

**NAME: Marshall D. Sundberg**

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PERSONAL:      Born 18 April, 1949, St. Paul, Minnesota  
Married, three children

**1. MAJOR AREAS OF RESEARCH INTEREST**

Floral Initiation and Development  
Vascular Differentiation  
Ecological Plant Anatomy  
Biology Instruction and Curriculum Design

**2. EDUCATION:**

<u>INSTITUTION</u>	<u>DEGREE</u>	<u>DATE AWARDED</u>
University of Minnesota Major Professor: Dr. Ernst C. Abbe (deceased) Dissertation Title: "Shoot and Flower Development in <i>Cyclamen persicum</i> Mill. F-1 Rosemunde." Minor Field: Horticulture	Ph.D. (Botany)	1978
University of Minnesota	M.S. (Botany)	1973
Carleton College	B.A. (Biology)	1971

OTHER PROFESSIONAL TRAINING

Fundamentals of Personnel Law for Managers and Supervisors, SkillPath Seminars		2002
Coaching and Team Building Skills for Today's Managers, SkillPath Seminars		2001
Wood Badge Leadership Training	Boy Scouts of America	1994
Effect of Glyphosate on Phenol Production in <i>Euphorbia</i> Tissue Culture, Summer Post-doctoral Research, Laboratory of Dr. David Biesboer, Univ. of Minn.		1983
Analytical and Quantitative Light Microscopy	Marine Biology Laboratory	1983
Reproductive Biology of the Flowering Plants	N.S.F. Chautauqua Course	1979
Methods of Instruction	U.S. Army	1973
Secondary Science Certification Program	Carleton College	1971

**3. PROFESSIONAL EXPERIENCE:**

<u>INSTITUTION</u>	<u>RANK</u>	<u>PERIOD OF APPOINTMENT</u>
Emporia State University	Professor	1997-present
NSF Chautauqua Short Course	Course co-Director	1999
Emporia State University	Chairperson, Department of Biology	1997-2004
Louisiana State University	Associate Professor	1991-1997
Louisiana State University	Correspondence Study Instructor	1985-1997
Louisiana State University	Assistant Professor	1988-1991
Louisiana State University	Biology Coordinator	1988-1993
Louisiana State University	Instructor	1985-1988
University of Wisconsin-Eau Claire	Adjunct Asst. Prof.	1978-1985
Summer Science Institute, U.W.E.C.	Faculty	1982-1985
University of Minnesota	Research Assistant	1976-1977

University of Minnesota  
Carleton College

Teaching Assistant  
Laboratory Technician

1974-1976  
1973-1974

### COURSES TAUGHT

- Emporia State University Freshman Seminar, General Biology, General Biology Laboratory, Principles of Biology Laboratory, Honors Biology, Biology of Plants, Biology of Plants Laboratory, Economic Botany, Evolution (undergrad/grad), Light Microscopy (grad), Mycology and Laboratory (grad), Plant Anatomy and Physiology and Laboratory, Plant Kingdom (undergrad/grad)and laboratory, Structure of Evolutionary Theory (undergrad/grad).
- Louisiana State University General Biology 1 & 2, General Botany 1 & 2, Biology for Science Majors, Introductory Plant Biology, Honors Life Science 1 & 2, An Investigative Biology Laboratory for Non-Science Majors, Introductory Biology Laboratory for Science Majors, Plant Anatomy (undergrad/grad), Plant Microtechnique (undergrad/grad), Flowering and Floral Biology (grad), Methods of Instruction in College Science Courses (grad)
- Univ. of Wisconsin-Eau Claire General 101 (biology block, team taught with blocks in English and study skills) General Botany, Plant Kingdom, Horticultural Botany, Ecology of the U.S.- A Field Experience, Flowering and Floral Biology (grad), Plant Hormones and Tissue Culture (grad)
- University of Minnesota (T.A.) General Biology, General Botany, Plant Biology, Plant Anatomy, Developmental Plant Anatomy, Morphology of Vascular Plants.

### 4. **ADMINISTRATIVE EXPERIENCE**

Emporia State University Biological Sciences Chairperson 1997-2004  
(Fourteen full-time and four part-time faculty)

Louisiana State University Biology Coordinator 1988-1993  
[Coordinate undergraduate biology for Departments of Biochemistry, Botany (Plant Biology), Microbiology, and Zoology and Physiology (College of Basic Sciences), Animal Science, Plant Pathology, and Poultry Science (College of Agriculture), Anatomy (School of Veterinary Medicine), and Honors College.]

### 5. **PROFESSIONAL AFFILIATIONS**

American Association for the Advancement of Science.  
American Institute of Biological Sciences  
Botanical Society of America  
International Society for the Scholarship of Teaching and Learning.  
Linnaean Society of London, Fellow  
National Association of Biology Teachers  
National Science Teachers Association  
Phi Kappa Phi  
Sigma Xi - The Scientific Research Society  
Society for Economic Botany  
The Nature Conservancy.

### 6. **ELECTED AND APPOINTED OFFICES**

American Society of Cell Biologists  
Editorial Board, *Cell Biology Education* 2001 - present  
American Institute of Biological Sciences

Council, Member-at-Large	1992-1995
<u>Association for Biology Laboratory Education</u>	
Chairperson, Publicity Committee	1985-1986
Chairperson, Membership Committee	1984-1985
<u>Botanical Society of America</u>	
Editor, <i>Plant Science Bulletin</i>	2000-present
Chairperson, Membership and Appraisal Committee	1997-1998
Chairperson, Careers in Botany	1993-1995
Chairperson, Education Committee	1991-1993
Chairperson, Teaching Section	1985-1986
Chairperson, Workshop Committee, Teaching Section	1983-1984
Section Vice-Chairperson and Program Chair, Teaching Section	1984 1985
Chairperson, Slide exchange and laboratory exchange, Teaching Section	1980-1989
<u>Minnesota Academy of Science</u>	
Botany Section chairperson	1977-1978, 1980-1981, 1982-1983
Botany Co-chairperson, International Science and Engineering Fair	1980
<u>National Science Teachers Association</u>	
Review Panel - <i>Journal of College Science Teaching</i>	1998-2001
<u>Sigma Xi - The Scientific Research Society</u>	
<u>( Southwest Region)</u>	
Nominating Committee	2005-2006
<u>(Emporia State University Chapter)</u>	
Founding President	1998-1999
President	2004-2005
Vice-president	2003-2004
Secretary	2001-2003
<u>(Louisiana State University Chapter)</u>	
President	1996-1997
Vice-president	1995-1996
Secretary	1994-1995
<u>(Eau Claire/Stout Club)</u>	
Vice-president	1984-1985
Secretary	1982-1984

## 7. HONORS AND AWARDS

Centennial Award (Botanical Society of America)	2006
Profiled in REDCUBE (Research, Development, and Change in Undergraduate Biology Education.)	1999
Phi Kappa Phi	1998
Four Year College Teacher of the Year (National Association of Biology Teachers)	1997
Special Award (Botanical Society of America) "For His Commitment to Science Education."	1995
Charles H. Bessey Award (Botanical Society of America)	
"For Outstanding Contributions to the Field of Botanical Education"	1992
Faculty Grants Scholar (Univ. of Wisc.-Eau Claire)	1984-85
Fellow, Linnaean Society of London	1979
Alexander P. Anderson and Lydia Anderson Summer Fellowship ( Univ. of Minn.)	1975, 76
Brand Fellowship ( Univ. of Minn.)	1976-77
Sigma Xi, The Scientific Research Society of North America, Associate Membership	1973
Full Member	1981

## 8. GRANTS

Botany Education Research Symposium. 2003. \$5000.00 (to Botanical Society of America) Prentice-Hall / Wm C. Brown College Publishing.

Biology of *Lespedeza cuneata* (sericea lespedeza) (Scott Crupper, Rod Sobieski and Glen Andrews, co-PIs). 2000-2004. \$179,741.00. U.S. Army Corps of Engineers

Tallgrass Prairie Biology (Scott Crupper and Derek Zelmer, co-PI's) 2000-2003. \$156,318. National Science Foundation - Research Experiences for Undergraduates.

Video-probe microscopy to help undergraduates visualize the world. 1998-2000. \$31,808.00. National Science Foundation.

Science Laboratory Improvement. 1997-1999. \$321,000 (plus \$106,198 university match). W.S. & E.C. Jones Trust.

Development of the pedicel-stem abscission layer in Tabasco Pepper. (Summer, 1997) \$4000, LSU Office of Research and Economic Development. (Award Declined)

Analysis of *Capsicum* Fruit Abscission. 1996-1999. Co-investigator. (Carl E. Motsenbocker, Department of Horticulture, Project Director). \$80,000.00. Louisiana Education Quality Support Fund.

Application of Video-Probe Microscopy to Biology Teaching. 1993-96. Harold Silverman, co-P.I. National Science Foundation, \$37,956.00; Hughes Biomedical Research Institute, \$37,956.00.

Faculty Workshop, LABSHOP, and Electronic Bulletin Board, BIOLAB, for the Improvement of Laboratory Instruction in Introductory Biology. 1992-95. Co-P.I. with Dr. Joseph E. Armstrong, III. St. Univ. National Science Foundation. \$109,698.00.

Molecular and Organismal Evolution: A Comparative Focus. 1993-94. Research Experiences for Undergraduates, National Science Foundation. \$50,000.00.

An Investigative Laboratory to Confront Common Misconceptions in Life Science. National Science Foundation. 1992-1993. \$73,884.00.

Louisiana Educational Quality Support Fund-Enhancement Program, "Life Sciences Microscopy Facility Enhancement - Confocal Microscope". 1991. One of 21 Co-PIs. \$202,000.00.

CUEBS: The Commission on Undergraduate Education in the Biological Sciences - a reassessment. National Science Foundation--to American Institute of Biological Sciences. 1991. \$5,000.00.

Basic Research in Life Science - Research Experiences for Undergraduates. National Science Foundation. 1990-1993. \$123,749.00

Louisiana Educational Quality Support Fund-Enhancement Program, "Life Sciences Microscopy Facility Enhancement - Scanning Electron Microscopy. 1989. One of 15 Co-PIs. \$150,000.00.

Howard Hughes Biomedical Institute Undergraduate Curriculum Improvement Initiative (Co-PI with Harold Silverman). 1989-1994. \$1,000,000.00.

Louisiana Educational Quality Support Fund-Enhancement Program, "Life Sciences Microscopy Facility Enhancement - Video-enhanced Light Microscope." 1988. One of 12 Co-PIs. \$160,000.00.  
Young Scholars in Basic Sciences at Louisiana State University. National Science Foundation, 1987-1990. \$64,904.00.

Research Experiences for Undergraduates in Biological Sciences at Louisiana State University. National Science Foundation. 1987-88. \$39,481.00.

Research Experiences for Undergraduates in Biological Sciences at Louisiana State University. National Science Foundation. 1986-1987. \$40,000.00.

International Botanical Congress Travel Grant. Botanical Society of America. \$500.00. Award Declined.

Inflorescence Development in the Genus *Zea* - Annual Teosinte. American Philosophical Society 1986-1987. \$2000.00.

Hypothesis Testing in Biology: A Model Utilizing Plant Development. University of Wisconsin System. 1984-1985. \$2,493.00.

The Effect of Glyphosate (N-phosphonomethylglycine) on Endogenous Levels of Indole-3-acetic Acid in *Euphorbia esula* Cells *in vitro*. David W. Strobel, principle investigator. Sigma-Xi: The Scientific Research Society. 1984-1985. \$250.00.

Vascular Development in the Cottonwood Embryo. U.S.D.A. Cooperative Research Grant. 1979-1981. \$18,000.00.

University of Wisconsin Eau Claire Faculty Research Grants:

A comparison of the Ontogeny of the Petal-Stamen Complex in the Genus *Cyclamen*. 1978-1979. \$821.00.

Development of the free central placenta in the genus *Cyclamen*. 1981-1982. \$1337.00.

Embryogeny and histogenesis of *Populus deltoides* Bartr. 1982-1983. \$1659.00.

A comparison of stomatal size and frequency in the leaves of succulent and non-succulent arid-zone plants. 1983-1984. \$1412.00.

Organ initiation and development in male and female flowers of perennial teosinte. 1984-1985. \$800.00.

## 9. MANUSCRIPT AND PROPOSAL REVIEWER

### A. Peer Reviewed Journals and Funding Agencies

*Agriculture, Ecosystems and Environment*

*American Journal of Botany*

*Annals of Botany*

*BioScience*

*Botanical Gazette*

*Bulletin of the Torrey Botanical Club*

*Canadian Journal of Botany*

*Cell Biology Education*

*International Journal of Plant Biology*

*Journal of College Science Teaching*

*Journal of the Linnean Society, Botany*

*Journal of the Minnesota Academy of Science*

*Journal of the Torrey Botanical Society*

*Maydica*

National Science Foundation (Proposal reviewer)

Panelist: Graduate Research Fellowships. 2000-2

Courses, Curriculum, and Laboratory Improvement, 1999

*Systematic Biology*

*The American Biology Teacher*  
*Transactions of the Kansas Academy of Sciences*  
 United States Department of Agriculture (Proposal reviewer, National Research Initiative - Competitive Grants Program)  
*Wisconsin Dialogue*

#### B. Educational Publishers and Organizations

Benjamin/Cummings  
 Campbell Prize Judge, 1993  
 Biological Sciences Curriculum Study (BSCS)  
 D.C.Heath  
 Educational Testing Service (Graduate Record Examination)  
 Harcourt Brace Jovanovich, Inc.  
 Harper Collins  
 Macmillan Publishing Company  
 John Wiley and Sons  
 McGraw-Hill  
 Prentice-Hall, Inc.  
 Salem Press  
 Saunders College Publishing  
 Scott Foresman and Company  
 Times, Mirror, Mosby  
 United States Academic Decatheon  
 West Educational Publishing  
 Wm. C. Brown  
 Worth Publishers, Inc.

## 10. PUBLICATIONS

### A. Books and Book Chapters

- Sundberg, M.D. (2007) *Collins' Outlines in Biology*. American BookWorks Corporation.
- Barstow, W. (ed), Sundberg, M.D. et al. (2005) *Testbank for Campbell's, Biology, 7e*. Benjamin Cummings, Redwood City, CA.
- Sundberg, M.D. (2004) *Biology of Plants Laboratory*. Emporia State University. Emporia, KS.
- Sundberg, M.D. (2002) "Allelopathy," "Cladistics," "Dendrochronology," "Evolution: Convergent and Divergent," "Invasive Plants," "Parasitic Plants," "Reproduction in Plants," "Shoots," "Spermatophyta," and "Tracheobionta" in: *Magill's Encyclopedia of Science: Plant Life*, Salem Press, Pasadena, CA.
- Barstow, W. (ed), Sundberg, M.D. et al. (2002) *Testbank for Campbell's, Biology, 6e*. Benjamin Cummings, Redwood City, CA.
- Sundberg, M.D. 1997. Assessing the effectiveness of an investigative laboratory to confront common misconceptions in life science. in A. McNeal and C. D'Avanzo, editors, *Student-active science: models of innovation in college science teaching*. Saunders College Publishing, Philadelphia.
- Sundberg, M.D. 1995 *Computerized study guide for Moore et al., Botany*. Wm C. Brown. Dubuque, IA.

Sundberg, M.D. 1994. Making the most of onion root tip mitosis. Pp 95-100 in: *Laboratory Manual to Accompany Biology: Exploring Life, 2nd ed.* John Wiley and Sons, New York.

Langsam, D.M., Shimeld, L.A., Simpson, L.M., Sundberg, M.D., and Tauck, D.L. 1994. Chapters 31-38 in: *Test Bank for Biology: Concepts and Connections.* Campbell, Mitchell and Reece. Benjamin Cummings, Redwood City, CA.

Sundberg, M.D. 1994. *Biology for Non-majors: Lab Manual.* McGraw-Hill. New York. 135p.

Sundberg, M.D. 1994. *Student Guide and Resource Manual, Biology 1005.* McGraw-Hill, New York. 135 p.

Sundberg, M.D. 1992. *Instructors Guide, Students Guide and Resource Manual for BIOL 1005 (a nonmajors investigative laboratory to confront common misconceptions).* Kinko's Courseworks.

Sundberg, M.D. 1991. *Instructor's Manual for J. Mauseth, Introductory Botany.* Saunders College Publishing, Philadelphia. 215 p.

Sundberg, M.D. and K. Thompson. 1990 (revised, 1992, 1996). *Biology 1002 Correspondence Study Guide.* Louisiana State University and A&M College, Baton Rouge.

Thompson, K. and M.D. Sundberg. 1990 (revised, 1992). *Biology 1001 Correspondence Study Guide.* Louisiana State University and A&M College, Baton Rouge.

Sundberg, M.D. 1989. *Biol 1208: Biology for Science Majors Laboratory Manual.* 2nd ed., Bellweather Press, Burgess Publishing, Mpls., Minn.

Sundberg, M.D. 1988. *Biol 1208: Biology for Science Majors Laboratory Manual.* Bellweather Press, Burgess Publishing, Minn.

Sundberg, M.D. 1988. *Boty 1202: General Botany Laboratory Manual.* Alpha Editions, Burgess Publishing, Minn.

Harman, W.J. and M.D. Sundberg. 1987. *Biology 1002 Correspondence Study Guide,* Louisiana State University and A&M College, Baton Rouge.

Sundberg, M.D. 1987. *General Botany 1002 Laboratory Manual.* Alpha Editions, Burgess Publishing Co., Minn.

Sundberg, M.D. 1986. *General Botany 1001 Laboratory Manual.* Alpha Editions, Burgess Publishing Co., Minn.

Sundberg, M.D. 1978. *General Botany Laboratory Workbook, 5th revision,* 1984. University of Wisconsin--Eau Claire.

#### B. Publications – Peer-reviewed Botanical Research:

Orr, Alan R. and Marshall D. Sundberg (2007). Early inflorescence and floret development in Guatemalan teosinte (*Zea luxurians* Bird). *Maydica* 52(1):31-47.

Al-khatib, Rami and M.D. Sundberg. 2006. Sclereid Development during Fruit Ripening in Two Lines of Tabasco Pepper (*Capsicum frutescens*). *Proc. Kan. Acad. Sci.* 109(1/2):58-66.

- Sundberg, M.D. (2004) Juried review of "Flowering Plant Embryology" *J. Environmental Quality*. 33:2386
- Alan R. Orr and Marshall D. Sundberg. (2004) Inflorescence development in a new teosinte: *Zea nicaraguensis* (Poaceae), *Amer. J. Bot.* 91 (2): 165-173.
- Sundberg, M.D., Carl E. Motsenbocker, and Yeuhe Huang. (2003) Anatomy of Fruit Detachment in Tabasco Pepper (*Capsicum frutescens*, Solanaceae). *Journal of the Torrey Botanical Society* 130(4): 231-237.
- Orr, Alan R., Kevin Mullen, Darcey Klasshsen, and Marshall D. Sundberg. 2002. Inflorescence development in a high altitude annual teosinte of Mexico. *Amer. J. Bot.* 89(11):1730-1740.
- Pizzolato, T.D. and M.D. Sundberg. 2002. Initiation of the vascular system in the shoot of *Zea mays* L. (Poaceae). II. The procambial leaf traces. *Int. J. Plant Sci.* 163(3): 353-367.
- Pizzolato, T.D. and M.D. Sundberg. 2001. Initiation of the vascular system in the shoot of *Zea mays* L. (Poaceae). I. The procambial nodal plexus. *Int. J. Plant Sci.* 162(3):539-566.
- Orr, Alan R., Rahkee Kaparathi, Chester L. Dewald, and Marshall D. Sundberg. 2001. Analysis of inflorescence organogenesis in eastern gamagrass, *Tripsacum dactyloides* (Poaceae): the wild type and the gynomonocious *gsf1* mutant. *Amer. J. Bot.* 88:363-381.
- Pizzolato, T.D. and M.D. Sundberg. 1999. Initiation of the vascular system and the transition to flowering in early tassels of *Zea mays* land race Chapalote (Poaceae). *Int. J. Plant Sci.* 160(6):1111-1125.
- Orr, A.R., Gretchen Haas and M.D. Sundberg. 1997. Early inflorescence and floral development in the fascicled mutant of maize. *Amer. J. Bot.* 84(6):723-734.
- Huang, Yuehe, G. A. Lang, C.E. Johnson and M.S. Sundberg. 1997. Influences of cross- and self-pollination on peroxidase activities, isozymes, and histological localization during fruit development of 'Sharpblue' blueberry. *J. Amer. Soc. Hort. Sci.* 122 (5): 616-624.
- Huang, Yuehe, C.E. Johnson, G. A. Lang and M.S. Sundberg. 1997. Pollen sources influence early fruit growth of southern highbush blueberry. *J. Amer. Soc. Hort. Sci.* 122 (5): 625-629.
- Huang, Yuehe, C.E. Johnson & M.D. Sundberg. 1997. Floral morphology and development of 'Sharpblue' southern highbush blueberry in Louisiana. *J. Amer. Soc. Hort. Sci.* 122 (5): 630-633.
- Sundberg, M.D. and A.R. Orr. (1996) Early inflorescence and floral development in *Zea mays* land race Chapalote (Poaceae) *Amer. J. Bot.* 83:1255-1265.
- Sundberg, M.D., R. A. Arancibia, and C.E. Motsenbocker. 1996. Anatomical and physiological aspects of tabasco pepper fruit detachment. *Proceedings of the 1996 National Pepper Conference*. 111-112.
- Motsenbocker, C.E., M.D. Sundberg, R.A. Arancibia, and K.P. Gersch. 1996. Pepper fruit detachment research: a histological and molecular approach. *Louisiana Agriculture*. 39:28-30.
- Sundberg, M.D., C. LaFargue and A.R. Orr. 1995. Inflorescence development in the "standard exotic" maize, Argentine popcorn. *Amer. J. Bot.* 82:64-74.

- Orr, A.R. and M.D. Sundberg. 1994. Flower and inflorescence development in maize and its relatives. *Flowering Newsletter*.
- Orr, A. R. and M.D. Sundberg. 1994. Inflorescence development in an annual teosinte - *Zea perennis*. *Amer. J. Bot.* 81:598-608.
- Sundberg, M.D. 1993. El desarrollo de las inflorescencias en *Zea diploperennis* y en especies relacionadas. pp 59 - 110 in: B. Benz (ed) *Biología, ecología y conservación del género Zea*. Universidad de Guadalajara, Guadalajara, Mexico.
- Sundberg, M.D. and J. Doebley. 1990. Developmental basis for the origin of polystichy. *Maize Genetics Cooperative Newsletter* 64: 21-22.
- Sundberg, M.D. 1990. Inflorescence development in *Zea diploperennis* and related species. *Maydica* 35:99-112.
- Sundberg, M.D. and A.R. Orr. 1990. Inflorescence development in two annual teosintes: *Zea mays* subsp. *Mexicana* and *Z. mays* subsp. *Parviglumis*. *Amer. J. Bot* 77: 141-152.
- Sundberg, M.D. 1987. Development of the mixed inflorescence in *Zea diploperennis*. *Botanical Journal of the Linnaean Society*. 95:207-216.
- Sundberg, M.D. 1986. A comparison of stomatal distribution and length in succulent and non-succulent desert plants. *Phytomorphology*. 36:53-66.
- Sundberg, M.D. and A.R. Orr. 1986. Development of the male and female inflorescence in *Zea diploperennis*. *Amer. J. Bot.* 73:1699-1712.
- Sundberg, M.D. 1985. The occurrence of stomata in desert plants. *Desert Plants* 7:154-157.
- Sundberg, M.D. and S.G. Zahn. 1985. A microscopic technique to measure mesophyll succulence. *Amer. J. Bot.* 72:1460-1462.
- Sundberg, M.D. 1985. Pollen of the Myricaceae. *Pollen et Spores* 27:15-28.
- Strobel, D.W. and M.D. Sundberg. 1984. Stomatal density in leaves of various xerophytes--a preliminary study. *J. Minn. Acad. Sci.* 49:7-9.
- Sundberg, M.D. 1983. Vascular development of the hypocotyl-radicle transition region of *Populus* seedlings. *Amer. J. Bot.* 70:735-743.
- Sundberg, M.D. 1982. Petal-stamen initiation in the genus *Cyclamen*. *Amer. J. Bot.* 69:1707-1709.
- Sundberg, M.D. 1982. Leaf initiation in *Cyclamen persicum* mill. F-1 Rosemunde (Primulaceae). *Can. J. Bot.* 60:2231-2234.
- Sundberg, M.D. 1982. Initiation and early development of axillary buds in *Cyclamen*. *J. Minn. Acad. Sci.* 47:20-22.
- Sundberg, M.D. 1982. Floral ontogeny in *Cyclamen persicum* F-1 Rosemunde (Primulaceae). *Amer. J. Bot.* 69:380-388.
- Sundberg, M.D. 1981. The development of leaves and axillary flowers along the primary shoot axis of *Cyclamen persicum* F-1 Rosemunde (Primulaceae). *Bot. Gaz.* 142:214-221.

Sundberg, M.D. 1981. Apical events prior to floral evocation in *Cyclamen persicum* F-1 Rosemunde (Primulaceae). *Bot. Gaz.* 142:27-35.

Sundberg, M.D. 1978. Elongation of the leaf of *Cyclamen persicum* Mill. (cultivars). *J. Minn. Acad. Sci.* 44:15-17.

Sundberg, M.D. 1977. A preliminary report on the pollen of the Myricaceae. *J. Minn. Acad. Sci.* 43:2-5.

Sundberg, M.D. 1975. Organization of the primary body in the root of *Cyclamen persicum* Mill. *J. Minn. Acad. Sci.* 39:40-43.

C. Publications – Peer-reviewed Teaching and Educational Research:

Sundberg, M.D., J.E. Armstrong, and E. W. Wischusen (2005). “A Reappraisal of the Status of Biology Laboratory Education in U.S. Colleges and Universities.” *Amer. Biol. Teach.* 67(9):525-529.

Sundberg, M.D. 2003. Strategies to Help Students Change Naive Alternative Conceptions about Evolution and Natural Selection. *Reports of the National Center for Science Education* 23(2):23-26.

Sundberg, Marshall D. 2002. Teacher Training in a Content-Oriented Biology Department. <http://www.actionbioscience.org/education/sundberg.html>

Sundberg, M.D. 2002. Assessing Student Learning. *Cell Biol. Educ.* 1:11-15.

Sundberg, Marshall D. 2001. Frugal fun with fungal cultures. *Bioscene* 27(1):7-10.

Sundberg, M.D., J. Armstrong, M. Dini, and B. Wischusen. 2000. Tips for designing and implementing investigative laboratories. *J. Coll. Sci. Teach.* 29:353-360.

Sundberg, M.D.; Carter, J.; Galitz, D.; Kirchoff, B.; Moore, R.; and Uno, G. 1995. Executive summary of the Education Committee and Teaching Section, in: *Botany for the Next Millennium*, Botanical Society of America.

Sundberg, M.D. and G.J. Moncada. 1994. Creating Effective Investigative Biology Laboratories for Undergraduates. *BioScience* 44: 698-704.

Sundberg, M.D., M.L. Dini and E. Li. 1994. Improving student comprehension and attitudes in freshman biology by decreasing course content. *Jour. Res. Sci. Teach.* 31: 679-693.

Sundberg, M.D. and M.L. Dini. 1993. Majors vs nonmajors: Is there a difference? *J. Coll. Sci. Teach.* 22: 299-304.

Sundberg, M.D. and J.E. Armstrong. 1993. The status of laboratory instruction for introductory biology in U.S. universities. *Amer. Biol. Teach.* 55:144-146.

Sundberg, M.D.; Carter, J.; Galitz, D.; Kirchoff, B.; Moore, R.; and Uno, G. 1993. An Educational Agenda for Plant Science in the 21st Century. Report to the Botanical Society of America.

Sundberg, M.D. 1992. Morphometric techniques for beginning biologists. In: *Tested Studies for Laboratory Teaching*, Vol. 5. P. Ecklund (ed.), Kendall/Hunt Pub. Co., Dubuque, IA.

Sundberg, M.D., E.J. Kormondy, J.L. Carter, J.M. Moore, S.N. Postlethwait, and J.W. Thornton. 1992. Education: Reassessing the Commission on Undergraduate Education in the Biological Sciences. *BioScience*. 42: 442-447.

Sundberg, M.D. 1992. Some considerations for developing a research agenda in evolution education. pp. 197-200 in: R.G. Good, et al., (eds). *Proceedings of the 1992 Evolution Education Research Conference*.

Sundberg, M.D. 1991. Are we reinventing the wheel? *BioScience*. 41:779-783.

Sundberg, M.D. 1984. An evolutionary approach to teaching about ferns. In: *Tested Studies for Laboratory Teaching*. Vol. 4. C. Leon Harris (ed.), Kendall/Hunt Publishing co., Dubuque, IA.

Sundberg, M.D. 1984. A quantitative technique for beginning microscopists. *J. Coll. Sci. Teach.* May:417-419.

Sundberg, M.D. 1984. Special microscopy using a standard student microscope. *Amer. Biol. Teacher* 46:113-115.

Sundberg, M.D. 1981. Making the most of onion root tip slides. *Amer. Biol. Teacher* 43(7):386-388.

Sundberg, M.D. 1981. Some optimal growth media for use in the botany classroom. *J. Minn. Acad. Sci.* 46:13.

Sundberg, M.D. 1980. Plant Biorhythms: A laboratory study for introductory botany. *Amer. Biol. Teacher* 42(2):2-5.

#### 11. MANUSCRIPTS IN REVIEW OR ACCEPTED

Sundberg, M.D., A.R. Orr and T.D. Pizolatto. (in review). Phyllotactic pattern is altered in the transition to flowering in the early ears of *Zea mays* land race Chapalote (Poaceae). *Amer. J. Bot.*

#### 12. CREATIVE CONTRIBUTIONS (non-reviewed)

Sundberg, M.D. 2006. Review of Beck, Charles, "An Introduction to Plant Structure and Development" *Plant Science Bulletin* 52(3): 98-99.

Sundberg, M.D. 2006. Review of Silvertown, Jonathan, "Demons in Eden: The Paradox of Plant Diversity." *Plant Science Bulletin* 52(3): 102.

Sundberg, M.D. 2005. What are we Teaching in Our Introductory Courses? *Plant Science Bulletin* 51(3):77-79.

Sundberg, M.D. 2005. Review of Freer, Stephen (Translator), "Linnaeus' *Philosophia Botanica*". *Plant Science Bulletin* 51(3)104-105.

Sundberg, M.D. 2005. Review of Stuessy, Tod F., Vernica Mayer, and Elvira Hornandl (eds) "Deep Morphology: Toward a Renaissance of Morphology in Plant Systematics." *Plant Science Bulletin* 51(3): 109-110.

Sundberg, M.D. 2004. Reviews of: "The Problem of Organic Form" and "Clonal Analysis of Corn Plant Development" in *Classic literature in plant evo-devo*, *Classic Literature Archive* [http://www.colorado.edu/eeb/MORPH/literature/classic\\_current.html](http://www.colorado.edu/eeb/MORPH/literature/classic_current.html)

- Sundberg, M.D. 2004. "Where is Botany Going?" *Plant Science Bulletin* 50(1):2-7.
- Sundberg, M.D. 2002. Review of: Pimm, Stuart. "The World According to Pimm: A Scientist Audits the Earth." in *Plant Science Bulletin* 48(3):107-8.
- Sundberg, M.D. 2002. Review of: Ulloa, Miguel and Richard T. Hanlin. "Illustrated Dictionary of Mycology." in *Plant Science Bulletin* 48(3): 115.
- Sundberg, M.D. 2002. Review of: Edelson, Edward. "Gregor Mendel and the roots of genetics." in *Plant Science Bulletin* 48(2):73.
- Sundberg, M.D. 2002. Review of: White, James J. and Lugene B. Bruno. "Gifts of Winter: Catalogue of an exhibition." in *Plant Science Bulletin* 48(1):26.
- Sundberg, M.D. 2002. In: *PKAL Roundtable on the Future: Assessment in the Service of Student Learning*. <http://www.pkal.org/events/roundtable2002/index.html>
- Sundberg, M.D. 2001. Review of: Hoshizaki, Barbara Joe and Robbin, C. Moran "Fern Grower's Manual: Revised and Expanded Edition," in *Plant Science Bulletin* 47(4):169.
- Sundberg, M.D. 2001. "On Being a Department Chairperson." *American Biology Teacher* 63(5) (Invited editorial)
- Sundberg, M.D. 2000. Review of Cohen, Michael P., "A Garden of Bristlecones: Tales of Change in the Great Basin", in *Plant Science Bulletin* 46(4):131.
- Sundberg, M.D. 1999. Review of Ruzin, S., "Plant Microtechniques and Microscopy" Oxford University Press, in *Plant Science Bulletin* 45(3):86-87.
- Photograph in: Susan Carol Hauser. 1996. *Nature's Revenge: the secrets of poison ivy, poison oak, poison sumac, and their remedies*. Lyons and Burford, New York.
- "Botanists." 1995. Chronicle Guidance Publications
- Maize photographs for "Biology: Principles and Explorations." 1995.
- Committee Chair and Author. 1995. Education Committee and Teaching Section Report, *Botany for the Next Millennium*. Botanical Society of America.
- Committee Chair and author. 1994. *Careers in Botany: a guide to working with plants*. Botanical Society of America.
- Crockett, L.J. and M.D. Sundberg. 1994. *Market Day In Delft*. An historical-teaching play about Antony van Leeuwenhoek (1632-1723), presented at the American Institute of Biological Sciences annual meeting, Knoxville, TN.
- Maize photographs for Holt's: *Biology, Visualizing Life*. 1993. A middle school level biology text.
- A return to Minnesota's forgotten seaside station. *Minnesota* (alumni magazine). Sept/Oct, 1984.
- Botanical illustrations in: *Farm women on the prairie frontier: A source book for Canada and the United States*, by Carol Fairbanks and Sara Sundberg, Scarecrow Press, Methuen, NY. 1983.

**13. PAPERS, POSTERS AND SEMINARS PRESENTED**

(citations available upon request)

Contributed 81Invited 48**14. OTHER SCHOLARLY ACTIVITIES****A. CONSULTANT**

Advanced Placement (Biology) Reader. 2007. Louisville, KY.

External Program Reviewer. 2004. Department of Biology, Southeastern Oklahoma State University, Durant, Oklahoma.

External Program Reviewer (sole reviewer). 2001. Department of Biology, Northeastern State University, Tahlequah, Oklahoma.

External Program Reviewer (committee chair). 2000. Department of Biology, Bemidji State University, Bemidji, Minnesota.

Base Plan Steering Committee, Kansas Mathematics and Science Education Consortium. 1998.

External Program Reviewer (sole reviewer). Department of Biology, Moorhead State University, Moorhead, Minnesota, 1996.

Biology 2000 Focus Group - Integrating Educational Technology into Biology Teaching, Clemson University, 1996.

External Program Reviewer (committee chair), Department of Biological Science, St. Cloud State University (Minn.), 1994.

Advanced Placement Biology Advisory Committee, 1993.

BioQUEST, Quality Undergraduate Educational Simulations and Tools in Biology. "Botany Education Meeting". Madison, WI. 1992.

**B. COMMITTEE WORK****I NATIONAL**

American Association for the Advancement of Science (AAAS)	
Education Section, Nominating Committee	1994-1995.
American Institute of Biological Sciences (AIBS)	
Interactions Committee	1993-1995.
Meetings Committee	1994 -1997.
Education Committee	1994-1995, 1997-2002.
Association for Biology Laboratory Education (ABLE)	
Planning Committee	1982-1983.
Program Committee	1980-1981.
Botanical Society of America	
Careers in Botany Committee, Chair	1993-1995.
Education Committee	1985-1986, 1990-1993, 2000-present
Chair	1991-1993.
Botany Digitizers Subcommittee	1997-1999
Membership and Appraisal Committee	1993-1998.
Plant Science Bulletin Editorial Committee, Editor	2000-present
Publications Committee	2000-present
SIP: Scientific Inquiry through Plants (now PlantingScience)	
<a href="http://www.botany.org/scientific_inquiry/">http://www.botany.org/scientific_inquiry/</a>	2004
<a href="http://www.plantbiology.org">www.plantbiology.org</a>	2005
<a href="http://www.plantingscience.org">www.plantingscience.org</a>	2006-present
Web Page Committee	2000-present
Cell Biology Education (The American Society for Cell Biology)	

Editorial Board	2001-present
National Association of Biology Teachers (NABT)	
Projects and Grants Committee	1993-1997
College Faculty Preparation Committee	1994-1998
National Science Foundation	
CCLI Review Panel (Chair)	1999
Predoctoral Fellowship Panel	2000-2002
National Science Teachers Association (NSTA)	
JCST Advisory Board and Review Panel	1998-2001

## II. STATE OR REGIONAL

Biology Core Competencies Committee, Kansas Community Colleges and State Universities.	2000- 2004
Organizing Committee: Sericea Lespedeza and the Future of Invasive Species	2000-2002
Kansas Invasive Weed Management Project	1999-2002

## III. UNIVERSITY

University of Wisconsin - Eau Claire	
Sigma Xi Club Executive Committee.	1983-1985.
Louisiana State University	
Improvement of Instruction Committee.	1994-1997
chairman	1995-1997
Classroom Committee.	1994-1997
Sigma Xi Chapter Executive Committee.	1994-1997
President	1996-1997
Division of Instructional Support and Development Advisory Council.	1994-1997
General Education Learning Outcomes Assessment Committee	1996-1997
Critical Thinking Assessment Subcommittee. Chair	1996-1997
Emporia State University	
Grievance Committee	1998-1999
Council for Undergraduate Research Steering Committee	1997-2002
Sigma Xi Chapter Petition Committee (chair)	1997-1998
Executive Committee	1999-2006
President	1998-1999, 2004-2005
Honors Council	1999-2001
Parking Committee	2000-2002

## IV COLLEGE

College of Basic Sciences, Louisiana State University	
Advising Committee	1994-1997
High School Relations Committee	1985-1997
8-g Freshman Laboratory Enhancement, Chair	1987.
Ad-hoc committee on freshman biology	1987-1988.
Ad-hoc Freshman biology advisory committee, Chair	1988-1993.

## V DEPARTMENT

Department of Botany, University of Minnesota.	
Greenhouse Committee,	1973-1977.
Curriculum Committee,	1975-1976.
Ph.D. Preliminary Examination Committee,	1977-1978.

Department of Biology, University of Wisconsin- Eau Claire.

100-level Biology Course Development Committee. Department of Biology	1980-1981.
Department of Botany (Plant Biology), Louisiana State University	
Botanical Gardens Advisory Committee,.	1990-1997
Undergraduate Advisor and Pre-pharmacy advisor	1994-1997
Department of Biological Sciences, Emporia State University	
Chair, Faculty Recognition Committee	2004-2005
Chair, Faculty Search Committee	2004-2005
Natural Areas Committee	2004-present
Grievance Committee	2004-present

## 15. **WORKSHOPS, SYMPOSIA AND SEMINARS RELATED TO UNDERGRADUATE SCIENCE EDUCATION**

### A. Workshop or Symposium Organizer:

- 2007 Botany/Plant Biology 2007 Congress. "Teaching Innovations Short Course" Chicago, IL.
- 2005. International Botanical Congress. "Building Botanical Literacy" Vienna, Austria.
- 2003. Botanical Society of America. "Methods and Myths about Conducting Research in Botany Education." Mobile, AL.
- 1999. Co-director. NSF Chautauqua Workshop. "Designing and Running Investigative Laboratories." San Juan, Puerto Rico.
- 1998. Louisiana Collaborative for Excellence in the Preparation of Teachers and Louisiana Tech University. "Designing and Running Investigative Laboratories." Ruston, LA. (3 day workshop)
- 1992. National Science Foundation. LABSHOP. Illinois St. Univ., Normal, IL. (week-long workshop)
- 1991. American Institute of Biological Sciences. "The Commission on Undergraduate Education in the Biological Sciences (CUEBS) - A Reassessment. San Antonio, TX.
- 1985. Botanical Society of America. "Learning Theory and its Application to the Teaching of Life Science." Gainesville, FL.

### B. Invited speaker/presenter:

- 2007 Online Learning Communities Scaffold Inquiry & Scientific Reasoning Skill. National Science Teachers Association, St. Louis.
- 2006 Ethyl Belk Lecture in Botany, Miami University, Oxford, OH. "The Future of Botany in U.S. Higher Education"
- 2006 Four Eye-Opening Science Education Research studies: Connecting Science and Educational Research. American Association for the Advancement of Science, St. Louis. "Using Student-Active Investigations to Overcome Student Misconceptions about Evolution and Selection."
- 2005 Trends in Botany Education in U.S. Colleges and Universities. International Botanical Congress, Vienna.
- 2004 2004 National Summer Conference Integrating Science and Mathematics Education Research into Teaching, University of Maine and Maine Mathematics and Science Teaching Excellence Collaborative, Orono, Maine. Address: "Quantitative plus Qualitative Produces Quality."; Workshop: Using Qualitative Assessment Tools.
- 2003 Symposium: Methods and myths about conducting research in botany education, Botanical Society of America, Mobile, AL (3 presentations co-authored with James Wandersee.)  
-Botany education research and botanical research: Some important differences and similarities.  
-Qualitative research in botanical education is quality research  
-A proposed research agenda for botany education
- 2003 Running NSF Research Experience for Undergraduates (REU) site programs. Botany 2003 Forum, Mobile, AL.
- 2003 "The Crisis in Field Botany: Loss of People and Knowledge." Association of Southeastern Biologists, Arlington, VA.

- 2002 Roundtable facilitator, *Criteria and Benchmarks for Increased Learning from Undergraduate STEM Instruction*, Committee on Undergraduate Science Education, National Research Council/The National Academies. Washington, D.C.
- 2001 "Investigative Laboratories: Development, Implementation, and Assessment." The Rise to the Challenge Program, El Paso Community College System, El Paso, TX.
- 2000 "Designing and Using Investigative Labs." Making New Connections in Biology Workshop, The University of Southern Mississippi, Hattiesburg, MS.
- 1999 "Designing and Implementing Investigative Laboratories in Introductory Undergraduate Sciences Courses." Sigma Xi Forum, Minneapolis, MN.
- 1999 "Designing and Implementing Investigative Laboratories across the Curriculum." Departments of Biological Sciences and Physical Sciences, Southern Utah University, Cedar City, UT.
- 1998 "Assessing literacy in Plant Biology." Coalition for Education in the Life Sciences - workshop - *Towards literacy in Plant Biology*, Madison, WI.
1998. "Plant activities for pre-college classrooms" (with Gordon Uno). American Institute of Biological Sciences, Baltimore.
1997. "The Role of the Institution". The Role of Teaching in Faculty Evaluation. National Association of Biology Teachers
1996. "Evaluation and assessment, progress and pitfalls." Student Active Science Conference, Hampshire College.
1996. "Inquiry and Investigation, effective alternatives to lecture and traditional laboratories." Transforming Teacher Education Conference, Moorhead State University.
1995. American Institute for Biological Sciences (AIBS). "Using demonstrations effectively in large classes." Symposium on Alternatives to Lecture in Teaching Botany.
1993. American Institute for Biological Sciences (AIBS). "Creating effective investigative laboratories." Symposium on New Directions in Teaching General Biology.
1993. AIBS and Botanical Society of America (BSA). "BIOLAB: A computer bulletin board for laboratory instruction in biology." Symposium on Multimedia for Biology: What? How? Why?
1993. BSA. "LABSHOP: A workshop to develop investigative laboratories for large multiple-section courses." Symposium on essential botanical knowledge at the college/university level. BSA. 1993
- 1993 National Association of Biology Teachers. "Just ask - ideas and solutions for your biological problems."
1993. Coalition for Education in the Life Sciences (CELS). "Teaching an Investigative Nonmajors Laboratory, Based on Common Misconceptions, in a Large, Multi-section Course." Marine Biological Laboratory, Woods Hole.
1993. Wright State University. "Do students really understand more biology when we teach less content?" 1993.
1993. University of St. Thomas. "Investigative approaches to teaching nonmajors."
1993. Ferris State University. "Assessing undergraduate instruction."
1993. Louisiana Society for Electron Microscopy. "Scope on a Rope" (SOAR) Video Microscopy. New Orleans, LA.
1992. National Association of Biology Teachers. "Preparing Graduate Assistants to Teach Investigative Laboratories." Denver, CO.
- 1988, 1991. Botanical Society of America. "Symposium on Essential Knowledge in the Botanical Sciences."
1986. Botanical Society of America. Workshop on Scientific Photography. Amherst, MA.
- 1984, 1985. Association for Biology Laboratory Education. Workshops on "Fern Phylogeny", Seattle, WA and "Quantitative Microscopy for Freshman Labs." St. John's, Newfoundland.
1981. University of Wisconsin System Undergraduate Teaching Improvement Council. "Improving Undergraduate Biology Education." Madison, WI.

### C. Participant/Presenter:

- 2005 *International Society for the Scholarship of Teaching and Learning*. Vancouver, British Columbia, Canada. "Student Inquiry and Engagement Promotes Content Learning in Biology."

2002. *Botany 2002: Botany in the Curriculum: Integrating Research and Teaching*. Botanical Society of America, University of Wisconsin, Madison. "Plant science education - Discussion of a new journal" Forum Roundtable; "Using student-active investigations to overcome student misconceptions about evolution and natural selection."
2002. *PKAL Roundtable on the Future: Assessment in the Service of Student Learning*, Duke University.
1999. *National Academic Advising Association* in Denver, Colorado. "Freshman Seminar: Making the Course Seem Relevant to the Student."
1998. *Council on Undergraduate Research (CUR) Institute*, San Diego, CA. "How to Institutionalize Undergraduate Research."
1993. Louisiana State University. "Evolution Education Research."
1990. Butler University. "Undergraduate biology Curriculum Conference"
- 1988, 1989. Biological Sciences Curriculum Study and American Institute of Biological Sciences. "Roundtable on Biological Education."
1986. Botanical Society of America. "Teaching through Inquiry."
1983. Association for Biology Laboratory Education, Annual Workshop.
1981. University of Minnesota Extension Conference. "Evolution and Public Education."
- 1980, 1981. University of Wisconsin - Eau Claire. "Writing in the Sciences", "Writing across the Curriculum," "Evaluation of Student Writing across the Curriculum."

## 16. SUPERVISED UNDERGRADUATE RESEARCH PUBLISHED

- Orr, Alan R., Kevin Mullen\*, Darcey Klasshsen\*, and Marshall D. Sundberg. 2002. (see Sundberg bibliography)
- Orr, Alan R., Rahkee Kaparathi\*, Chester L. Dewald, and Marshall D. Sundberg. 2001. (see Sundberg bibliography)
- Orr, A.R., Gretchen Haas\* and M.D. Sundberg. 1997. (see Sundberg bibliography)
- Sundberg, M.D., C. LaFargue\* and A.R. Orr (1995). (see Sundberg bibliography)
- Sundberg, M.D. and S.G. Zahn\*. 1985. (see Sundberg bibliography)
- Strobel, David\* and Marshall Sundberg. 1984. (see Sundberg bibliography)
- Bildsoe, Mark.\* 1982. Catalase activity in crown galls of *Helianthus annuus*." *J. Minn. Acad. Sci.* 49:7-9.
- Wrosek, Ann.\* 1981. A survey of lichens on tombstones. *Bull. Bot. Club Wisc.* 13:54-57.
- Peters, William\*. 1981. Effects of the July 15 windstorm on red oaks in Putnam Park (Eau Claire). (abst.) *Wisc. Acad. Sci. Arts and Lett.*

## 17. THESIS AND DISSERTATION COMMITTEES

### A. Undergraduate Honors Theses

- (Committee Member) Sonja Lawless, B.A. 1988. "Pseudoneglect." Department of Psychology. (LSU)
- (Chair) Melanie Kurtz, B.S. 2000. "The Beginnings of Mathematics and My Classroom." Department of Mathematics. (ESU)
- (Committee Member) Melissa R. Hermann. B.S. 2000. "Assessment and Evaluation of Services Available to Adolescent Parents in a Rural Town and an Urban City." Department of Biology. (ESU)
- (Committee Member) Cynthia Price. B.A. 2000. "Four Years in the Making: A Retrospect on a Student Editorship." Department of English. (ESU)

### B. Master's Degree

- (Committee Chair) Diane Bynum, M.N.S. 1992. (non-thesis) Natural Sciences. (LSU)
- (Project Supervisor) Gregory Moncada, M.A. 1993. "Do college investigative laboratories really work? A descriptive study of an investigative biology laboratory program in action." Department of Curriculum and Instruction. (LSU)

(Committee Chair)	Mary Anne Field Wolf, M.N.S. 1995. (non-thesis) Natural Sciences. (LSU)
(Committee Chair)	Honora Burras, M.N.S. 1995. (non-thesis) Natural Sciences. (LSU)
(Thesis Advisor)	Thomas Benenatti, M.S. (2000) "Effects of plant density on chasmogamy and cleistogamy in <i>Lespedeza cuneata</i> (Fabaceae). Department of Biology (ESU)
(Thesis Advisor)	Rami Al-Khatib (2003) Anatomical changes during fruit ripening in two lines of Tabasco pepper ( <i>Capsicum frutescens</i> , Solanaceae). (ESU)
(Thesis Co-advisor)	Tsai-Ying Liu (2003) The potential for the house cricket, <i>Acheta domesticus</i> , to acquire, harbor and transmit human pathogens. (ESU)
(Project Supervisor)	Alisa Rapp (2003) Flint Hills National Wildlife Refuge Pre/Post-Visit Curricula. (ESU)
(Project Supervisor)	Carrie Newdigger (2004) The effectiveness of a multisensory approach to cigarette smoking awareness and attitudes in teenagers. (ESU)
(Project Supervisor)	Sarah Garcia (2004) The effect of on-line reviews versus in-class reviews on exam scores of sophomore introductory biology students. (ESU)
(Committee Member)	Elizabeth Warburton (2005) "A Test of Preadaptation vs Exaptation in the Evolution of Parasitism in Nematoda."(ESU)

### C. Doctoral Degree (all at LSU)

(Committee Member)	Michael Wiemann. Ph.D. 1990. "Wood Specific Gravity Gradients in Tropical Trees." Department of Botany.
(Committee Member)	Quingjun Xie. Ph.D. 1990. "Rice Improvement through Tissue Culture: Somaculture Techniques and Inheritance of Somaclonal Variation." Department of Plant Pathology and Crop Physiology.
International reviewer,	Ph.D. dissertation. 1993. "Studies on the biology of some medicinally potential species of <i>Andrographis</i> Wall. of the Shevaroy Hills of Tamilnadu, India," by Thiru. C. Alagesabooopathi. Bharathidasan University, Tiruchirapalli, India.
(Committee Member)	Andrew Douglas. Ph.D. 1994. "Evolutionary Patterns in Proteaceae Based on Comparative Floral and Inflorescence Ontogenies." Department of Botany.
(Committee Member)	Yuehe Huang. Ph.D. (1995) "Physiological and biochemical studies of Southern highbush blueberry fruit development." Department of Horticulture.
(Committee Member)	Katherine Kantz. Ph.D. 1996. "Floral Development in Caesalpinoid Legumes." Department of Plant Biology.
(Committee Member)	Kay Gersch. Ph.D. (1996) "Development of the separation layer in Cayenne Pepper." Department of Horticulture.
(Committee Member)	Susan Meiers. Ph.D. (1997) "Phylogeny of the Characeae (Charophyta) and Biogeography of Chara (Characeae) Inferred from Ribosomal RNA Genes. Department of Plant Biology.
(Committee Member)	Theresa Crozier. Ph.D. (2000) Department of Plant Biology.

## 18. PUBLIC SERVICE

### A. Science Fair Judging

Elementary and Middle School Fairs	3-5 annually	1985 -2004
Capital District Regional Fair		1985 - 1997
Louisiana State Science and Engineering Fair		1985 - 1997
Louisiana Junior Science and Humanities Symposium		1986, 89, 91
Coordinator, Botanical Society of America Special Awards, International Science and Engineering Fair		1992, 1993
South Central American Society of Microbiologists and Midsouth Biochemists meeting.		1993.

### B. School Outreach

Elementary School Classroom Visitations	2-5 annually	1989 - 1997
Middle School Classroom Visitations	2-3 annually	1989 - 2004
High School - coordinate classroom adoption of Baton Rouge High School Advanced Placement Biology Class	6-8 classroom visitations	

3-4 class laboratories at LSU	
1-2 field trips	1990 - 1997
Coordinator, summer high school teacher research internships,	1989 - 1993
Scientist/mentor, "Science by Mail" program, The Children's Museum of Houston.	
3 elementary and 3 middle school classes.	1993 - 2000
Consultant. Emporia Project, USD 253.	1998 - 1999

### C. Other

#### Boy Scouts of America.

Assistant Scoutmaster, Troop 165, Emporia KS	2002 - present
Sojadi District Roundtable Commissioner	2002 - present
Jayhawk Area Council Training Committee, Chairman	1999 - 2004
Scoutmaster, Troop 165, Emporia, KS	1998 - 2001
Sojadi District Training Committee, Chairman	1998 - 1999
Dzie-Hauk Tonga Lodge, OA, Communications Advisor	1998 - 1999
Assistant Scoutmaster, Troop 5, Baton Rouge, LA	1991 - 1997
Sewell/Eagle District Boy Scout Training Chairman	1994 - 1997
Istroma Area Council Training Committee	1994 - 1997
Quinipisswa Lodge, OA, Chapter Advisor	1996 - 1997
Official, U.S. Swimming Association, Missouri Valley District	1998 - 2004
Block co-captain, Garden District Neighborhood Association	1992 - 1997
Religious Education Instructor, Baton Rouge Unitarian Church	1992-3, 1995-6
Coach, Baton Rouge Soccer Association	1991 - 1996
Science and Technology Committee, Westminster Elementary School	1991 - 1993