undergraduate Research:

1) Stacy Fortin (advisor: Edward Treadwell) Title: "Exploring the Photochromicity of

Cinnamaldehyde Semicarbazones”

2) Matthew Payea (advisor: Gopal R. Periyannan) Title: “Proteomic and Metabolomic Investigation of Polysaccharide Metabolism by *Caulobacter Crescentus*”

The EIU Outstanding Young Alumnus of FA09 is awarded to Dr. Ryan Bailey.

Dr. Ryan Bailey '99, is an assistant professor in both the Department of Chemistry and the Institute for Genomic Biology at the University of Illinois at Urbana-Champaign. In 2007 he was selected as an inaugural recipient of the National Institutes of Health Director's New Innovator Award following a review by 262 experts in the scientific community. One of only three chemists nationwide recognized with this honor, the award included a \$1.5 million grant to support his research focused on developing new technologies for the personalized screening of genes and proteins for signs of cancer and other diseases.

The Student Affiliates of the American Chemical Society at EIU was recognized as one of 69 nationwide commendable chapters by the national office for the 2007-2008 academic year. This award recognizes the strong activity and membership of this student organization, and their goals of providing educational, career planning, service, and social opportunities for chemistry majors and enthusiasts.

Chemistry faculty honored at the Research and Sponsored Programs Reception: Thursday 11/12:

Active External Grants:

Sean Peebles and Rebecca Peebles “RUI: Structural Characterization of Ionic and Radical Complexes by High Resolution Spectroscopy” National Science Foundation

Thomas Over and Jon Blitz “Collaborative Research: Enhancement of Wind Erosion by Fire-Induced Water Repellency” National Science Foundation

2009 Summer Research and Creativity Awards

Gopal Periyannan “Enzymes for Biofuel Production: Proteomic Identification of Glycoside Hydrolases from *Caulobacter crescentus*”

Radu Sememiuc “Downsizing our Computers' Transistors: Molecular-Scale Logic Gates”

2009-2010 Council on Faculty Research Award Recipients

Kraig Wheeler “Mimicking Thymine Photodimerization DNA Damage”

SP09 Chemistry Student Awards

Chemistry names on SP09 Dean's List

Grove, Rebecca C.
Kernbauer, Cassandra A.
Lee, Yoon K.
Pontow, Brendan W.
Reeb, Sarah A.
Steber, Amanda L.
Vasquez, Daniela M.
Anderson, Valencia O.
Cross, Jacob T.

FY08 Chemistry Student Awards

Chemistry names on FA08 Dean's List

Barry Goldwater Award (National): Rebecca Grove

SURE Award: Meghan Breen, Rebecca Grove, Amanda Steber

GSI Award: Michal Serafin

Murray and Sallie Walters Memorial Scholarship: Debra Schwenk

Martin O. Schahrer Scholarship Amanda Steber

G.B. Dudley Award: Rebecca Grove

Outstanding International Student (Chemistry): Mini Gupta

Distinguished Graduate Student Nominee (Chemistry): Michal Serafin

Harris E. Phipps Chemistry Scholarship: Debra Schwenk, Rebecca Grove, Daniela Vasquez

Harris E. Phipps Freshman Chemistry Scholarship: Christina Highley

Edward O. Sherman Memorial Scholarship: Valencia Anderson

George L Cunningham Scholarship: Amanda Steber

Robert & Shirley Karraker Scholarship: Tyler Severs

ACS Division of Polymer Chemistry Award: Valencia Anderson

Sidney R. Steele Student Summer Award: Ashley Osthoff

Analytical Chemistry Award: Rebecca Grove

Merck Index Award: Mateusz Serafin, Kimberly Cagle, Meghan Breen

Outstanding Teaching Assistant Award (Chemistry): Michal Serafin

Barry M. Goldwater Scholarship: Rebecca Grove

FY08 Undergraduate Research Award Recipients

Laura Lienhop
Timothy Russel
Rebecca Grove
Asuka Nakano

External Grants active during FY08

J.P. Blitz

Project: Using Model Systems to Enhance Understanding of Silica Surface Reactions

Agency: Petroleum Research Fund of the American Chemical Society

J.P. Blitz

Project: Collaborative Research: Enhancement of wind erosion by fire-induced water repellency (w/Thomas Over)

Agency: National Science Foundation

R.A. Peebles

Project: Spectroscopic Characterization of Acid Rain Precursor Molecules and Their Complexes

Agency: Petroleum Research Fund of the American Chemical Society

R.A. Peebles

Project: Far-Infrared Spectroscopy of the Volatile Organic Compound (VOC) p-Xylene

Agency: The Canadian Light Source synchrotron facility (Far-IR Beam Line)

R.A. Peebles & R.A. Peebles

Project: National Science Foundation Research at Undergraduate Institutions (NSF-RUI)

Agency: Structural Characterization of Ionic and Radical Complexes by High Resolution Spectroscopy

R.F. Semeniuc

Project: Novel Organic-Inorganic Hybrid Cage Architectures Incorporating Azacrown Ethers and 1,3,5-Triazine Scaffolds

Agency: Petroleum Research Fund of the American Chemical Society

K.A. Wheeler

Project: Molecular Topology Directed Crystalline Architectures

Agency: Petroleum Research Fund of the American Chemical Society

K.A. Wheeler

Project: Acquisition of a Single-Crystal X-Ray Diffractometer

Agency: National Science Foundation

Proposal Initiative Fund Recipients

Mark McGuire (Catalysis of Energy Efficient Electron/Hydrogen Ion Transfers)

Gopal Periyannan (Biomass Conversion: Proteomic Identification of Glycoside Hydrolases from *Caulobacter crescentus*)

Council on Faculty Research Grants active in FY08

S. Mitrovski (Microfluidic Electrochemical Approaches to Organic Synthesis: Electrosynthesis of Ibuprofen)

S.A. Peebles (Construction of a pulsed-discharge nozzle for applications in high-resolution spectroscopy)

R.F. Semeniuc (Fighting Global Warming - New Materials for Hydrogen Storage; SU08: Fighting Global Warming Redux - Hollow Molecular Precursors for Hydrogen Storage Containers)

K.A. Wheeler (SU08: Molecular Imprinted Crystal Faces)

R.A. Peebles (Probing the Effect of Atmospheric Pollutants on Carbon Dioxide's Contribution to Global Warming)

Publications in FY08 (faculty denoted by asterisks, student co-authors underlined)

Dewberry, Christopher T.; Etchison, Kerry C.; Grubbs, Garry S.; Powoski, Robert A.; Serafin, Michal M.; Peebles, Sean A.*; Cooke, Stephen A. Oxygen-17 hyperfine structures in the pure rotational spectra of SrO, SnO, BaO, HfO and ThO. *Physical Chemistry Chemical Physics* (2007), 9(44), 5897-5901.

Blitz, Ian P.; Blitz, Jonathan P.*; Gun'ko, Vladimir M.; Sheeran, Daniel J. Functionalized silicas: Structural characteristics and adsorption of Cu(II) and Pb(II). *Colloids and Surfaces, A: Physicochemical and Engineering Aspects* (2007), 307(1-3), 83-92.

Serafin, Mateusz F.; Wheeler, Kraig A.* 2-Aminopyrimidine-3,3,3-triphenylpropanoic acid (1/1). *Acta Crystallographica, Section C: Crystal Structure Communications* (2007), C63(11), o620-o621.

Serafin, M. M.; Peebles, S. A.*; Dewberry, C. T.; Etchison, K. C.; Grubbs, G. S.; Powoski, R. A.; Cooke, S. A. Concerning the electron density at the Pb nucleus in PbO as a function of bond length. *Chemical Physics Letters* (2007), 449(1-3), 33-37.

Wheeler, Kraig A.*; Grove, Rebecca C.; Davis, Raymond E.; Kassel, W. Scott. Quasiracemic materials. Rediscovering Pasteur's quasiracemates. *Angewandte Chemie, International Edition* (2008), 47(1), 78-81.

Lineberry, Aaron M.; Benjamin, Ellis T.; Davis, Raymond E.; Kassel, W. Scott; Wheeler, Kraig A.* Structural Studies of Racemates and Quasiracemates: Chloro, Bromo, and Methyl Adducts of 2-Phenoxypropionic Acid. *Crystal Growth & Design* (2008), 8(2), 612-619.

Serafin, Michal M.; Peebles, Sean A.* Microwave spectrum, dipole moment, and internal dynamics of the methyl fluoride-carbonyl sulfide weakly bound complex. *Journal of Physical Chemistry A* (2008), 112(7), 1473-1479.

Frei, Reto; Blitz, Jonathan P.* Kinetics studies of 3-aminopropyldimethyl-methoxysilane reaction with silica and a model silsesquioxane silanol: the role of solvent. *Journal of Undergraduate Chemistry Research* (2008), 7(1), 1-5.

Dewberry, C. T.; Etchison, K. C.; Grubbs, G. S.; Powoski, R. A.; Serafin, M. M.; Peebles, S. A.*; Cooke, S. A. The ^{115}Sn , ^{117}Sn and ^{119}Sn nuclear spin-rotation constants in stannous monoxide, SnO , and a new multi-isotopomer analysis. *Journal of Molecular Spectroscopy* (2008), 248(1), 20-25.

Rafal M. Grudzien, Jonathan P. Blitz*, Stanislaw Pikus, Mietek Jaroniec; Cage-like Ordered Mesoporous Organosilicas with Isocyanurate Bridging Groups: Synthesis, Template Removal and Structural Properties, *Microporous and Mesoporous Materials* 2009, 118, 68 - 77.

V. M. Gun'ko, J. P. Blitz*, V. I. Zarko, V. V. Turov, E. M. Pakhlov, O. I. Oranska, E. V. Goncharuk, Y. I. Gornikov, V. S. Sergeev, T. V. Kulik, B. B. Palanytsya, R. K. Samala, Structural and adsorption characteristics and catalytic activity of titania and titania-containing nanomaterials, *J. Colloid & Interface Sci.* 2009, 330, 125-137.

V.M. Gun'ko, R. Leboda, J. Skubiszewska-Zi ba, E.V. Goncharuk, Y.M. Nychiporuk, V.I. Zarko, J. P. Blitz*; Influence of Different Treatments on Characteristics of Nanooxide Powders Alone or with Adsorbed Polar Polymers or Proteins, *Powder Technology* 2008, 187, 146, 158.

K. Gude, V. M. Gun'ko, J. P. Blitz*; Adsorption and Photocatalytic Decomposition of Methylene Blue on Surface Modified Silica and Silica-Titania, *Colloids and Surfaces A: Physicochemical and Engineering Aspects* 2008, 325, 17-20.

R. M. Grudzien, B. E. Grabicka, O. Olkhovyk, M. Jaroniec, J. P. Blitz*; Application of Mesoporous Organosilicas with Sulfur- and Nitrogen-Containing Ligands for Adsorption of Mercury Ions; in "Nanoporous Materials" (A. Sayari and M. Jaroniec, eds), World Scientific Publ. Co., Singapore, 2008, pp. 665-676.

J. P. Blitz*, J.M. Christensen, C.A. Deakyne, V.M. Gun'ko; Silica Surface Modification Reactions with Aluminum and Boron Alkyls and (Alkyl) Chlorides: Reactivities and Surface Nanostructures, *The Journal of Nanoscience and Nanotechnology* 2008, 8, 660-666.

M. A. Serafin, R. A. Peebles*, S. A. Peebles*, Internal Rotation Effects in the Pulsed Jet Rotational Spectrum of the Trifluoromethane-Carbon Dioxide Dimer, *J. Mol. Spectrosc.*, 250 (2008) 1.

M.M. Serafin, R.A. Peebles* and S.A. Peebles*, Internal Rotation Effects in the Pulsed Jet Rotational Spectrum of the Trifluoromethane-Carbon Dioxide Dimer, *Journal of Molecular Spectroscopy*, 250, (2008), 1-7.

G.S. Grubbs II, C.T. Dewberry, K.C. Etchison, M.M. Serafin, S.A. Peebles*, S.A. Cooke, The Pure Rotational Spectrum of Pivaloyl Chloride, $(\text{CH}_3)_3\text{CCOCl}$, between 800 MHz and 18800 MHz, *Journal of Molecular Spectroscopy*, 251, (2008), 378-383.

M.M. Serafin and S.A. Peebles*, Dimers of Fluorinated Methanes with Carbonyl Sulfide: The Rotational Spectrum and Structure of Difluoromethane–OCS, *Journal of Physical Chemistry A*, 112, (2008), 12616–12621.

J.R. Durig, S.S. Panikar, G.A. Guirgis, T.K. Gounev, R.M. Ward, R.A. Peebles*, S.A. Peebles*, R.J. Liberatore, S. Bell, C.J. Wurrey, Conformational Stability, r_0 Structural Parameters, Barriers to Internal Rotation, Vibrational Spectra and Ab Initio Calculations of $c\text{-C}_3\text{H}_5\text{SiH}_2\text{CH}_3$, *Journal of Molecular Structure*, (2009).

Treadwell, E. M.*; Clausen, T.P. Is *Hedysarum Mackenzii* (Wild Sweet Pea) Actually Toxic? *Ethnobot. Res. Appl.*, 2008, 6, 319-320.

Treadwell, E.M.*; Lin, T.-Y. A More Challenging Interpretative Nitration Experiment Employing Substituted Benzoic Acids and Acetanilides. *J. Chem. Ed.*, 2008, 11, 1541-1543.

Conferences attended by Chemistry Faculty in FY08 (faculty denoted by asterisks, undergraduate co-authors underlined)

R.A. Peebles – 63rd International Symposium on Molecular Spectroscopy, Ohio State University, June

K.A. Wheeler – Biennial Conference on Chemical Education, Indiana University, July

Gopal Periyannan – ACS National Meeting, Philadelphia, PA, August

R.F. Semeniuc – ACS National Meeting, Philadelphia, PA, August

S. Mitrovski – Svetlana M. Mitrovski* and Asuka Nakano, "Synthesis and Characterization of Tin-Modified Gold Catalysts for the Electrochemical Carbon-Dioxide Reduction", 60th Southeast ACS Regional Conference, Nashville, TN, November

R. L. Keiter - Richard L. Keiter*, Ellen A. Keiter, Wen Zhang, Mark E. McGuire, M.E., Pradeep Perera, David Zigler, Kraig, A. Wheeler, Arnold A. Rheingold, "Tetrametallic Tungsten Carbonyl Complexes Composed of Phosphido-Bridged Units Bridged by Ditertiary Phosphines," 235th National ACS Meeting, New Orleans (2008)