

## Mark S. Erickson, Ph.D.

Hartwick College, Johnstone 457  
Oneonta, New York 13820

e-mail: ericksonm@hartwick.edu

web: <http://users.hartwick.edu/ericksonm>

### Education:

Ph.D. 1992    Organic Chemistry    Louisiana State University; Baton Rouge, Louisiana  
Dissertation:    "Synthesis of Novel Metallocenes: Asymmetric Hydrogenation Catalysts to Conductive Polymers"  
Advisor:    Professor Mark L. McLaughlin

B.A. 1984    Chemistry (ACS)    Hamline University; St. Paul, Minnesota

### Professional Experience:

2003 - Present    **Associate Professor of Chemistry, Hartwick College (tenured)**  
• Teach Organic, Gen-Org-Biochem, and selected laboratory courses  
• Teach interdisciplinary seminar course focused on cancer  
• Taught first year student orientation course (Foundations)  
• Direct undergraduate research  
• Bruker AVANCE 300 MHz FT-NMR Spectrometer Facilities Manager

1998-2003    **Assistant Professor of Chemistry, Hartwick College**

1998    **Consultant**, Molecular Design International, Memphis, TN  
• Assisted in the design of retinoids (Vitamin A derivatives) as anticancer drugs  
• Designed and synthesized novel antimicrobial agents

1994-1998    **Assistant Professor of Chemistry, University of Mississippi**  
• Taught graduate and undergraduate General and Organic chemistry courses  
• Multi-University Research Group Leader on NSF-EPSCoR funded project  
• Directed graduate and undergraduate thesis research

1992-1994    **ONT/ASEE Postdoctoral Fellow**, U.S. Naval Research Lab, Washington, D.C.  
Advisor: Dr. JoAnn Milliken  
• Synthesized fullerenes and developed potential fullerene precursors

1987-1992    **Teaching/Research Assistant**, Louisiana State University, Baton Rouge, LA  
• Taught general and organic labs and performed research on funded projects

1985-1986    **Substrate Engineer**, IBM, Endicott, NY  
• Investigated various polymeric photoresists for computer chip production

1984    **Intern Chemist**, Medtronics, Inc., Brooklyn Center, MN  
• Synthesized biodegradable polymers for use in vascular grafts

### Professional Honors, Committees, and Affiliations:

American Chemical Society (ACS) and Binghamton (NY) Local Chapter  
Ole Miss Local Section of the ACS: 1998 Chair, 1997 Chair-Elect, 1994-1996 Treasurer  
Ole Miss Student Affiliates of the American Chemical Society (faculty advisor, 1994-1998)  
Phi Lambda Upsilon (Alpha Mu Chapter, Chemistry Honor Society)

### **Invited Presentations:**

"Synthesis of Aromatic Compounds Linked by an Extended  $\pi$ -Backbone."

Hartwick College, 1998  
University of Wisconsin, La Crosse, 1998  
Mississippi College, 1998  
University of Southern Mississippi, 1997  
University of Alabama, Birmingham, 1997

"Career Opportunities in Chemistry."

Laurens (NY) Central School, 2002  
Mississippi School for Math and Science, Columbus, Mississippi, 1996

"Cyclopentadienyls: From Ferrocenes to Fullerenes."

University of Memphis, 1995  
University of Central Arkansas, 1995  
University of Mississippi, 1994  
George Mason University, Fairfax, Virginia, 1993  
Heidelberg College, 1993  
Davidson College, 1992

### **Select Meeting Presentations:**

"Synthesis of 2,5-dimethyl-3,4-divinylthiophene." **Czetty, B.C.** and Erickson, M.S.; *227th American Chemical Society National Meeting*, Anaheim, CA, March 28-April 1, 2004.

"Synthesis of Bithienyl Monomers." **Colson, B.C.** and Erickson, M.S.; *224th American Chemical Society National Meeting*, Boston, MA, August 20, 2002.

"Synthesis of Vinyl Thiophene Monomers as Precursors to Novel Polythiophenes." **Nassivera, T.** and Erickson, M.S.; *219th American Chemical Society National Meeting*, San Francisco, CA, March 26-30, 2000.

"Supercritical Carbon Dioxide as a Solvent for Friedel-Crafts Reactions." **Simard, J.M.** and Erickson, M.S.; *217th American Chemical Society National Meeting*, Anaheim, CA, March 21, 1999.

"Synthesis of  $\pi$ -Conjugated Polymers." Erickson, M.S. *1998 Mississippi NSF-EPSCoR Conference*, Jackson, Mississippi, January 22, 1998.

"A Simple and Efficient Approach for a Synthesis of [3.1.0]-Bicyclohexyl and Heptyl Monomers." Yu, D. and Erickson, M.S. *1997 Mississippi EPSCoR Conference*, Jackson, Mississippi, January 29, 1997.

"Potential Organometallic Precursors To Conducting Polymers." Erickson, M.S. *47th Southeast/51st Southwest Joint Regional Meeting of the American Chemical Society*, Memphis, Tennessee, November 30th, 1995.

"Synthesis of Benzonaphthochrysene: In Search of Potential Precursors to Fullerenes." Erickson, M.S.; Milliken, J.; George, C.F. *207th Meeting National American Chemical Society*, San Diego, California, March 16, 1994.

"Synthesis of Benzonaphthochrysene." Erickson, M.S. and Milliken, J. *184th Meeting of the Electrochemical Society*, New Orleans, Louisiana, October 12, 1993.

"Synthesis of 1,4-(1,1'-Ferrocenediyl)-1,3-Butadiene.", Erickson, M.S. and McLaughlin, M.L., *204th Meeting of the American Chemical Society*, Washington, D.C., August 26, 1992.

### **Select Meeting Presentations (continued):**

"Unprecedented Syn Selectivity in the Synthesis of Bridged Titanocene Dichloride Derivatives.", Erickson, M.S.; Fronczek, F.R.; McLaughlin, M.L., *197th Meeting of the American Chemical Society*, Dallas, Texas, April 14, 1989.

### **Publications:**

Erickson, M.S.; Farrell, S.O.; Farrell, C.A. *Student Solutions Manual to Accompany Bettelheim, Brown, Campbell, and Farrell "Introduction to General, Organic, and Biochemistry"* 9<sup>th</sup> Edition, Brooks/Cole, **submitted**.

Erickson, M.S.; Farrell, S.O.; Farrell, C.A. *Instructor's Manual to Accompany Bettelheim, Brown, Campbell, and Farrell "Introduction to General, Organic, and Biochemistry"* 9<sup>th</sup> Edition, Brooks/Cole, **in prep**.

Erickson, M.S.; Farrell, S.O.; Farrell, C.A. *Student Solutions Manual to Accompany Bettelheim, Brown, Campbell, and Farrell "Introduction to General, Organic, and Biochemistry"* 8<sup>th</sup> Edition, Brooks/Cole, **2007**.

Erickson, M.S.; Farrell, S.O.; Farrell, C.A. *Instructor's Manual to Accompany Bettelheim, Brown, Campbell, and Farrell "Introduction to General, Organic, and Biochemistry"* 8<sup>th</sup> Edition, Brooks/Cole, **2007**.

Erickson, M.S. *Student Solutions Manual for Brown and Poon's "Introduction to Organic Chemistry"*, 3<sup>rd</sup> Edition. John Wiley and Sons, Inc., **2005**.

Erickson, M.S.; Brown, W.H.; Boyer, R. *Student Solutions Manual to Accompany Bettelheim and Brown "Introduction to General, Organic, and Biochemistry"* 7<sup>th</sup> Edition, Brooks/Cole, **2003**.

Erickson, M.S.; Brown, W.H.; Boyer, R. *Instructor's Manual to Accompany Bettelheim and Brown "Introduction to General, Organic, and Biochemistry"* 7<sup>th</sup> Edition, Brooks/Cole, **2003**.

"Novel Synthesis of Three C<sub>30</sub>H<sub>12</sub> Bowl-Shaped Polycyclic Aromatic Hydrocarbons." Hagen, S.; Bratcher, M.S.; Erickson, M.S.; Zimmermann, G.; Scott, L.T. *Angewandte Chemie, International Edition, English* **1997**, 36(4), 406-408.

"Synthesis of Benzonaphthochrysene: A Potential Fullerene Precursor." Erickson, M.S. and Milliken, J. *Polycyclic Aromatic Compounds* **1996**, 8, 1-7.

"Routes to Conjugated Polymers with Ferrocenes in their Backbones: Synthesis and Characterization of Poly(ferrocenylene divinylene) and Poly(ferrocenylene butenylene)." Stanton, C.E.; Lee, T.R.; Grubbs, R.H.; Lewis, N.S.; Pudelski, J.K.; Callstrom, M.R.; Erickson, M.S.; McLaughlin, M.L. *Macromolecules* **1995**, 28, 8713-8721.

"Refinements of the Crystal Structures of 1,4-diphenylbutadiene and Its Complex with Two Moles of Co<sub>2</sub>(CO)<sub>6</sub>." Fronczek, F.R. and Erickson, M.S. *J. of Chemical Crystallography* **1995**, 25, 737-742.

"Structure of a Cyclotetradecadiene." Erickson, M.S.; Schilling, P.J.; Fronczek, F.R.; Watkins, S.F. *Acta Cryst.* **1993**, C49, 165-167.

"Synthesis of 1,4-(1,1'-Ferrocenediyl)-1,3-butadiene: A Dieno-ferrocenophane." Erickson, M.S.; Fronczek, F.R.; McLaughlin, M.L., *Tetrahedron Lett.* **1993**, 34, 197-198.

"3-Benzoyl-1-Tosylpyrrole." Erickson, M.S.; Fronczek, F.R.; McLaughlin, M.L. *Acta Cryst.* **1992**, C48, 202-203.

“Syntheses of Dipentafulvenes: Bichromophoric Effects Correlated with Structure.” Erickson, M.S.; Cronan, J.M., Jr.; Garcia, J.G.; McLaughlin, M.L. *J. Org. Chem.* **1992**, *57*, 2504-2508.

“Stereoselectivity in the Synthesis of Tetramethylethano-Bridged 3,3'-Di-tert-butyltitanocene Dichloride.” Erickson, M.S., Fronczek, F.R., McLaughlin, M.L. *J. Organomet. Chem.* **1991**, *415*, 75-85.

“S-Oxo-2-thia-[3]-ferrocenophane.” Erickson, M.S.; Yu, Y.; Fronczek, F.R.; McLaughlin, M.L. *Acta Cryst.* **1991**, *C47*, 2668-2669.

“The Syn Tetramethylethano-Bridged 3,3'-[Bis-(1,1-dimethylethyl)]titanocene Dichloride.” Erickson, M.S.; Fronczek, F.R.; McLaughlin, M.L. *Acta Crystallogr., Sec. C.* **1990**, *C46*, 1802-1804.

“A Tetramethylethano Bridged Dipentafulvene.” Erickson, M.S.; McLaughlin, M.L.; Fronczek, F.R. *Acta Cryst.* **1989**, *C45*, 1260-1261.

### **Grants, Awards, Funded Workshops, and Contracts Awarded:**

NSF Green Chemistry Workshop, University of Oregon, Eugene, OR; Attended 7/7-13, 2007.

NSF Forensic Chemistry Workshop, Williams College, North Adams, MA; Attended 6/18-23, 2006.

NSF NMR Workshop, University of Georgia, Athens, GA; Attended 6/9-13, 2003.

Hartwick College Faculty Research Grants:

1. “Synthesis of Electrically Conductive Polymers.” Trustee Grant, \$2750, **2007**.
2. “Synthesis of Electrically Conductive Polymers.” Milne Family Research Award, \$2900, **2003**.
3. “Synthesis of Electrically Conductive Polymers.” Trustee Grant, \$2750, **2002**.
4. “Synthesis of Electrically Conductive Polymers.” Milne Family Research Award, \$2900, **2001**.
5. “Synthesis of  $\pi$ -Conjugated Organic Polymers as Potential Conducting Polymers.” \$3000, **1999**.

“A Green Chemistry Modification of the Diels-Alder Reaction for Application in the Undergraduate Organic Laboratory” Victor L. Schultz and Mark S. Erickson, *Alan P. Friedmann Research Award*, \$1700, **2008**.

“Design and Evaluation of Catalysts.” Digital Chemical, \$1300, **2006**.

“Synthesis of Potential Bactericides for Biological Activity Evaluation Studies.” MDI (contract), \$15,000, **6/98-9/98**.

“Synthesis and Characterization of Novel Electrically Conductive Materials Using Extended  $\pi$ -Networks.” National Science Foundation, \$122,500, **1/97-6/98**.

“Synthesis of Novel Extended  $\pi$ -Systems based on Ferrocene.” Faculty Research Award, U. of Mississippi, \$4000, **1994**.

### **Dissertation, Thesis, and Research Advisees:**

“A Green Chemistry Modification of the Diels-Alder Reaction for Application in the Undergraduate Organic Laboratory” **Victor L. Schultz**, 2009 in progress.\*

“Synthesis and Polymerization of Pleiadiene” **John Gaehring**, 2009, in progress.\*

“Arylation of Amine and Its Derivatives Using Novel Palladium Catalyst System” **Hai Le**, B.S., 5/07.\*

**Dissertation, Thesis, and Research Advisees (continued):**

“Evaluation and Quantitative Analysis of Palladium Coupling Reactions” **Brian Lovejoy**, 5/07.\*

“Oral Chelation Therapy: Using EDTA and Alternative Treatments for Acute Plumbism in Rats”, **Diana Sardelis**, B.S., 5/07.\*

“Synthesis of Thiophene Monomers for ADMET Polymerization with a Conjugated pi-backbone” **Victor L. Schultz**, Funded Summer Research, 6/06-8/06.\*

“Synthesis of Thiophene and Furan Monomers for ADMET Polymerization with a Conjugated pi-backbone” **Brian C. Czetty**, Funded Summer Research, 5/02-8/03; B.S., 5/04.\*

"Synthesis of Vinyl Aromatic Heterocyclic Monomers as Potential Precursors to Electrically Conductive Polymers." **Danielle M. Moura**, B.A, 5/03.\*

"Synthesis of Vinyl Thiophene Monomer as a Potential Precursor to an Electrically Conductive Polymer." **Benjamin C. Colson**, Funded Summer Research, 5/01-8/01; B.S., 5/02.\*

"Synthesis of Precursors to Conducting Polymers." **Trevor Roepnack**, B.S., 5/01.\*

"Synthesis of 2-bromo-5-(1-hydroxyethyl)thiophene." **Christopher Belnap**, Sophomore Honors Thesis, 3/01-5/01.\*

“Molecular Modeling of 4-Phenylene.” **Vladislav Natchev**, Freshman Honors Thesis, 9/00-12/00.\*

“Synthesis of Vinyl Thiophenes as Precursors to Novel Polythiophenes.” **Terry Nassiveri**, Funded Summer Research, 5/99-8/99; B.S., 5/00.\*

“Huckel Molecular Orbital Calculations of the Indenyl Ligand on Iron (II) and Ruthenium (II) Metal Complexes.” **Mendy Miller**, Junior Thesis, 9/99-5/00.\*

“Friedel-Crafts Alkylations and Acylations in Supercritical Carbon Dioxide.” **Joseph Simard**, B.S., 5/99.\*

“Synthesis of Thiazoline Retinoids for Use as an Anti-Cancer Agent.” **Brian Hill**, B.S., 5/99.\*

“Part 1. A simple and Efficient New Approach for a Novel Synthesis of Bicyclo[3.2.0]Heptyl System Monomers. Part 2. A Diels-Alder Approach to Donor-Sigma-Acceptor Compounds Using Ferrocene Donors and Benzoquinone Acceptors.” DuYi Yu, Ph.D., 7/98.\*\*

“Synthesis of Novel Thiophene Monomers.” Polly Brinkley, Funded Summer Research, 5/97-8/97.\*\*

"Synthesis of Novel Conducting Polymers." Billy R. Booth, *Ronald McNair Academic Fellowship Program*, 6/98.\*\*

“Multistep Synthesis of Antimicrobial Agents.” Mary Davidson, B.S., 8/98.\*\*

**Dissertation, Thesis, and Research Advisees (continued):**

“Synthesis of Novel Thiophene Monomers.” Jacob Efftink, B.S., 5/97.\*\*

“Synthesis of Thiophene-Containing Compounds as Monomer Precursors to Conducting Polymers.”  
Xiaoyun Zhang, M.S., 8/97.\*\*

“Preparation of (Acenaphthylene)chromium Tricarbonyl and the Preparation of Acetylferrocene,  
Vinylferrocene, and Related Alcohols.” Dana Holmes, B.S., 12/95.\*\*

*Research activities performed at \*Hartwick College and \*\*University of Mississippi*  
**Bold print indicates Hartwick College student**