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**Mark Gregory Stocksdale**  
Curriculum Vitae

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Department of Chemistry  
Earlham College  
Richmond, IN 47374

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**EDUCATION:** Ph.D., Synthetic Organic Chemistry, Jan. 1999, *University of Notre Dame*, Thesis: Synthesis and Biological Evaluation of Novel Siderophore-Drug, Siderophore-Polyamine, and Carbacephalosporin-Quinolone Conjugates. Notre Dame, IN.

M.S., Synthetic Organic Chemistry, June 1992, *Ball State University*, Muncie, IN.

B.S., Chemistry Education, May 1988, *Taylor University*, Upland, IN.

**EXPERIENCE:**

7/04 – present

**Associate Professor of Organic Chemistry.**

8/00 – 6/04

**Assistant Professor of Organic Chemistry.**

• *Earlham College*, Richmond, IN, 47374

Courses Taught: Organic Chemistry I and II; Advanced Organic Chemistry; Organic Laboratory Projects; HHMI Fall Bridge Course; Ind. Study and Research; Ford/Knight Student-Faculty Collaborative Research.

8/98 – 7/00

**Assistant Professor of Organic Chemistry.**

• *Bloomsburg University*, Bloomsburg, PA, 17815

Courses Taught: Organic Spectroscopy; Fundamentals of Organic Chemistry; Intermediate Organic Chemistry; Laboratory for Fundamentals of Inorganic Chemistry; Medicinal Chemistry; Chemical Research.

12/94 - 8/98

**Graduate Research Assistant.**

• *University of Notre Dame*, Dr. Marvin J. Miller, Ph.D. Advisor.

Completed synthesis and biological evaluation of siderophore-conjugates.

6/92 - 7/94

**Synthetic Organic Chemist.**

• *Eli Lilly and Company*, Indianapolis, IN, 46285.

Work done with Dr. Jeffrey A. Dodge. Prepared numerous Raloxifene (Evista®) analogs and other estrogen agonists/antagonists. Co-inventor on four U.S. patents; several publications and presentations.

6/90 - 6/92

**Graduate Research Assistant**

• *Ball State University*, Dr. Mohammad Behforouz, Advisor.

Master's Thesis Title: "Total Synthesis of Lavendamycin Analogs."

1989 - 90

**High School Chemistry Teacher.**

• *Delaware Community School Corp.*, Muncie, IN.

1988 - 89

• *West Central School Corp.*, Francesville, IN.

## SCHOLARLY ACTIVITY

### GRANTS:

Stocksdale, M. G. and Davis, G. T. "Uptake Specificity of Synthetic Phytosiderophore Analogs by Gramineous Plants," *United States Department of Agriculture-Cooperative State Research, Education and Extension Service / National Research Initiative-Seed Grant*, \$99,998, September **2007**-August **2009**.

Deibel, M. A., Deibel, C., Stephens, O. M., Stocksdale, M. G., Watson, L. A., "Acquisition of an ATR-FTIR Spectrometer for Use in Undergraduate Research and Teaching Laboratories," *The Borman Family Foundation Grant*, \$16,000, July **2007**.

Stocksdale, M. G., "Pharmaceuticals, Then and Now: A Living History of Medicines and Drugs," *Earlham College Ford/Knight Fund*, \$8685, May **2007**.

Stocksdale, M. G., Deibel, M. A., Deibel, C., Ogren P. J., Watson, L. A., "Acquisition of a Gas Chromatograph-Mass Spectrometer for Use in Undergraduate Research and Teaching Laboratories," *The Borman Family Foundation Grant*, \$30,000, December **2003** (Part 1), June **2005** (Part 2).

Stocksdale, M. G. and Ogren, P. J., "Acquisition of an Automated Flash Chromatography System for Use in Undergraduate Research and Teaching Laboratories," *The Borman Family Foundation Grant*, \$19,900, August **2003**.

Stocksdale, M. G.; Breitenbach, G.; Deibel, C.; Deibel, M. A.; Iverson, J.; Mulnix, A.; Ogren, P.; Trueblood, N.; "The Merck / AAAS Undergraduate Science Research Program at Earlham College," *Merck Company Foundation / AAAS Grant*, \$60,000, February **2003**-December **2005**.

Stocksdale, M. G. (Principal Investigator); Deibel, M. A., and Trueblood, N (Co-Principal Investigators), "Acquisition of a 400 MHz NMR Spectrometer for Use in Research, Teaching and Research Training at Earlham College," *National Science Foundation-Major Research Instrumentation Grant*, \$439,419, September **2002**-September **2005**.

Stocksdale, M. G., "Investigation of Ring Contractions and Ring Expansions of Cyclic  $\beta$ -Hydroxy Tertiary Amines Under Mitsunobu and Modified Mitsunobu Conditions," *American Chemical Society – Petroleum Research Fund Type GB*, \$35,000, September **2002**-August **2004**.

Stocksdale, M. G. "Organic Synthesis Research Studies: 1. Preparation of Phytosiderophore Conjugates; 2. Ring Contraction and Expansion Studies of Cyclic  $\beta$ -Hydroxy Tertiary Amines." *Earlham College Ford/Knight Fund*, \$9500, Spring **2003**.

Stocksdale, M. G. "Investigational Studies of Cyclic  $\beta$ -Hydroxy Amines Under Mitsunobu Conditions: Ring Expansion and Ring Contraction Products," *State System of Higher Education Faculty Professional Development Council Grants Program*, \$5504, **1999-2000**.

Stocksdale, M. G.; Davis, G. T. "An Investigation of Phytosiderophore Conjugates as a Means of Delivering Effector Molecules to Target Species," *Bloomsburg University Individual and Collaborative Research Projects Competition*, \$1250, **1999-2000**.

**PUBLICATIONS: (\*indicates undergraduates included as co-authors)**

\*Stocksdale, M. G.; Padgitt, M. K.; Berg, M. A. G.; Slobodnick, C. "S-(2,2-Dimethyl-5-oxo-[1,3]dioxolan-4-yl)acetic acid," *Acta Cryst. E* **2007**, *E63*, o3767-o3768.

Behforouz, M.; Cai, W.; Mohammadi, F.; Stocksdale, M. G.; Gu, Z.; Ahmadian, M.; Baty, D. E.; Etling, M. R.; Al-Anzi, C. H.; Swiftney, T. M.; Tanzer, L. R.; Merriman, R. L.; Behforouz, N. C. "Synthesis and Evaluation of Antitumor Activity of Novel *N*-acyllavendamyacin Analogues and Quinoline-5,8-diones," *Bioorg. Med. Chem.* **2007**, *15*, 495-510.

Hassani, M.; Cai, W.; Holley, D. C.; Lineswala, J. P.; Maharjan, B. R.; Ebrahimian, G. R.; Seradj, H.; Stocksdale, M. G.; Mohammadi, F.; Marvin, C. C.; Gerdes, J. M.; Beall, H. D.; Behforouz, M. "Novel Lavendamyacin Analogues as Antitumor Agents: Synthesis, in Vitro Cytotoxicity, Structure-Metabolism, and Computational Molecular Modeling Studies with NAD(P)H:Quinone Oxidoreductase 1," *J. Med. Chem.* **2005**, *48*, 7733-7749.

\*Stocksdale, M. G.; Fletcher, S. E. S.; Henry, I.; Ogren, P. J.; Berg, M. A. G.; Pointer, R. D.; Benson, B. W. "Developing Investigation Skills in an Introductory Multistep Synthesis Using Fluorene Oxidation and Reduction," *J. Chem. Educ.* **2004**, *81*, 388-390.

Behforouz, M.; Cai, W.; Stocksdale, M. G.; Lucas, J. S.; Jung, J. Y.; Briere, D.; Wang, A.; Katen, K. S.; Behforouz, N. C. "Novel Lavendamyacin Analogues as Potent HIV-Reverse Transcriptase Inhibitors: Synthesis and Evaluation of Anti-Reverse Transcriptase Activity of Amide and Ester Analogues of Lavendamyacin," *J. Med. Chem.* **2003**, *46*, 5773-5780.

Dodge, J. A.; Jones, C. D.; Marron, K.; Sluka, J. P.; Stocksdale, M. G. "Compounds and Compositions with Nitrogen-Containing Non-Basic Side Chains," *U.S. Patent # 6,444,688*, September 3, **2002**.

Dodge, J. A.; Stocksdale, M. G. "Benzothiophenes," *U.S. Patent # 6,403,614*, June 11, **2002**.

Dodge, J. A.; Stocksdale, M. G. "Benzothiophenes for Treating Estrogen Deficiency," *U.S. Patent # 6,060,488*, May 9, **2000**.

Stocksdale, M. G.; Ramurthy, S.; Miller, M. J. "Asymmetric Total Synthesis of an Important Carbacephalosporin," *J. of Org. Chem.* **1998**, *63*, 1221-1225.

Dodge, J. A.; Stocksdale, M. G. "Intermediates and Processes for Preparing Benzothiophene Compounds," *U.S. Patent # 5,808,061*, September 15, **1998**.

Dodge, J. A.; Jones, C. D.; Sluka, J. P.; Marron, K. S.; Stocksdale, M. G. "Compounds and Compositions with Nitrogen-Containing Non-Basic Side Chains," *European Patent # 96303912.8-1211*, **1996**.

Dodge, J. A.; Stocksdale, M. G.; Fahey, K. J.; Jones, C. D. "Regioselectivity in the Alkaline Thiolate Deprotection of Aryl Methyl Ethers," *J. Org. Chem.* **1995**, *60*, 739-741.

**PUBLICATIONS: (continued)**

Dodge, J. A.; Stocksdale, M. G.; Jones, C. D. "A Chemical Probe for the Estrogen Receptor: Synthesis of the  $^3\text{H}$ -Isotopomer of Raloxifene," *J. of Labelled Compounds and Radiopharmaceuticals* **1995**, 36, 43-49.

Dodge, J. A.; Stocksdale, M. G. "Novel Intermediates and Processes for Preparing Benzothiophene Compounds," *European Patent # 95302076.5*, **1995**.

Dodge, J. A.; Stocksdale, M. G.; Black, L. J.; Rowley, E. R.; Bekele, A.; Cole, H. W.; Brown, C. E.; Magee, D. E.; Dehoney, G. A.; Bryant, H. U. "Effects of Steroidal and Non-Steroidal Anti-Estrogens in the Ovariectomized Rat," *J. Bone Mineral Research* **1993**, 8 s-1, #648.

**PRESENTATIONS: (\*indicates undergraduates included as co-authors or presenters)**

\*Stocksdale, M. G.; Peoples, M. S.; O'Conner, A. C.; Kinne, R. J.; Hardesty, D. A. "Synthesis of Fluorescent-Labeled Phytosiderophore Analogs," 233<sup>rd</sup> *American Chemical Society National Meeting, Chicago, IL*, March 25-29, **2007** CHED-719.

\*Stocksdale, M. G.; Peoples, M. S.; O'Conner, A. C.; Kinne, R. J.; Hardesty, D. A. "Synthesis of Labeled Phytosiderophore Analogs," Presented at: 7<sup>th</sup> *Annual Indiana Local Section American Chemical Society Poster Session, Richmond, IN*, October **2006**; 4<sup>th</sup> *Annual Earlham College Undergraduate Research Conference, Richmond, IN*, November **2006**.

\*Peoples, M. A.; Kinne, R. J.; Hardesty, D. A.; Stocksdale, M. G. "Progress Toward Labeled Phytosiderophore Analogs," Presented at: 6<sup>th</sup> *Annual Indiana Local Section American Chemical Society Poster Session, Indianapolis, IN*, October **2005**; 3<sup>rd</sup> *Annual Earlham-Merck/AAAS Undergraduate Research Conference, Richmond, IN*, November **2005**

\*Stocksdale, M. G.; Lindsay, A. M.; Hardesty, D. A.; Silver, M. K., "Synthetic Efforts Toward Novel Phytosiderophore Conjugates," 229<sup>th</sup> *American Chemical Society National Meeting, San Diego, CA*, March 13-17, **2005** CHED-549.

\*Stocksdale, M. G.; Watson, L. A.; Stacy, R. E., "Polymer-Bound  $\text{Ph}_3\text{P}$  in Mitsunobu Reactions Involving Cyclic  $\beta$ -Hydroxy Tertiary Amines," 229<sup>th</sup> *American Chemical Society National Meeting, San Diego, CA*, March 13-17, **2005** CHED-468.

\*Stacy, R. E.; Stocksdale, M. G. "Polymer-Bound  $\text{Ph}_3\text{P}$  in Mitsunobu Reactions Involving Cyclic  $\beta$ -Hydroxy Amines," 5<sup>th</sup> *Annual Indiana Local Section American Chemical Society Poster Session, DePauw University*, October **2004**; 2<sup>nd</sup> *Annual Earlham-Merck/AAAS Undergraduate Research Conference, Richmond, IN*, November **2004**

\*Lindsay, A. M.; Silver, M. K.; Stocksdale, M. G. "Synthetic Efforts Toward Novel Conjugates of the Phytosiderophore Avenic Acid," 5<sup>th</sup> *Annual Indiana Local Section American Chemical Society Poster Session, DePauw University*, October **2004**; 2<sup>nd</sup> *Annual Earlham-Merck/AAAS Undergraduate Research Conference, Richmond, IN*, November **2004**

**PRESENTATIONS: (continued)**

\*Seymour Z. A.; Stocksdale, M. G. "Ring Contractions and Expansions Involving Cyclic  $\beta$ -Hydroxy Amines under Mitsunobu Conditions," *227<sup>th</sup> American Chemical Society National Meeting, Anaheim, CA*, March 28 – April 1, **2004** CHED-856.

\*Seymour, Z.; Elsalameen, F.; Stocksdale, M. G. "Ring Contractions and Expansions Involving Cyclic  $\beta$ -Hydroxy Tertiary Amines under Mitsunobu Conditions." Presented at: *1<sup>st</sup> Annual Earlham-Merck/AAAS Undergraduate Research Conference, Richmond, IN*, November **2003**; *Earlham College Board of Trustees Meeting, Richmond, IN*, October **2003**; *4<sup>th</sup> Annual Indiana Local Section American Chemical Society Poster Session, Indianapolis, IN*, October **2003**.

\*Allabadi, L.; Qualls, M.; Stocksdale, M. G. "Synthetic Approaches Towards Avenic Acid." Presented at: *1<sup>st</sup> Annual Earlham-Merck/AAAS Undergraduate Research Conference, Richmond, IN*, November **2003**; *Earlham College Board of Trustees Meeting, Richmond, IN*, October **2003**; *4<sup>th</sup> Annual Indiana Local Section American Chemical Society Poster Session, Indianapolis, IN*, October **2003**.

\*Dishmon, H. M.; Stocksdale, M. G. "Progress Toward Novel Avenic Acid Conjugates," *225<sup>th</sup> American Chemical Society National Meeting, New Orleans, LA*, March 23-27, **2003**, CHED-511.

\*Cleveland, E. F.; Laake, A. M.; Stocksdale, M. G. "Progress Toward Novel Phytosiderophore Compounds," *3rd Annual Indiana Local Section American Chemical Society Poster Session, Indianapolis, IN*, October **2002**.

\*Moustofi, F; Stocksdale, M. G. "Ring Contractions and Expansions Under Mitsunobu Conditions," *3rd Annual Indiana Local Section American Chemical Society Poster Session, Indianapolis, IN*, October **2002**.

\*Verkamp, L. J.; Dishmon, H. M.; Stocksdale, M. G. "Synthetic Approaches Toward Novel Phytosiderophore Compounds," *Annual Butler University Undergraduate Research Conference, Indianapolis, IN*, April **2002**.

\*Dishmon, H. M.; Verkamp, L. J.; Stocksdale, M. G. "Synthetic Progress Toward Novel Phytosiderophore Conjugates," *2nd Annual Indiana Local Section American Chemical Society Poster Session, Indianapolis, IN*, October **2001**, 20A.

\*Dishmon, H. M.; Verkamp, L. J.; Stocksdale, M. G. "Progress Toward the Synthesis of Novel Phytosiderophore Conjugates," *Annual Homecoming Undergraduate Research Poster Session, Earlham College, Richmond, IN*, October **2001**.

\*Stocksdale, M. G.; Kardohely, M. E.; Lewandowski, B. J. "Initial Studies of Ring Contractions and Expansions of Cyclic  $\beta$ -Hydroxy Tertiary Amines," *33rd Meeting of the American Chemical Society Middle Atlantic Region, Newark, DE*, May **2000**, ORGN 213.

**PRESENTATIONS: (continued)**

\*Lewandowski, B. J.; Stocksdale, M. G. "Initial Studies of Cyclic  $\beta$ -Hydroxy Tertiary Amines Under Mitsunobu Reaction Conditions," *Bloomsburg University Student Research and Creative Activities Poster Session, Bloomsburg PA, May 1999*.

Dodge, J. A.; Lugar, R.; Jones, S. A.; Muehl, B. S.; Fahey, K. J.; Cullinan, G. J.; Phillips, D. L.; Crowell, T. A.; Glasebrook, A. L.; Sato, M; Magee, D. E.; Stocksdale, M. G.; Bryant, H. U. "LY326315 A Novel Naphthalene-Based Selective Estrogen Receptor Modulator (SERM)," *5th Chemical Congress of North America, Cancun, Mexico, November 1997*.

Jones, S. A.; Stocksdale, M. G.; Nissen, J. S.; Cullinan, G. J.; Glasebrook, A. L.; Phillips, D. L.; Short, L. L.; Magee, D.; Bryant, H.; Dodge, J. A. "Novel Non-Basic Side Chains of Benzothiophene-Based Selective Estrogen Receptor Modulators," *214th Meeting of the American Chemical Society, Las Vegas, NV, September 1997, MEDI 228*.

Stocksdale, M. G.; Ramurthy, S.; Miller M. J. "Progress Toward an Asymmetric Total Synthesis of a Novel Quinolone-Carbacephalosporin Dual-Action Antibiotic," *35th National Organic Symposium, San Antonio, TX, June 1997 T216*.

Stocksdale, M. G.; Miller, M. J. "Novel Siderophore-Drug and Siderophore-Polycation Conjugates: Synthesis and Biological Evaluation," *30th Meeting of the American Chemical Society Great Lakes Region, Chicago, IL, May 1997, ORGN 124*.

Dodge, J. A.; Stocksdale, M. G.; Jones, C. D.; Phillips, D. L.; Glasebrook, A. L. "A Chemical Probe for the Estrogen Receptor: Synthesis of  $^3\text{H}$ -Raloxifene and Identification of a Unique Binding Protein," *208th Meeting of the American Chemical Society, Washington, DC, August 1994, MEDI 69*.

Stocksdale, M. G.; Fahey, K. J.; Jones, C. D.; Dodge, J. A. "A Convenient and Regioselective Method for the Deprotection of Aryl Methyl Ethers," *207th Meeting of the American Chemical Society, San Diego, CA, March 1994, ORGN 411*.

**RESEARCH WITH UNDERGRADUATES:****AT EARLHAM COLLEGE:**

- Whitney England      HHMI-funded: Summer 2007
- Alexander Cogbill      HHMI-funded: Summer 2007
- Margarite Padgit      Independent study: Spring 2007
- Alan O'Connor      Burges Fund: Summer 2006; Ind. study: Spring 2007
- Robert Kinne      Merck/AAAS-funded: Summer 2005
- Matthew Peoples      Merck/AAAS-funded: Summer 2005; Burges Fund: Summer 2006
- Jenni Showalter      Independent study: Fall 2004
- Doug Hardesty      Independent study: Fall 2004 and Spring 2005
- Rachel Stacy      ACS/PRF-funded: Summer 2004
- Zachary Seymour      ACS/PRF-funded: Summer/Fall 2003; Spring/Summer 2004.
- Adair Lindsay      HHMI-funded: Summer 2004

### **RESEARCH WITH UNDERGRADUATES: (at Earlham continued)**

- Monica Silver            HHMI-funded: Summer 2004
- Munirih Qualls        HHMI-funded: Summer 2003.
- Liana Allabadi        Ford/Knight-funded: Spring 2003; HHMI-funded: Summer 2003.
- Fadi Elsalameen      Ford/Knight-funded: Spring 2003.
- Tayyaba Jatoi        Ford/Knight-funded: Spring 2003.
- Anne Laake:            Ford/Knight-funded: Spring 2003; HHMI-funded: Summer 2002.
- Emily Cleveland:      HHMI-funded: Summer 2002.
- Farid Moustafi:        Independent study: Spring 2002 and Fall 2002.
- Hillary Dishmon:      HHMI-funded: Summer 2001; Ind. study Fall 2001 and Fall 2002.
- Lacey Verkamp:        HHMI-funded: Summer 2001.

### **AT BLOOMSBURG UNIVERSITY:**

- Mark Kardohely:      SSHE/FPD-funded: Summer 1999 and Spring 2000.
- Stephan Bransfield:   Spring 2000.
- Brad Lewandowski:    Independent study: Fall 1998 and Spring 1999.

### **WIDER COMMUNITY WORK**

### **COMMITTEES AND LEADERSHIP POSITIONS: (At Earlham)**

- Earlham College Welfare Committee (April 2007 – present)
- Convener, Department of Chemistry (July 2004 – July 2006)
- Co-led Faculty Retreat Workshop on Plagiarism (August 2004)
- Convener, Ad Hoc Committee for establishing a Campus Ministries/Religious Life Statement (Fall 2004)
- Campus Meeting for Worship; Delivered Message/Sermon (October 2004)
- Convener of the Natural Science Division (June 2002 – July 2004)
- Information Technology Policy Committee (January 2002 - June 2005)
- Professional Development Fund Committee (January 2002 – June 2005)
- Web Advisory Group (January 2003 – June 2005)
- 5-year Review Committee for Colleague (Spring 2005)
- Search Committee for Director of Counseling (Summer/Fall 2003)
- Search Committee for Web-Team Manager (Summer 2002)

### **AWARDS/HONORS/ASSOCIATIONS:**

- J. Peter Grace Prize Fellowship, *University of Notre Dame*, 1997-1998.
- Jeremiah P. Freeman Graduate Teaching Award, *University of Notre Dame*, 1996.
- Nieuwland Fellowship, *University of Notre Dame*, 1994-1995.
- Outstanding Chemistry Teaching Assistant Award, *Ball State University*, 1991.
- IACTE Outstanding Future Educator Award, *Taylor University*, 1988.
- American Chemical Society
- MACTLAC (Midwest Association of Chemistry Teachers at Liberal Arts Colleges)

**COMMUNITY SERVICE: (Earlham / Richmond and Wider Communities)**

- Seton Catholic High School, Boys Varsity Tennis Coach (volunteer position) Fall 2007
- Summer-advisor for Earlham's inaugural "pre-registration" program for incoming students
- Co-led Adult Class (Discernment) at Shalom Mennonite Church, Indianapolis, Spring 2007
- Seton Elementary Chemistry Traveling Educational Program, Spring 2007
- Seton Catholic High School "Branch-Out Day" community service day (Spring 2006, 2007)
- Science Fair Coordinator (Westview Elementary, Richmond Schools) 2003; 2004; 2005
- Delivered Sermon for Shalom Mennonite Church, Indianapolis (March 2005)
- Taught "Organic Chemistry" for the Summer Earlham Experience program (Summer 2004)
- Organized/co-hosted Chemistry Outreach with Union County H.S. (Spring 2002-present)
- Organized/hosted Chemistry Outreach with IU East's Organic Course (Spring 2003)
- Co-hosted Seton Jr. High School Tour and Demonstrations at Earlham (Spring and Fall 2003)
- "Earlham Voice" for the campus phone on-hold messages
- Hosted a High School "Shadowing" student during summer of 2002
- Westview Elementary PTO Treasurer AY: 2001-2002
- Westview Elementary Science Traveling Demonstrations 2002, 2003, 2004
- Habitat for Humanity Volunteer 2001, 2002, 2003
- Organized and Taught the Chemistry Course for ELII-Odyssey III (June 2001 and 2002)
- Science "Round Table" Meetings with Richmond Schools Jr. High / H.S. Teachers (2001-02)
- Led Adult Class (Biotech / Christian Response) Richmond Church of the Brethren (Fall 2001)
- Served on Building Committee, Richmond Church of the Brethren (Aug. 2001-2003)
- Host: Sunday-lunch for Earlham Students attending Church of the Brethren (2001-2004)

**RECENT MEETINGS ATTENDED:**

National American Chemical Society Meetings: Fall 2002; Spring 2003, 2004, 2005 and 2007  
 Indiana Local Section of the American Chemical Society 2001, 2002, 2003, 2004, 2005, 2006  
 Butler University Undergraduate Research Meetings 2002  
 MACTLAC 2000  
 Indiana Academy of the Sciences 2000  
 Technology Meetings (DePauw U) 2001