

R. DANIEL LIBBY

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PROFESSIONAL HISTORY

Moravian College	Professor Chair of Chemistry	9/00 - present 9/00 - 7/06
Moravian College	Associate Professor and Chair of Chemistry	9/92 - 9/00
Colby College	Assistant Professor	9/85 - 9/92
Barnard College	Assistant Professor	9/82 - 9/85
University of Illinois	Research Associate	9/80 - 9/82
Skidmore College (position shared with C.B. Libby)	Assistant Professor 9/77 - 9/79)	9/77 - 9/80
Kenyon College (position shared with C.B. Libby)	Visiting Assistant Professor	9/75 - 9/77
Oberlin College as sabbatical replacement	Assistant Professor (position shared with C.B. Libby)	9/74 - 9/75

EDUCATION

Ph.D. Organic Chemistry, The Pennsylvania State University 1974
 B.A. (Honors) Chemistry, Colby College 1968

TEACHING

Experience

Introductory Organic Chemistry - Lecture and Laboratory
 Senior Level Bioorganic Chemistry - Lecture
 Synthetic Organic Chemistry - Lecture
 Senior Level Physical Organic Chemistry - Lecture
 Senior Level Biochemistry - Lecture and laboratory
 Introduction to College Life - General Education Course for First Year Students
 Interdisciplinary Freshman Seminar - "Turning Points in Human Understanding"
 Introductory Chemistry - Lecture and Laboratory
 Biochemistry of Exercise - Lecture

Interests

During the academic years 1978 through 1980, I developed a new approach to teaching introductory organic chemistry. This method is based on the developmental theory of Jean Piaget. It uses three phase "learning cycles" to aid the students in *developing* and *testing* the accepted principles of organic chemistry. In this process, special emphasis is placed on the thought processes that are involved in analyzing data, designing new experiments, and predicting results. I have used this approach in the introductory organic courses at Skidmore, Barnard, Colby and Moravian. It works well in both large and small classes. In the last seven years, I have introduced group activities into my organic classroom. Although I developed this approach for organic chemistry, I am also interested in applying it to other courses. I am now involved in dissemination of this approach through the POGIL Project, an NSF Funded national program.

RESEARCH

Ongoing Projects

"Mechanistic Studies of Chloroperoxidase Reactions"

The long-range goal of this work is to develop detailed knowledge of the specifics of the many reactions catalyzed by chloroperoxidase and how the various pathways relate to each other. Thus far, we have focused on the specifics of and interplay among halide dependent and independent pathways for peroxidatic, and halogenation reactions. Over the last 24 years at Barnard, Colby, and Moravian Colleges this project has involved 39 undergraduate students.

"Model Studies for Dehydrogenases"

This is an investigation of the possibility that nicotinamide and flavin dehydrogenases may utilize an Ene Reaction type pathway to accomplish their catalysis. We have direct evidence for an Ene type intermediate in reactions of one nicotinamide model compound. This is the first direct demonstration of a covalent intermediate in a dihydropyridine reduction reaction. Over the last 27 years at Skidmore, Barnard, Colby and Moravian Colleges, this project has involved 16 undergraduate students.

AWARDS AND GRANTS

NSF ILI Grant (Chemistry and Physics) (Co-PI and Consultant with D. McGee, Physics)	\$37,900	
NSF-RUI Research Grant 1997-2000	\$201,000	(Direct + Overhead)
NSF ILI Grant (GC-MS & Network) (Primary PI of a multi-dept. proposal)	\$79,829	
NIH AREA Grant 1991-94	\$117,700	(Direct + Overhead)
Research Corporation Grant 1985 - 87	\$16,000	
Colby College Institutional Grants 1986 - 90	\$17,000	
Research Corporation Grants 1982 - 84	\$12,000	

PROFESSIONAL ACTIVITIES

Memberships

American Chemical Society
 Division of Biological Chemistry and Division of Chemical Education
 Member of the ACS Women Chemists Committee
 American Association of University Professors
 Council on Undergraduate Research
 Nation Science Teachers Association
 Process Oriented Guided Inquiry Learning (POGIL)
 Middle Atlantic Association of Liberal Arts Chemistry Teachers (MAALACT)
 Middle Atlantic Discovery Chemistry Project (MADCP)
 Molecular Visualization in Undergraduate Education (MolecVUE)

Offices

Program Chair: ACS Women Chemists Committee - 2001- present
 President: MAALACT 2001-2002
 Secretary: Maine Section, American Chemical Society -- 1989
 Maine Section Coordinator: ACS National Chemistry Olympiad -- 1989 - 1992

COLLEGE SERVICE

Committees

Moravian Academic Personnel Committee		2002 - 2006
	Chair	2003 - 2005
Moravian Faculty Executive Council		1994 - 1999
		2003 - 2006
	Chair	1998 - 1999
Moravian Academic Plan Committee		2000 - 2003

Moravian College Science Instrumentation Network Management Committee	Chair	1996 - 1999
Moravian Computer Science Advisory Board		1994 - 1997
Moravian Premedical Committee		1992 - present
Moravian Continuing Studies Council		1992 - 1994
Colby Educational Policy Committee		1989 - 1992
Colby Health Professions Preparation Committee		1986 - 1991
	Chair	1988 - 1991
Colby Computer Committee		1988 - 1989
Colby Judicial Board		1985 - 1991
Barnard Committee on Instruction		1983 - 1985
Barnard Honor Board		1981 - 1984

PUBLICATIONS

* Indicates a Student Co-author

"Characterization of Covalent Ene Adduct Intermediates in "Hydride Equivalent" Transfers with a 1,4-Dihydropyridine System" Ryan A. Mehl* and R. Daniel Libby, submitted to *The Journal of The American Chemical Society*. (2007)

"Substrate specificity in Peroxidatic Reactions of Chloroperoxidase," Susan Schiavo*, Eman Jarrah* and R. Daniel Libby, manuscript in preparation for submission to *Biochemistry* (2007)

"Bromide Activation of Chloroperoxidase Catalyzed Peroxidation of Catechol", Jeremiah Eckhaus*, Daniel A. Moniot* and R. Daniel Libby, manuscript in preparation for submission to *J. Biol. Chem.* (2007)

"Phasing into POGIL", R. Daniel Libby, in *Process Oriented Guided Inquiry Learning*, Moog R.S. and Spencer, J. Editors, In Press, American Chemical Society Publications, Washington, DC, 2007.

Book review of *Top Drugs: Top Synthetic Routes*, by John Saunders; R. Daniel Libby for *J. Chem. Ed.* **80**, 147 (2003).

Book review of *Advance Organic Chemistry*, by Francis A. Carey and Richard J. Sundberg; R. Daniel Libby for *J. Chem. Ed.* **78**, 314 (2001).

Book review of *Organic Chemistry*, by Joseph M. Hornback, R. Daniel Libby for *J. Chem. Ed.*, **76**, 611-3 (1999).

"Quantitating Direct Chlorine Transfer from Enzyme to Acceptor Substrates in Chloroperoxidase Catalyzed Reactions", T.M. Beachy*, A.K. Phipps* and R.D. Libby, *J. Biol. Chem.* **271**, 21820-7 (1996).

"Piaget and Organic Chemistry: Teaching Introductory Organic Chemistry Through Learning Cycles", R.D. Libby, *J. Chem. Ed.* **72**, 626-31 (1995).

"Defining the Involvement of HOCl or Cl₂ as Enzyme Generated Intermediates in Chloroperoxidase Catalyzed Reactions", R.D. Libby, A.L. Shedd*, A.K. Phipps*, T.M. Beachy* and S.M. Gerstberger*, *J. Biol. Chem.* **267**, 1769-75 (1992).

"Piaget and Organic Chemistry: The Equilibrium-Kinetic Approach for Teaching Introductory Organic Chemistry", R.D. Libby *J. Chem. Ed.* **68**, 634-7 (1991).

"Compound I Formation is Partially Rate Limiting in Chloroperoxidase Catalyzed Bromination Reactions", R.D. Libby and N.S. Rotberg*, *J. Biol. Chem.* **265**, 14808-811 (1990).

"The Chloride-activated Peroxidation of Catechol as a Mechanistic Probe of Chloroperoxidase Reactions", R.D. Libby, N.S. Rotberg*, J.T. Emerson*, T.C. White*, G.M. Yen*, S.F. Friedman*, N.S. Sun*, and R. Goldowski*, *J. Biol. Chem.* **264**, 15284-15292 (1989).

"Chloroperoxidase Halogenation Reactions: Chemical Versus Enzymic Halogenating Intermediates", R.D. Libby, J.A. Thomas, L.W. Kaiser, and L.P. Hager, *J. Biol. Chem.* **257**, 5030 (1982).

"Trivalent Copper, Superoxide and D-Galactose Oxidase", G.A. Hamilton, P.K. Adolf, J. deJersey, G.C. Dyrkacz and R.D. Libby, *J. Amer. Chem. Soc.* **100**, 1899 - 1912 (1978).

"The Involvement of Superoxide and Trivalent Copper in the D-Galactose Oxidase Reaction", G.A. Hamilton, G.R. Dyrkacz, and R.D. Libby, *Adv. Exp. Med. Biol.* (Iron and Copper Proteins) **74**, 489 (1976).

"Trivalent Copper as a Probable Intermediate in the Reaction Catalyzed by D-Galactose Oxidase", G.R. Dyrkacz, R.D. Libby, and G.A. Hamilton, *J. Amer. Chem. Soc.* **98**, 626 (1976).

"The Valence of Copper and the Role of Superoxide in the D-Galactose Oxidase Catalyzed Reaction", G.A. Hamilton, R.D. Libby, and C.R. Hartzell, *Biochem. Biophys. Res. Comm.* **55**, 333 (1973).

PRESENTATIONS

* Indicates a Student Co-author

"Phasing into POGIL", R. Daniel Libby, 233rd National Meeting of the American Chemical Society, Chicago, IL, March 25-29, 2007, Invited Oral Presentation.

"Using Electron Energies to Emphasize Process in a POGIL Organic Course," R. Daniel Libby, 19th Biennial Conference on Chemical Education, Purdue University, West Lafayette, IN, August 2006, Invited Oral Presentation.

"Correlations vs. Explanations: Getting Answers vs. Building Understanding," R. Daniel Libby, POGIL National Meeting, College of Charleston, Charleston, SC, May 22-25, 2006, Invited Oral Presentation.

"Twenty-eight years from Piaget to POGIL: The continual development of active learning in introductory organic chemistry," R. Daniel Libby, 231st National Meeting of the American Chemical Society, Atlanta, GA, March 26-30, 2006, Invited Oral Presentation.

"Teaching Organic Reaction Mechanisms Using Electron Energy Analysis" with Carl Salter, at the Gordon Research Conference on Chemistry Education Research & Practice: The Emerging Vision of Chemistry Education Research, June 26 - July 1, 2005, Connecticut College, New London, CT. Contributed poster presentation.

"Teaching Reasoning Process in Organic Chemistry Using Electron Energy Analysis," MARM 2005: The Middle Atlantic Regional Meeting of the ACS, Rutgers University, New Brunswick, NJ, May 22-25, 2005, Invited Oral Presentation.

"Electron Energy Analysis: A Process That Allows Students to Develop Relationships Between Energy and Reactivity," R. Daniel Libby and Carl Salter, 229th National Meeting of the American Chemical Society, San Diego, CA, March 13-17, 2005, Invited Oral Presentation.

“Active learning in the introductory organic course,” R. Daniel Libby, 228th National Meeting of the American Chemical Society, Philadelphia, PA, August 22-26, 2004, Invited Oral Presentation.

“From Lecture Notes to Guided Inquiry Activities,” R. Daniel Libby, 2004 MADCP Meeting, Washington, DC, June 2004, Invited Oral Presentation.

“Helping students focus on what is important in studying organic chemistry: The electron energy analysis approach.” R. Daniel Libby, 227th National Meeting of the American Chemical Society, Anaheim, CA, March 28-April 1, 2004, CHED, Contributed Poster Presentation.

"An Active Learning Approach for Developing Conceptual Understanding of Organic Chemistry: Learning Cycles and Electron Energy Analysis." R. Daniel Libby, 226th National Meeting of the American Chemical Society, New York City, NY, September 2003, CHED, Invited Oral Presentation.

"Students Can Reason Through Organic Chemistry in Groups Using Learning Cycles and Electron Energy Analysis," R. Daniel Libby, 224th National Meeting of the American Chemical Society, Boston, MA, August 2002, CHED, Contributed Oral Presentation.

"Effects of Substrate Structure on the Reaction Pathway in Chloroperoxidase Catalyzed Peroxidation of Phenols and Anilines," Susan Schiavo*, Stephanie Horne*, Leah Williams*, Eman Jarrah*, 224th National Meeting of the American Chemical Society, Boston, MA, August 2002, BIOL, Contributed Poster Presentation.

“Creating a Lectureless Organic Course: From Lecture Notes to Learning Cycles”, R. Daniel Libby, 17th Biennial Conference on Chemical Education, Western Washington University, Bellingham, WA, August 2002, Invited Oral Presentation.

“Electron Energy Analysis: A Focused Approach to Understanding Organic Chemistry Even at the Introductory Level,” R. Daniel Libby and Carl Salter, Gordon Research Conference on Innovations in College Chemistry Teaching, June 2002, New London, CU, Contributed Poster.

“Theoretical Investigation of the Ene Mechanism in Nicotinamide Hydrogen Transfer,” Julie M. Jones*, O. Carl Salter and R. Daniel Libby, 16th National Conference on Undergraduate Research, University of Wisconsin Whitewater, Whitewater, WI, April 2002, Contributed Student Oral presentation.

Nicotinamide Models: A Mechanistic study of Reduction reactions,” Rachel Toroney*, Susan Schiavo*, Keith Moore* and R. Daniel Libby, 16th National Conference on Undergraduate Research, University of Wisconsin Whitewater, Whitewater, WI, April 2002, Contributed Student poster presentation.

"Learning Cycles in Introductory Organic Chemistry Classes," R. Daniel Libby, 223rd National Meeting of the American Chemical Society, Orlando, FL, April, 2002, CHED, Contributed Oral Presentation.

"Electron Energy Analysis: A Simple Yet Rigorous Approach to Understanding Organic Reactions at the Introductory Level," R. Daniel Libby and Carl Salter, 223rd National Meeting of the American Chemical Society, Orlando, FL, April, 2002, General Oral Papers, Contributed Oral Presentation.

"Building Conceptual Understanding of Organic Chemistry in Student Groups Using Learning Cycles and Electron Energy Analysis" R. Daniel Libby and O. Carl Salter, 222nd National Meeting of the American Chemical Society, Chicago, IL, August 2001, CHED, Contributed Poster Presentation.

“Free Radical Production in Chloroperoxidase Catalyzed Peroxidatic Reactions Varies with Substrate Structure,” Leah Williams*, Julie Jones*, Stephanie Horne* and R. Daniel Libby, 15th National Conference on Undergraduate Research, University of Kentucky, Lexington, KY, April 2001, Contributed Student Poster Presentation.

“Covalent Adducts as Intermediates in Model Nicotinamide Coenzyme Reduction Reactions,” Jennifer Meitzler*, Ryan A. Mehl* and R. Daniel Libby, 15th National Conference on Undergraduate Research, University of Kentucky, Lexington, KY, April 2001, Contributed Student Poster Presentation.

“Effects of Substrate Structure on the Reaction Pathway in Chloroperoxidase Catalyzed Peroxidation of Phenols and Anilines,” Susan Schiavo*, Stephanie Horne*, Leah Williams* and R. Daniel Libby, 221st National Meeting of the American Chemical Society, San Diego, CA, April 2001, CHED, Contributed Poster Presentation.

“Free radical production in chloroperoxidase catalyzed peroxidatic reactions varies with substrate structure,” Julie Jones*, Leah Williams*, Stephanie Horne* and R. Daniel Libby, 221st National Meeting of the American Chemical Society, San Diego, CA, April 2001, CHED, Contributed Poster Presentation.

“Covalent intermediates in “hydride equivalent” transfers with nicotinamide coenzyme models,” Jennifer Meitzler*, Ryan A. Mehl* and R. Daniel Libby, 221st National Meeting of the American Chemical Society, San Diego, CA, April 2001, CHED, Contributed Poster Presentation.

"Reasoning Through Introductory Organic Chemistry in Groups by Focusing on Electron Energies," Libby, R. Daniel Libby, 221st National Meeting of the American Chemical Society, San Diego, CA, April 2001, CHED, Contributed Poster Presentation.

"Building Conceptual Understanding of Organic Chemistry Through Active Learning ", R.D. Libby, Gordon Research Conference on Innovations in College Chemistry Teaching, Ventura, CA, January 2001, Contributed Poster Presentation.

"Active Learning in the Introductory Organic Chemistry Course Using Learning Cycles" Libby, R. Daniel, 16th Biennial Conference on Chemical Education, University of Michigan, Ann Arbor, MI August 2000, Symposium on the Spectrum of Active Learning Methods Used in the Organic Classroom. Invited Talk

"Mechanism of Bromide Activation of Chloroperoxidase Catalyzed Peroxidation of Catechol: Comparison with the Chloride Activation Mechanism", R. Daniel Libby, Jeremiah Eckhaus* and Daniel A. Moniot*, 219th National Meeting of the American Chemical Society, San Francisco, CA, March 2000, BIOL, Contributed Poster Presentation

"Evidence for an Ene Mechanism in a “Hydride Equivalent” Transfer with a Nicotinamide Coenzyme Model System", R. Daniel Libby and Ryan A. Mehl*, 219th National Meeting of the American Chemical Society, San Francisco, CA, March 2000, BIOL, Contributed Poster Presentation

"Active Learning in Introductory Organic Chemistry: A Learning Cycle Approach", R. Daniel Libby, 219th National Meeting of the American Chemical Society, San Francisco, CA, March 2000, CHED, Contributed Poster Presentation

"Electron Energy Analysis: A Simple Yet Rigorous Approach for Developing an Understanding Organic Reactions", R. Daniel Libby and O. Carl Salter, 219th National Meeting of the American Chemical Society, San Francisco, CA, March 2000, Chemical Education. Contributed Poster Presentation

"Electron Energy Analysis: A Simple Yet Rigorous Approach to Understanding Organic Reactions at the Introductory Level", R.D. Libby and C. Salter, Gordon Research Conference on Innovations in College Chemistry Teaching, New London CT, June 1999. Contributed Poster Presentation.

"A Small College Science Instrumentation Network", R.D. Libby, J.P. Stoneback, J.M. Bevington, J. Powlette and D.L. Langhus, 216th National Meeting of the American Chemical Society, Boston, MA, August 1998. Contributed Talk as part of a symposium on NSF Sponsored Innovations.

"Reasoning Through Organic Chemistry Using Learning Cycles and Electron Energy Analysis", R.D. Libby and C. Salter, 15th Biennial Conference on Chemical Education, Waterloo, Ontario, Canada, August 1998. Invited Talk.

"Electron Stability Analysis of Organic Reactions", R.D. Libby and C. Salter, Gordon Research Conference on Innovations in College Chemistry Teaching, Ventura, CA, January 1998. Contributed Poster Presentation.

Evidence for an Ene Mechanism for a "Hydride Equivalent" Transfer in a Nicotinamide Dehydrogenase Model System, R.A. Mehl* and R.D. Libby, Gordon Research Conference on Enzymes Co-Enzymes and Metabolic Pathways, Meriden, NH, July 1996. Contributed Poster Presentation.

"Free Chlorine Species are Not Involved in Chloroperoxidase Catalyzed Chlorination Reactions of Good Substrates", T.M. Beachy*, A.K. Phipps* and R.D. Libby, 206th National Meeting of the American Chemical Society, San Francisco, CA, March 1992. Contributed Poster Presentation.

"HOCl Is Not a Significant Intermediate in Chloroperoxidase Catalyzed Chlorination Reactions of 'Good' Substrates", T.M. Beachy*, A.K. Phipps* and R.D. Libby, Gordon Research Conference on Enzymes Co-Enzymes and Metabolic Pathways, Meriden, NH, July 1991. Contributed Poster Presentation.

"Defining the Involvement of HOCl in Chloroperoxidase Reactions", R. Daniel Libby, A. L. Shedd*, Tina M. Beachy* and A. Kathryn Phipps*, Gordon Research Conference on Enzymes Co-Enzymes and Metabolic Pathways, Meriden, NH, July 1990. Contributed Poster Presentation.

"Probes for the Mechanisms of Peroxidase Reactions: Chloride Effects in Halogenation and Non-Halogenation Reactions of Chloroperoxidase", T.C. White*, J.T. Emerson*, N.S. Rotberg*, A.L. Shedd*, W.E. Busineau* and R.D. Libby, 18th Northeast Regional Meeting, American Chemical Society, August 1988, Orono, Maine, # 62. Invited Talk.

"Chloride Activation of Peroxidatic Reactions of Chloroperoxidase", T. C. White*, G. M. Yen*, R. Goldowski*, N. Sun*, Y. Khakoo* and R.D. Libby, 19th Middle Atlantic Regional Meeting of the American Chemical Society, Monmouth College, West Long Branch, NJ, May 1985, Undergrad 270. Contributed Talk.

"Reasoning Through Organic Chemistry(Or Any Other Course?): A Piagetian Approach", R.D. Libby, *Proceedings of the 4th Conference on Reasoning and Higher Education*, pp. 66-74, Boise State University, February 1985. Invited Talk.

"The Mechanism of Chloride Activation of Peroxidatic Reactions Catalyzed by Chloroperoxidase", T.C. White*, G.M. Yen*, R. Goldowski*, N. Sun*, Y. Khakoo* and R.D. Libby, Ninth Enzyme Mechanisms Conference, Tarpon Springs, Florida, January 1985. Contributed Poster Presentation.

"Organic Chemistry According to Piaget", R.D. Libby, Eighth Biennial Conference on Chemical Education, Teaching Organic Chemistry II, Storrs, Connecticut (1984). Contributed Talk.

"Organic Chemistry: A Learning Cycle Approach", R.D. Libby, *Proceedings of the Third Annual Conference on Reasoning, Piaget and Higher Education*, pp. 243 -256, Auraria Higher Education Center, Denver, Colorado (1982). Invited Talk.

"Library Projects for Introductory Organic and Biochemistry Courses", C.B. Libby and R.D. Libby, 8th Northeast Regional Meeting of the American Chemical Society, Chem. Ed. #32, June 1978, Boston, MA. Contributed Talk.

"On the Mechanism of the D-Galactose Oxidase Catalyzed Reaction", R.D. Libby, G.C. Dubois, and G.A. Hamilton, 65th Annual Meeting of the American Society of Biological Chemists, June 1974, Contributed Poster Presentation.

"The Role of Superoxide in the D-Galactose Oxidase Catalyzed Reaction" R.D. Libby, P.K. Adolf, J. deJersey, and G.A. Hamilton, 166th National Meeting of the American Chemical Society, Chicago, Illinois, August 1973, Biol. 12. Contributed Talk.

FACULTY DEVELOPMENT WORKSHOPS FACILITATED

POGIL 3-day Introductory Faculty Development Workshop for college faculty at Western Carolina University (Cullowhee, NC), August 2007

POGIL 3-day Introductory Faculty Development Workshop for college faculty at California State University-Northridge (Northridge, CA), June 2007

POGIL 1-day Faculty Development Workshop for college & high school faculty at Moravian College, Bethlehem, PA. May 2007

POGIL 1-day Faculty Development Workshop for college & high school faculty at Moravian College, Bethlehem, PA. January 2007

POGIL half-day Faculty Development Workshop for college faculty at 19th Biennial Conference on Chemical Education, Purdue University, West Lafayette, IN, August 2006

POGIL 3-day Advanced Faculty Development Workshop for college faculty at Grand Valley State University (Allenton, MI), June 2006

POGIL 1-day Faculty Development Workshop for college faculty, Two-Year College Chemistry Consortium (2YC3), Bucks County Community College, Newtown, PA. October 2005

POGIL 1-day Faculty Development Workshop for college faculty at Madison Area Technical College, Madison, WI. July 2005

POGIL 3-day Advanced Faculty Development Workshop for college faculty at the University of St. Thomas (St. Paul, MN). June 2005

POGIL 1-day Faculty Development Workshop for college & high school faculty at Moravian College, Bethlehem, PA. January 2005

POGIL 1-day Faculty Development Workshop for college faculty at the University of St. Thomas, St. Paul, MN. November 2004

Pacific Crest 3 day Teaching Institute for college faculty at Coastal Carolina University, Myrtle Beach, SC. July 2004

"Developing Guided Inquiry Activities from Lecture Notes." R. Daniel Libby, 2004 MADCP Meeting, Washington, DC, June 2004.

POGIL 1-day Faculty Development Workshop for college faculty at Towson University, Towson, MD, March 2004.

“Electron Energy Analysis: A Simple Yet Rigorous Approach to Understanding Chemical Reactivity at the Introductory Level,” R. Daniel Libby and O. Carl Salter, 2003 MADCP Meeting, Lancaster, PA June 2003.

“Creating a Lectureless Organic Course: From Lecture Notes to Learning Cycles,” R. Daniel Libby, 2002 MAALACT Meeting, Washington College, Chestertown, MD, October 2002.

"Reasoning Through Organic Chemistry Using Learning Cycles and Electron Stability Analysis", R.D. Libby and C. Salter, Middle Atlantic Discovery Chemistry Project Summer Meeting, Franklin and Marshall College, Lancaster, PA July 1998.