

CURRICULUM VITAE

Bruce Kenneth Kirchoff

INSTITUTIONAL ADDRESS

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EDUCATION

- Ph.D. Botany, December 1981, Dissertation: The Floral Development and Floral Evolution of Five Genera of the Marantaceae and of *Canna* (Cannaceae), Duke University, Durham, North Carolina.
- M.S. Biology, May 1977, Research: SEM study of inflorescence development in oats, University of Michigan, Ann Arbor, Michigan.
- B.G.S. Bachelor of General Studies, August 1975, with Distinction, class honors, University of Michigan, Ann Arbor, Michigan.

POSITIONS HELD

- Current: Professor of Biology, University of North Carolina, Greensboro, NC
- 1991 - 2011: Associate Professor of Biology, University of North Carolina, Greensboro, NC
- 1986 - 1991: Assistant Professor of Biology, University of North Carolina, Greensboro, NC
- 1984 - 1986: Research Associate, Fairchild Tropical Garden, Miami, FL
- 1982 - 1984: Postdoctoral Fellowship (with Dr. Abraham Fahn) Hebrew University of Jerusalem, Israel
- 1981 - 1982: Visiting Assistant Professor of Botany, Louisiana State University, Baton Rouge, LA

AWARDS AND HONORS

- 2013 American Society of Plant Taxonomists (ASPT) Innovations in Plant Systematics Education Prize
- 2012 UNCG Faculty Senate Award for Excellence in Committee Service
- 2010 Lloyd International Honors College, Faculty Fellow
- 2007 Botanical Society in America Education Booth Competition winner for *Image Quiz: A new approach to teaching plant identification through visual learning*. My work was showcased in the Education Booth at the Botany & Plant Biology 2007 Joint Congress, Chicago, IL, July 7-11, 2007
- 2007 Finalist, *Thatcher Hoffman Smith Creativity in Motion Prize*

VISITING SCIENTIST

- Visiting Scholar, Department of Integrative Biology, UC Berkeley: October 2007 – July 2013
(http://ib.berkeley.edu/people/faculty/person_detail.php?person=394)
- Visiting Scientist, South China Botanical Garden, Chinese Academy of Sciences: 2007-2010
- Visiting Research Scientist, Royal Botanic Gardens, Sydney, Australia: January - May 2001

ADMINISTRATIVE DUTIES

- Director of the Introductory Biology Program, Department of Biology, UNCG: 1990-1995

EDITORIAL DUTIES

- Kirchoff, B. K. and R. Claßen-Bockhoff (co-editors). 2013. SPECIAL ISSUE: Inflorescences. *Annals of Botany* 112 (8): 1471-1641
- Kirchoff, B. K. Associate Editor for Anatomy and Morphology, *Journal of the Torrey Botanical Society* (1999-2007)

Kirchoff, B. K. and R. Rutishauser (co-editors). 2001. Special Highlight: From Agnes Arber to New Explanatory Models for Vascular Plant Development. *Annals of Botany* 88: 1103-1217

SYMPOSIA ORGANIZED (invited starred [*]; international with a plus [+])

- 2011 ⁺*Inflorescences: Diversity, Development, Ecology and Evolution*. International Botanical Congress, Melbourne, Australia. July 23-30, 2011. Co-organizer: Reginae Claßen-Bockhoff, Johannes Gutenberg Universität, Mainz.
- 2008 *New Directions in Visualization: Perspectives from Biology and Computer Science*. UNCG Center for Critical Inquiry Interdisciplinary Panel. April 4, 2008, Greensboro, NC. Co-organizers: David Remington, Fred Sadri, Lixin Fu.
- 2005 ⁺*The Character Concept in the Phylogeny and Evolution of Plants*. XVII International Botanical Congress. July 17-23, 2005, Vienna, Austria.
- 2001 **Parts and Wholes: A Dialogue on Science and Art as Complementary Activities*. 2001 Sigma Xi Forum, November 8-9, Research Triangle Park, NC.
- 2001 *A Feeling for the Organism*. Discussion Session at Botany 2001, Botanical Society of America Annual Meeting, August 12-16, 2001, Albuquerque, NM.
- 2000 *Open Space Symposium*. Botany 2000, Botanical Society of America Annual Meeting, August 6 - 10, 2000, Portland, Oregon.
- 1999 ⁺*From Agnes Arber to New Explanatory Models for Vascular Plant Development*. XVI International Botanical Congress, August 1 - 7, 1999. Saint Louis, Missouri, USA (with Rolf Rutishauser, Institute of Systematic Botany, Universität Zürich)
- 1998 ⁺**Development*. Monocots II, Second International Conference on the Comparative Biology of the Monocotyledons. September 27 - August 2, 1998. Sydney, Australia (with Alister Hay, Royal Botanic Gardens Sydney)
- 1991 *Symposium on Development and Evolution in Plants*. 42nd Annual American Institute of Biological Science Meeting, August 4 - 8, 1991. San Antonio, TX. (co-organizers: Tracy McLellan and Brent Mishler)

CONSULTING

- 2013 Intelligence Advanced Research Projects Activity (IARPA) Finder Program (http://www.iarpa.gov/solicitations_finder.html) through Applied Research Associates (ARA), Raleigh, NC.
- 2012 Intelligence Advanced Research Projects Activity (IARPA) Finder Program (http://www.iarpa.gov/solicitations_finder.html) through Applied Research Associates (ARA), Raleigh, NC.

GRANTS (external starred [*])

- 2011 **Matthews, C., H. Carlone, H. and A. Somers. ISE Full-Scale Development: Herpetology and Conservation Education in Rural Places and Spaces (HERPS)*. (\$2,598,871) [I am listed as “other” on this proposal.]
- 2010 *Adapting Image Quiz Software to Non-Hierarchical Image Domains*. Advancement of Teaching & Learning Grant, UNCG Teaching and Learning Center (\$3,000)
- 2007 **NSF Research Opportunity Award; work with Ellen Simms, Department of Integrative Biology, UC Berkeley* (\$24,990)
UNCG Regular Faculty Grant (\$4,981)
- 2007 UNCG Research Assignment (one semester)
Advancement of Teaching & Learning Grant, UNCG Teaching and Learning Center (\$3,000)
- 2006 **Rudolf Steiner Foundation, An Experimental Test of a Method for Controlling Invasive Species* (\$5,000)
- 2005 Regular Faculty Grant, UNCG (\$4,000)
- 2003 UNCG College of Arts and Sciences-Dean’s Initiative Funds (\$6,950)
- 2001 UNCG Research Assignment (full salary for one semester)
- 2000 **Royal Botanic Gardens, Sydney (AS\$15,000)*
**Future Value Fund of the Rudolf Steiner Foundation* (\$10,000)
- 1996 **Fetzer Institute* (\$7,277)
UNCG Research Council Grant (\$490)
- 1995 UNCG Summer Excellence Foundation Grant (\$4,000)
- 1994 **Rudolf Steiner Foundation* (\$3,500)
**Institute of Noetic Sciences* (\$3,500)
UNCG Research Council Grant (\$3,000)

- 1993 *Rudolf Steiner Foundation (\$7,000)
UNCG Research Council Grant (\$2,500)
- 1992 UNCG Excellence Foundation Faculty Summer Fellowship (\$4,000)
UNCG Research Council Grant (\$2,500)
- 1991 UNCG Excellence Foundation Faculty Summer Fellowship (\$4,000)
UNCG Research Assignment (1/2 salary for one year)
- 1990 *National Science Foundation Research Experiences for Undergraduates (REU) supplement: Leaf Architecture and Flower Development in the Zingiberales (\$12,000)
- 1989 *National Science Foundation Research Experiences for Undergraduates (REU) supplement: Leaf Tearing and Stomatal Structure in the Zingiberales (\$8,000)
- 1988 *National Science Foundation: Floral Development and Evolution in the Zingiberales. (Three years, \$160,000); UNCG Excellence Foundation Faculty Summer Fellowship (\$4,000); UNCG Research Council Grant (\$2,500)
- 1987 *XIV International Botanical Congress Young Botanists Award for travel to the congress; Botanical Society of America travel grant for travel to the XIV International Botanical Congress; UNCG Excellence Foundation Faculty Summer Fellowship (\$2,500); UNCG Research Council Grant (\$2,000)
- 1983 *National Science Foundation: Comparative Study of Inflorescence Structure and Development in the Zingiberales; J. B. Fisher and **B. K. Kirchoff** (\$80,000)

PUBLICATIONS

- 51 **Kirchoff, B. K.**, P. Delaney, and M. Horton. Invited contribution in prep. Optimizing Learning of Scientific Category Knowledge in the Classroom: The Case of Plant Identification. *CBE Life Sciences Education*
- 50 **Kirchoff, B.K.** and R. Claßen-Bockhoff. 2013. Inflorescences: Concepts, function, development and evolution. *Annals of Botany* 112: 1471-1476
- 49 Huang, S-S, **Kirchoff, B.K.**, and J-P Liao. 2013. Effect of heat shock on ultrastructure and calcium distribution in *Lavandula pinnata* L. glandular trichomes. *Protoplasma* 250: 185-196
- 48 Specht, C. D., Y. Roxana, A. M. Almeida, **B. K. Kirchoff**, W. J. Kress. 2012. Homoplasy, pollination, and emerging complexity during the evolution of floral development in the tropical gingers (Zingiberales). *Botanical Review* 78: 440–462
- 47 **Kirchoff, B. K.**, M. Nobis, and D. Remington. 2012. Secondary Woodiness and Paedomorphosis. In F. H. Schweingruber, A. Börner, and E-D Schulze, *Atlas of Stem Anatomy in Herbs, Shrubs and Trees, Vol. 2. pp. 383-385*. Springer, Heidelberg
- 46 Kitin P, **B. K. Kirchoff**, B. Hardy, S. Du, and H. Beeckman. 2012. Wood Anatomy and Visual Identification Key for Central African Woods. Royal Museum for Central Africa, Tervuren, Belgium
<http://training.africamuseum.be/woodidkey/index.php>
- 45 Kuang, Y-F, **Kirchoff, B. K.** and J-P Liao. 2012. Presence of the protruding oncus is affected by developmental stage and acetolysis technique. *Grana* 51: 253-262
- 44 **Kirchoff, B.K.** 2011. Atlas of Stem Anatomy in Herbs, Shrubs and Trees (Review)¹. *Plant Science Bulletin* 57 (3): 114-118
- 43 **Kirchoff, B.K.**, Leggett, R., Her, V., Moua, C., Morrison, J., and Poole, C. 2011. Principals of visual key construction, with a visual key to the Fagaceae of the southeastern United States. *AoB Plants* doi:10.1093/aobpla/plr005, 49pp.
- 42 Leggett, R, and **B. K. Kirchoff**. 2011. Image use in field guides and identification keys: Review and recommendations. *AoB Plants* doi:10.1093/aobpla/plr004, 37 pp.
- 41 Dulin, M. W. and **B. K. Kirchoff**. 2010. Paedomorphosis, Secondary Woodiness, and Insular Woodiness in Plants. *Botanical Review* 76: 405–490
- 40 Huang, S-S., J-P Liao, and **B. K. Kirchoff**. 2010. Calcium distribution and function in the glandular trichomes of *Lavandula pinnata* L. *Journal of the Torrey Botanical Society* 137:1-15
- 39 Wang, Hua-Feng, **Kirchoff, B. K.**, Qin, Hai-Ning, Zhu, Zhi-Xin. 2009. Reproductive morphology of *Sargentodoxa cuneata* (Lardizabalaceae) and its systematic implications. *Plant Systematics and Evolution* 280: 207–217.
- 38 **Kirchoff, B. K.**, L.P. Lagomarsino, W. H. Newman, M. E. Bartlett and C. D. Specht. 2009. Early floral development of *Heliconia latispatha* Benth., a key taxon for understanding the evolution of flower development in the Zingiberales. *American Journal of Botany* 96: 580-593
- 37 **Kirchoff, B. K.**, E. Pfeifer, and R. Rutishauser. 2008. Plant Structure Ontology: How should we label plant structures with doubtful or mixed identities? *Zootaxa* 1950: 103–122

¹ This is a peer-reviewed book review.

- 36 Kuang, Yan-Feng, **B. K. Kirchoff**, Yuan-Jiang Tang, Yuan-Hui Liang, and Jing-Ping Liao. 2008. Palynological characters and their systematic significance in Naucleaeae (Cinchonoideae, Rubiaceae). *Review of Palaeobotany and Palynology* 151: 123-135
- 35 **Kirchoff, B. K.**, D. L. Remington, Lixin Fu, F. Sadri. 2008. A New Type of Image-Based Key. *Proceedings of the International Conference on BioMedical Engineering and Informatics, 2008. BMEI2008. 1: 825-829. [DOI 10.1109/BMEI.2008.301]*
- 34 Chen, S.-H., J.-P. Liao, M.-Z. Luo, and **B. K. Kirchoff**. 2008. Calcium distribution and function during anther development of *Torenia fournieri* L. *Annales Botanici Fennici* 45: 195–203
- 33 Huang, Shan-Shan, **B. K. Kirchoff** and Jing-Ping Liao. 2008. The Capitata and Peltate Glandular Trichomes of *Lavandula pinnata* L. (Lamiaceae): Histochemistry, Ultrastructure and Secretion. *Journal of the Torrey Botanical Society* 135: 155–167.
- 32 Baskauf, S. J. and **B. K. Kirchoff**. 2008. Digital plant images as specimens: Toward standards for photographing living plants. *Vulpia* 7: 16-30.
- 31 Xu, Feng-Xia, and **B. K. Kirchoff**. 2008. Pollen morphology and ultrastructure of selected species of Magnoliaceae. *Review of Palaeobotany and Palynology* 150: 140-153
- 30 **Kirchoff, B. K.** 2008. *Woody Plants of the Southeastern United States: A Field Course on CD*. Missouri Botanical Garden Press, St. Louis, MO (ISBN: 978-1-930723-62-7)
- 29 Bartlett, M. E., **B. K. Kirchoff** and C. D. Specht. 2008. Epi-illumination microscopy coupled to in situ hybridization and its utility in the study of evolution and development in non-model species. *Development Genes and Evolution* 218: 273-279.
- 28 Liu, Huan-Fang, **B. K. Kirchoff**, Guo-Jiang Wu, and Jing-Ping Liao. 2007. Microsporogenesis and male gametogenesis in *Jatropha curcas* L. (Euphorbiaceae). *Journal of the Torrey Botanical Society* 134: 335-343
- 27 **Kirchoff, B. K.** 2007. Image Quiz: Using principles of cognitive psychology to teach visual expertise. *In* L. Criz, ed., *Proceedings UNC Teaching and Learning with Technology Conference. I. The Advantage of Building Connections*. Raleigh, NC: UNC TLT Collaborative, pp. 1-7
- 26 **Kirchoff, B. K.**, S. J. Richter, and D. L. Remington. 2007. Characters as groups: A new approach to morphological characters in phylogenetic analysis. *Taxon* 56: 479-492
- 25 **Kirchoff, B. K.**, S. J. Richter, D. L. Remington, and E. Wisniewski. 2004. Complex data produce better characters. *Systematic Biology* 53: 1-17.
- 24 **Kirchoff, B. K.** 2003. Shape matters: Hofmeister's rule, primordium shape and flower orientation. *International Journal of the Plant Sciences* 164:505–517.
- 23 **Kirchoff, B. K.** 2002. Aspects of a Goethean Science: Complexity and holism in science and art. *In* Rowland, H., ed., *Goethe, Chaos, and Complexity*. Amsterdam: Editions Rodopi, pp. 79-89, 189-194.
- 22 **Kirchoff, B. K.** 2001. Character description in phylogenetic analysis: Insights from Agnes Arber's concept of the plant. *Annals of Botany* 88: 1203-1214.
- 21 **Kirchoff, B. K.** 2000. Hofmeister's rule and primordium shape: constraints on organ position in *Hedychium coronarium* (Zingiberaceae). *In* K. L. Wilson and D. A. Morrison (eds.), *Monocots: Systematics and Evolution*. Collingwood, Australia: CSIRO Publishing, pp. 75-83.
- 20 **Kirchoff, B. K.** 1999. Consciousness, community, and the brain: Toward an ontology of being. *In* J. S. Jordan (ed.), *Modeling consciousness across the disciplines*. Lanham, NY: University Press of America, pp. 243-268
- 19 **Kirchoff, B. K.** 1998. Inflorescence and flower development in the Hedychieae (Zingiberaceae): *Scaphochlamys kunstleri* (Baker) Holttum. *International Journal of the Plant Sciences* 159: 261-274.
- 18 **Kirchoff, B. K.** 1997. Inflorescence and flower development in the Hedychieae (Zingiberaceae): *Hedychium*. *Canadian Journal of Botany* 75: 581-594.
- 17 **Kirchoff, B. K.** and H. Kunze. 1995. Inflorescence and floral development in *Orchidantha maxillarioides* (Labiaceae). *International Journal of the Plant Sciences* 156: 159-171.
- 16 **Kirchoff, B. K.** 1995. A holistic aesthetic for science. *Journal of Scientific Exploration* 9: 565-578.
- 15 **Kirchoff, B. K.** 1992. Ovary structure and anatomy in the Heliconiaceae and Musaceae (Zingiberales). *Canadian Journal of Botany* 70: 2490-2508.
- 14 Newman, S. W. and **B. K. Kirchoff**. 1992. Ovary structure in the Costaceae (Zingiberales). *International Journal of the Plant Sciences* 153: 471-487.
- 13 **Kirchoff, B. K.** 1991. Homeosis in the flowers of the Zingiberales. *American Journal of Botany* 78: 833-837.
- 12 Triplett, J. K. and **B. K. Kirchoff**. 1991. Lamina architecture and anatomy in the Heliconiaceae and Musaceae (Zingiberales). *Canadian Journal of Botany* 69: 887-900.
- 11 **Kirchoff, B. K.** and R. Rutishauser. 1990. The phyllotaxy of *Costus* (Costaceae). *Botanical Gazette* 151: 88-105.
- 10 **Kirchoff, B. K.** 1988. Floral ontogeny and evolution in the ginger group of the Zingiberales. *In* P. Leins, S. C. Tucker and P. K. Endress eds., *Aspects of Floral Development*. Berlin: J. Cramer, pp. 45-56.

- 09 **Kirchoff, B. K.** 1988. Inflorescence and flower development in *Costus scaber* (Costaceae). *Canadian Journal of Botany* 62: 339-345.
- 08 Hendrix, R. C., R. E. Litz and **B. K. Kirchoff.** 1987. *In vitro* organogenesis and plant regeneration from leaves of *Solanum candidum* Lindl., *S. quitoense* Lam. (Naranjilla) and *S. sessiliflorum* Dunal. *Plant Cell, Tissue and Organ Culture* 11: 67- 73.
- 07 **Kirchoff, B. K.** 1986. Inflorescence structure and development in the Zingiberales: *Thalia geniculata* (Marantaceae). *Canadian Journal of Botany* 64: 859-864.
- 06 **Kirchoff, B. K.** and H. Kennedy. 1985. Foliar, non-structural nectaries in the Marantaceae. *Canadian Journal of Botany* 63: 1785-1788.
- 05 **Kirchoff, B. K.** 1984. On the relationship between phyllotaxy and vasculature : A synthesis. *Botanical Journal of the Linnean Society* 89: 37-51.
- 04 **Kirchoff, B. K.** and A. Fahn. 1984. Initiation and structure of the secondary vascular system in *Phytolacca dioica* L. (Phytolaccaceae). *Canadian Journal of Botany* 62: 2580-2586.
- 03 **Kirchoff, B. K.** and A. Fahn. 1984. The primary vascular system and medullary bundle structure of *Phytolacca dioica* L. (Phytolaccaceae). *Canadian Journal of Botany* 62: 2432-2440.
- 02 **Kirchoff, B. K.** 1983. Allometric growth of the flowers of five genera of the Marantaceae and of *Canna* (Cannaceae). *Botanical Gazette* 144: 110-118.
- 01 **Kirchoff, B. K.** 1983. Floral organogenesis in five genera of the Marantaceae and in *Canna* (Cannaceae). *American Journal of Botany* 70: 508-523.

SOFTWARE (available free from www.metisllc.com)

- Kirchoff, B. K.** 2013. Image Quiz – Plant Diversity. Tellus Books, Mebane, NC.
- Kirchoff, B. K.** 2013. Image Quiz – Plant Life Cycles. Tellus Books, Mebane, NC.
- Kirchoff, B. K.** and G. Burrows. 2013. Visual Learning - Agricultural Plants of the Riverina, ver. 1.1. Tellus Books, Mebane, NC.
- Kirchoff, B. K.** and M. P. Croatt. 2012. IQ-Functional Groups: A Visual Learning Tool, ver. 1.0 Tellus Books, Mebane, NC.
- Kirchoff, B. K.** and G. Burrows. 2012. Visual Learning - Agricultural Plants of the Riverina, ver. 1.0. Tellus Books, Mebane, NC.
- Kirchoff, B. K.** 2012. Amino: A Visual Learning Tool for Amino Acid Structure, ver. 1.0. Tellus Books, Mebane, NC.
- Kirchoff, B. K.** 2010. Woody Plants of the Southeastern United States: A Field Botany Course on CD ver. 2.0. Tellus Books, Meane, NC.

OTHER PUBLICATIONS (invited starred [*])

- ***Kirchoff, B. K.** 2011. Book review of Bryson CT, DeFelice S. 2009. *Weeds of the South*. 468 pp. University of Georgia Press, Athens, GA. *Southeastern Biology* 58: 88-90.
- ***Kirchoff, B. K.** 2011. Book review of Gessert, G. 2010. *Green Light: Toward an Art of Evolution*. MIT Press. Cambridge, MA. *Quarterly Review of Biology* 86: 49-50.
- Kirchoff, B. K.** 2009. Emerson’s Science of the Spirit. Tellus Books. ISBN: 978-0982271506
- Eldridge, M., **B. K. Kirchoff** and S. Richter. 2006. A Further Test of the Biodynamic Plant Peppers. *Biodynamics* 255: 37-40.
- Eldridge, M., **B. K. Kirchoff** and S. Richter. 2005. An Experimental Test of the Biodynamic Plant Peppers. *Biodynamics* 254: 30-32
- Lingaiah, S., K. N. Shivakumar, R. Sadler, M. Yoonessi, C. U. Pittman Jr., and **B. K. Kirchoff.** 2005. A method of visualization of dispersion of nanoplatelets in nanocomposites. SAMPE-05 (Society for the Advancement of Material and Process Engineering) Proceedings, May 1-5, 2005, Long Beach, CA. pp. 16-31.
- Kirchoff, B. K.** 2003. Attracting Graduate Students to Smaller Schools. *Plant Science Bulletin* 49: 134-135.
- Kirchoff, B. K.** 2001. From Agnes Arber to New Explanatory Models for Vascular Plant Development. *Annals of Botany* 88: 1103-1104.
- ***Kirchoff, B. K.** 1998. Toward a Holistic Biology. *Waldorf Science Newsletter* 4 (8): 3-10.
- ***Kirchoff, B. K.** 1998. The Anther: Form, Function and Phylogeny, by W. G. D’Arcy and R. C. Keating, eds. *American Scientist* 86: 193- 194. (Book review)
- ***Kirchoff, B. K.** 1996. Scientific communities, objectivity and the transformation of science. Research Report Causality Project CP-8, Institute of Noetic Sciences, Sausalito, CA.
- ***Kirchoff, B. K.** 1993. Tales of emergence: Developmental evolutionary biology struggles for the surface. *International Journal of the Plant Sciences* 154: 361-363. [Invited review of the Keystone Symposium on Plant Development and Evolution, Taos, NM, January 26 - February 1, 1993]

- Horton, M. L., **B. K. Kirchoff** and E. P. Lacey. 1992. Principles of Biology: Molecules to Organisms. Burgess International, Edina, MN [Laboratory manual for introductory biology. The authors are listed in alphabetical order. Five additions of this manual were published while I was involved with it.]
- Horton, M. L., **B. K. Kirchoff** and E. P. Lacey. 1992. Principles of Biology: Genes to Populations. Burgess International, Edina, MN [Laboratory manual for introductory biology. The authors are listed in alphabetical order. Five additions of this manual were published while I was involved with it.]
- Posluszny, U., R. Sattler, J. P. Hill, M. K. Komaki, J. M. Gerrath, N. Lehmann, and **B. K. Kirchoff**. 1991. Homeosis and the evolution of plants. pp. 447-454, *In* E. C. Dudley, *ed.*, The unity of evolutionary biology. Dioscorides Press, Portland.

PROFESSIONAL PRESENTATIONS (invited starred [*]; peer reviewed with two stars [])**

- ***Kirchoff, B. K.** 2013. You can see a lot by just looking: A new character concept in research and teaching. Department of Plant Biology, North Carolina State University, October 15, 2013
- Kirchoff, B. K.** 2013. [Workshop] Active Visual Learning of Plant Lifecycles. Botany 2013, New Orleans, LA, July 27, 2013
- Kirchoff, B. K.** 2013. [Workshop] Visual Learning in the Botany Classroom. Botany 2013, New Orleans, LA, July 27, 2013
- Kirchoff, B. K.** 2013. Visual Learning. Think Tank Thursday. Weatherspook Art Museum, UNCG. January 31, 2013
- Kirchoff, B. K.** 2013. Active Visual Learning. Greensboro Science Cafe, Greensboro, NC. June 27, 2013
- ** **Kirchoff, B. K.** 2013. Active Visual Learning. Lilly Conference on College and University Teaching, Greensboro, NC February 15-17, 2013
- ** **Kirchoff, B. K.** 2013. [Poster] Active Learning with Images. Lilly Conference on College and University Teaching, Greensboro, NC February 15-17, 2013
- ***Kirchoff, B. K.** 2012. Botany: Analysis of 1st 100 Queries. Applied Research Associates September Team Meeting with IARPA, FINDER Program. Raleigh, NC. September 13, 2012.
- ***Kirchoff, B. K.** 2012. Visual Characters in Floral Development. *In the Symposium: From Canonical to New Model Systems: The Future of Plant Development.* Botany 2012, Columbus, OH. July 7 – 11, 2012
- Kirchoff, B. K.** and G. Burrows. 2012. Teaching Plant Identification in Australia: Active Learning – Agricultural Plants of the Riverina. Botany 2012, Columbus, OH. July 7 – 11, 2012
- Kirchoff, B. K.** 2012. [Workshop] Making a Visual Key. Botany 2012, Columbus, OH. July 7 – 11, 2012
- Lee, D. W., **B. K. Kirchoff** and S. West. 2012. The Educational Value of an Urban Tree Flora: Wayside Trees of Tropical Florida. Botany 2012, Columbus, OH. July 7 – 11, 2012
- **Kitin, P., H. Beeckman, and **B. K. Kirchoff**. 2012. A Visual Based Wood Microscopic Identification Key. 2012 2012 International Union of Forest Research Organizations (IUFRO) Division 5 Forest Products Conference (Wood quality), Lisbon, Portugal, 8-13 July 2012 (<http://www.iufro2012.org/>)
- Durso, A.M., A.B. Somers, and **B. K. Kirchoff**. August 2012. Development of visual learning tools for identifying herpetofauna. World Congress of Herpetology. Vancouver, BC, Canada.
- ***Kirchoff, B. K.** 2012. Value Added from Botany in Geolocating Images. Applied Research Associates June Team Meeting with IARPA, FINDER Program. Raleigh, NC. June 12, 2012.
- ***Kirchoff, B. K.** 2012. Update on Botany in the World Regions. Applied Research Associates Team Teleconference, IARPA, FINDER Program. Raleigh, NC. May 21, 2012.
- ***Kirchoff, B. K.** 2012. Extracting expert-level information from non-experts: Examples from plant identification. Applied Research Associates Team, FINDER Program Kickoff Team Meeting, McLean, VA. March 15-16, 2012.
- ***Kirchoff, B. K.** 2011. Standardized Photographs and their use in Plant Identification. State Herbarium of South Australia, Adelaide, Australia. August 8, 2011
- Kirchoff, B. K.** 2011. Using inflorescence structure to inform character state description: The importance of context. IBC 2011 (XVIII International Botanical Congress). Melbourne, Australia. July 23 – 30, 2011.
- Kirchoff, B. K.** 2011. [Workshop] Best Practices for Image use in Keys and Guides. Botany 2011. St. Louis, MO, July 9 – 13, 2011.
- Kirchoff, B. K.** 2011. A New Type of Paper Visual Key (to the Fagaceae of the Southeastern United States). Botany 2011. St. Louis, MO, July 9 – 13, 2011.
- ***Kirchoff, B. K.** 2011. [Workshop] Standardized Photography for Plant Identification. June 11-12, 2011. Intermountain Herbarium, Utah State University, Logan, UT.
- ***Kirchoff, B. K.** 2011. [Workshop] From all Angles: Standardized Photography for Plant Identification. Jepson Herbarium Weekend Workshop, May 21-22, 2011. UC Berkeley, Berkeley, CA.

- **Kirchoff, B. K.** 2011. Using Principles of Cognitive Psychology to Teach Visual Expertise – Exploring Cross-disciplinary Pedagogical Applications. MERGE Mapping Workshop, UNCG. Greensboro, NC. March 22, 2011.
- *Kirchoff, B. K.** 2011. Applied Cognitive Psychology: Visual Learning in the Botany Classroom. North Carolina Conference on Cognition 2011. Greensboro, NC. February 26, 2011.
- *Kirchoff, B. K.** 2010. Photographing plants: Standardized photographs and their use in plant identification. Paul J. Ciener Botanical Garden, Kernersville, NC. September 16, 2010
- *Kirchoff, B. K.** 2010. A new character concept: Visual characters and their use in the study of flower development, pattern variation, and in teaching. Rancho Santa Ana Botanic Garden, Claremont, CA. September 10, 2010.
- *Kirchoff, B. K.** 2010. Expert Ways of Seeing - Transforming Novices through Visual Learning. Math 2.0 Interest Group (in the LearnCentral public Illuminate Room, online). August 18, 2010
- Kirchoff, B. K.** 2010. [Workshop] Photographing plants: Standardized photographs and their use in plant identification. Botany 2010. Providence, RI, July 31 - August 4, 2010
- Kirchoff, B. K.** and S. Baskauf. 2010. Who, I ask, in their right mind would condemn a picture? - The effective use of standardized plant images in keys and instructional software. Botany 2010. Providence, RI, July 31 - August 4, 2010
- *Kirchoff, B. K.** and M. Wall. 2010. [Full day workshop] Photographing plants: Standardized photographs and their use in plant identification. NC State Parks, Hanging Rock State Park. May 1, 2010
- Kirchoff, B. K.,** R. Leggett, V. Her, C. Moua, J. Morrison, C. Poole. 2010. New principles of visual keys illustrated through a visual key to the Fagaceae of the Southeast. Association of Southeastern Biologists, Asheville, NC. April 7 – 10, 2010
- Kirchoff, B. K.** 2010. Teaching Plant ID through Effective Homework. Association of Southeastern Biologists, Asheville, NC. April 7 – 10, 2010
- *Kirchoff, B. K.** 2010. Photographing plants: Standardized photographs and their use in plant identification. Triad Chapter of the NC Native Plants Society, April 7, 2010
- Kirchoff, B. K.** 2010. A new character concept: The use of standardized images in research and teaching. UNCG Department of Biology, March 31, 2010
- Kirchoff, B. K.** 2010. Who, I ask, in their right mind would condemn a picture? - The effective use of standardized plant images in keys and instructional software. Botany Lunch, University and Jepson Herbaria, University of California at Berkeley. March 10, 2010
- *Kirchoff, B. K.** 2010. A new character concept: The use of standardized images in research and teaching. Duke University, February 18, 2010
- **Kirchoff, B. K.** 2010. Active Learning with Images. Lilly South Conference on College and University Teaching. Greensboro, NC. February 5-7, 2010
- Kirchoff, B. K.** 2009. Understanding Emerson. UNCG Lloyd Honors College Food for Thought Lunch. September 9, 2009, Greensboro, NC
- Kirchoff, B. K.** 2009. Teaching Plant Identification Through Effective Homework. Botany & Mycology 2009, July 25 – 29, 2009, Snowbird, UT
- Dulin, M. and **B. K. Kirchoff.** 2009. Paedomorphic Secondary Xylem and Secondary Woodiness in *Xanthorhiza simplicissima*, *Coreopsis gigantea*, and *Mahonia bealei*. Botany & Mycology 2009, July 25 – 29, 2009, Snowbird, UT
- Kirchoff, B. K.,** S. Pawar, P. Kale, D. Remington and F. Sadri. 2009. A New Type of Visual Key Based on Bayesian Principles. Botany & Mycology 2009, July 25 – 29, 2009, Snowbird, UT
- **Kirchoff, B. K.,** D. Remington and C. Healey. 2009. [Workshop]. DNA-Align, A New Cross-Platform Multiple Sequence Alignment Tool. Botany & Mycology 2009, July 25 – 29, 2009, Snowbird, UT
- **Kirchoff, B. K.** 2009. [Workshop]. Image Quiz: Teaching Plant ID on the Computer and with Games. Botany & Mycology 2009, July 25 – 29, 2009, Snowbird, UT
- Kirchoff, B. K.** and Baskauf, S. 2009. Woody Plants of the Southeastern United States: A Field Botany Course on CD. Association of Southeastern Biologists, Birmingham, AL. April 1 – 4, 2009
- Kirchoff, B. K.,** Pawar, S., Kale, P., Remington, D. and Sadri, F. 2009. A New Type of Visual Key Based on Bayesian Principles. Association of Southeastern Biologists, Birmingham, AL. April 1 – 4, 2009
- Dulin, M., and **Kirchoff, B. K.** 2009. Paedomorphic Secondary Xylem and Secondary Woodiness in *Xanthorhiza simplicissima*, *Coreopsis gigantea*, and *Mahonia bealei*. Association of Southeastern Biologists, Birmingham, AL. April 1 – 4, 2009
- Dokuzoglu, N., Healey, C. G., Hsiao, J., **Kirchoff, B. K.,** and Remington, D. 2009. A new, cross-platform DNA alignment tool. Association of Southeastern Biologists, Birmingham, AL. April 1 – 4, 2009

- ***Kirchoff, B. K.** 2008. Teaching and Learning with Images. Arizona-Sonora Desert Museum, Tucson, AZ. December 18, 2008
- *Invited Participant. 2008. iPlant Grand Challenge Team, Computational Morphodynamics of Plants Workshop - Eric Mjolsness, lead organizer (<http://iplantcollaborative.org/>)
- Kirchoff, B. K.**, E. Simms; D. L. Remington. 2008. Finding New Characters: An Exploration of Seed Coat Patterns in *Lupines*. Botany 2008, July 26 – 30, 2008, University of British Columbia, Vancouver, BC
- Kirchoff, B. K.** 2008. [Workshop] Woody Plants of the Southeastern United States: Teaching Plant Identification on the Computer. Botany 2008, July 26 – 30, 2008, University of British Columbia, Vancouver, BC
- *Rutishauser, R., K. Huber, E. Pfeifer and **B. K. Kirchoff**. 2008. Beyond the classical root-shoot model: How riverweeds (Podostemaceae) and bladderworts (Lentibulariaceae) have lost the bauplan of typical angiosperms. *Euro Evo Devo*. Ghent, Belgium. July 29 - August 1, 2008
- ***Kirchoff, B. K.** 2008. Woody Plants of the Southeastern United States: A field course on CD. Society for Economic Botany. Durham, NC. June 1-5, 2008
- ****Kirchoff, B. K.**, D. L. Remington, L. Fu [presenter], F. Sadri. 2008. A New Type of Image-Based Key. 2008 International Conference on BioMedical Engineering and Informatics (BMEI 2008), 28-30 May 2008, Sanya, Hainan, China
- Kirchoff, B. K.** 2008. Working with Visual Data: Characters, Character Discovery & New Pedagogies. UNCG Department of Biology, April 16, 2008
- ***Kirchoff, B. K.** 2008. Evolution and development of form and function, from molecular, cellular and developmental biology to biodiversity, comparative biology, systematics and phylogenetics [panel]. iPlant Collaborative Opening Meeting: Bringing Plant and Computing Scientists Together to Solve Grand Challenges. Cold Spring Harbor Laboratory, NY April 7-9, 2008
- ***Kirchoff, B. K.** 2007. Finding New Characters: An Exploration of Seed Coat Patterns in *Lupines*. Botany Lunch, University and Jepson Herbaria, University of California at Berkeley. December 7, 2007
- ***Kirchoff, B. K.** 2007. Reinventing morphological characters. Paleobiology Lunch, Department of Integrative Biology, University of California at Berkeley. December 4, 2007
- ***Kirchoff, B. K.** 2007. Visual Learning, Characters and Keys. Rudolf Steiner Foundation, San Francisco, CA. October 16, 2007
- ***Kirchoff, B. K.** 2007. [Workshop]. Visual learning and Keys: Using Principles of Cognitive Psychology in Teaching and Research. NESCent: The National Evolutionary Synthesis Center. September 5. Durham, NC.
- ***Kirchoff, B. K.** 2007. Testing the Biodynamic Seed Peppers. Biodynamic Farming & Gardening Association 2007 National Conference, August 24-26, Fair Oaks, CA
- ***Kirchoff, B. K.** 2007. [Workshop] Observing Plants: A Biodynamic Approach. Biodynamic Farming & Gardening Association 2007 National Conference, August 24-26, Fair Oaks, CA
- Kirchoff, B. K.** 2007. The Contribution of Training to Describing Reliable Character States. Botany & Plant Biology 2007 Joint Congress, July 7-11, 2007, Chicago, IL
- Kirchoff, B. K.** 2007. [Workshop] Image Quiz: Teaching Plant Identification Based on Insights from Cognitive Psychology. Botany & Plant Biology 2007 Joint Congress, Chicago, IL, July 7-11, 2007
- ***Kirchoff, B. K.** 2007. Lessons in English 1 & 2. South China Botanical Garden, Chinese Academy of Sciences, Guangzhou, China, June 6-7
- ***Kirchoff, B. K.** 2007. Parts and Wholes: Introduction to a New Approach to Character Description. South China Botanical Garden, Chinese Academy of Sciences, Guangzhou, China, June 11, 2007
- ***Kirchoff, B. K.** 2007. Characters as Groups I: Complex data produces better characters. South China Botanical Garden, Chinese Academy of Sciences, Guangzhou, China, June 12, 2007
- ***Kirchoff, B. K.** 2007. Characters as Groups II: A New Method for Representing Structural Homologies in Phylogenetic and Genetic Analyses. South China Botanical Garden, Chinese Academy of Sciences, Guangzhou, China, June 13, 2007
- ***Kirchoff, B. K.** 2007. Characters as Groups III: An Empirical Test of a New Approach to Characters. South China Botanical Garden, Chinese Academy of Sciences, Guangzhou, China, June 13, 2007
- ***Kirchoff, B. K.** 2007. A New Computer-Based Method for Teaching Visual Expertise and Plant Identification. South China Botanical Garden, Chinese Academy of Sciences, Guangzhou, China, June 14, 2007
- ***Kirchoff, B. K.** 2007. A New Method of Describing Morphological Characters for Use in Phylogenetic and Genetic Analyses, College of Life Sciences, Beijing Normal University, June 20, Beijing, China
- ***Kirchoff, B. K.** 2007. A New Method of Describing Morphological Characters for Use in Phylogenetic and Genetic Analyses, Institute of Botany, Beijing, June 22, Beijing, China
- ****Kirchoff, B. K.** 2007. [Workshop] Image Quiz: Using Principles of Cognitive Psychology to Teach Visual Expertise. Teaching and Learning with Technology Conference: Building Connections. Raleigh, NC. March 21-23, 2007

- **Kirchoff, B. K.** 2007. [Workshop] Image Quiz: Using Principles of Cognitive Psychology to Teach Visual Expertise. Lilly South Conference on College and University Teaching. Greensboro, NC. February 16-18, 2007
- *Kirchoff, B. K.** 2006. Improving Performance with Holistic Processing. Visual Processing Working Group & Gauthier lab, Vanderbilt University, Nashville, TN. November 7, 2006
- *Kirchoff, B. K.** 2006. You can see a lot by just looking: Characters and character states in phylogenetic analysis (with comments on teaching plant identification). Botany Lunch, University and Jepson Herbaria, University of California at Berkeley. October 13, 2006
- Kirchoff, B. K.** and S. J. Baskauf, 2006. Image Quiz: An interactive computer-based method for teaching plant identification. Presented at Botany 2006, July 28-August 3, 2006, California State University - Chico
- *Robart, B. W., P. Diggle, K. Ziance, and B. K. Kirchoff.** 2006. Integrating Digital Imaging Into the Laboratory Curriculum. Presented at Botany 2006, July 28-August 3, 2006, California State University - Chico
- *Kirchoff, B. K.** 2006. Characters as Groups: Applying insights from cognitive psychology to improve morphological characters. Hennig XXV. August 14 – 17, 2006. Oaxaca, Mexico. Abstract published in *Cladistics* 24: 95 (2008)
- *Kirchoff, B. K.** 2005. You Can See a Lot by Just Looking: Characters and Character States in Phylogenetic Analysis. Rancho Santa Ana Botanic Garden, Claremont, CA. October 7, 2005
- *Kirchoff, B. K.** 2005. You Can See a Lot by Just Looking: Characters and Character States in Phylogenetic Analysis. Department of Biology, Wake Forest University. September 21, 2005
- Kirchoff, B. K.** 2005. Teaching Forum: Using *The Origin of Species* to Teach Evolution. Botany 2005. Austin, TX. August 13-17, 2005. (<http://www.2005.botanyconference.org/engine/search/index.php?func=detail&aid=15>)
- Kirchoff, B. K.** and S. Richter. 2005. A contribution to solving the problem of morphological character states. Botany 2005. Austin, TX. August 13-17, 2005 (<http://www.2005.botanyconference.org/engine/search/index.php?func=detail&aid=5>)
- Kirchoff, B. K.** S. Richter, and D. L. Remington. 2005. A contribution to solving the problem of morphological character states. XVII International Botanical Congress. Vienna, Austria. July 17-23, 2005 (http://www.IBC2005.ac.at/program/abstracts/IBC2005_Abstracts.pdf p. 215)
- Lingaiah, S., K. N. Shivakumar, R. Sadler, M. Yoonessi, C. U. Pittman Jr., and **B. K. Kirchoff.** 2005. A method of visualization of dispersion of nanoplatelets in nanocomposites. Proceedings, Society for the Advancement of Material and Process Engineering (SAMPE). Long Beach, CA, May 1-5, 2005
- Kirchoff, B. K.** 2004. Representing structural homologies for use in phylogenetic analyses. Presented at Botany 2004, Botanical Society of America Annual Meeting, Salt Lake City, UT. July 31 – August 5, 2004
- *Kirchoff, B. K.,** S. Richter, D. Remington, and E. Wisniewski. 2004. Stimulus complexity, inter-investigator reliability, and configural processing. On-line Power Point presentation to the Perceptual Expertise Network (PEN), an international group of cognitive neuroscientists working to explore object recognition and categorization. February 25, 2004
- Kirchoff, B. K.** 2003. Attracting botany graduate students to smaller schools. Workshop presented at the Botany 2003 Educational Forum. July 25, 2003. Mobile, Alabama
- Kirchoff, B. K.** and R. Cangelosi. 2003. Visual data presentation techniques for the study of flower development. Poster presented at Botany 2003. July 27-30, 2003. Mobile, Alabama
- Kirchoff, B. K.** 2002. Do rich data allow greater inter-investigator agreement in character states? Botany 2002, Botanical Society of America Annual Meeting, August 4-7, 2002, University of Wisconsin, Madison, WI
- Kirchoff, B. K.** 2002. Parts and Wholes: Science and art as complements. Poster presented at Botany 2002, Botanical Society of America Annual Meeting, August 4-7, 2002, University of Wisconsin, Madison, WI
- *Kirchoff, B. K.** 2001. Parts and Wholes: Science and Art as Complementary Activities. 2001 Poster presented at the Sigma Xi Forum, November 8-9, Research Triangle Park, NC
- *Kirchoff, B. K.** 2001. Wholes and Parts: Science and Art as Complements. 2001 Paper presented at the Sigma Xi Forum, November 8-9, Research Triangle Park, NC
- Kirchoff, B. K.** T. Le, A. Prevette, S. Cauble, E. Shelton, and K. Hamlet. 2001. Early floral development in *Musa velutina* (Musaceae). Poster presented at Botany 2001, Botanical Society of America Annual Meeting, August 12-16, 2001, Albuquerque, NM
- Kirchoff, B. K.,** S. Cauble, E. Shelton, and A. Prevette. 2000. *The Structure of the Banana Inflorescence*. Poster presented at Botany 2000, Botanical Society of America Annual Meeting, August 6 - 10, 2000, Portland, Oregon.
- *Kirchoff, B. K.** 1999. *Arber's concept of the plant and its relevance to phylogenetic reconstruction and genetics*. XVI International Botanical Congress, St. Louis, August 1-7, 1999
- Kirchoff, B. K.** 1999. *Aspects of a Goethean Science: Complexity and Holism in Science and Art*. Goethe, Chaos, and Complexity: A Symposium. Purdue University, April 9-10, 1999

- ***Kirchoff, B. K.** 1998. *Hofmeister's rule, floral symmetry and sepal initiation in the Zingiberales*. Monocots II: Second International Conference on the Comparative Biology of the Monocotyledons. Sydney, Australia. September 27 - October 2, 1998
- Kirchoff, B. K.** and M. M. Gibson. 1998. *Hofmeister's rule and the initiation of floral organs*. 49th Annual American Institute of Biological Science Meeting, Baltimore, MD. August 2-6, 1998
- Kirchoff, B. K.** 1998. *Consciousness, Community and Reality: A systems approach to understanding consciousness*. Poster presented at *Toward a Science of Consciousness III*, Tucson, AZ. April 27 - May 2, 1998
- Kirchoff, B. K.** 1997. *Toward a Holistic Biology*. Botanical Society of America Symposium: Plant morphology - Theory and practice. A tribute to Rolf Sattler and his work. 48th Annual American Institute of Biological Science Meeting, August 4, 1997, Montreal, CA
- Kirchoff, B. K.** 1997. *Understanding Being: The roles of Consciousness, Communities and the Brain*. Society for the Evolution of Science, November 21 - 22, 1997, Fair Oaks, CA
- Kirchoff, B. K.** 1997. *Floral Development in the Hedychieae (Zingiberaceae)*. 47th Annual American Institute of Biological Science Meeting, August 4 - 8, 1996, Seattle, WA
- ***Kirchoff, B. K.** 1997. *Flower Development in the Scitamineae. Heliconia Society International*. July 17-21, 1996, Miami, Florida
- ***Kirchoff, B. K.** 1995. Keynote Speaker. *Floral Development in the Hedychieae. Second Symposium on the Family Zingiberaceae*, Guangzhou, China, May 9 - 12, 1995
- Kirchoff, B. K.** 1993. *Writing Across the Curriculum in the Introductory Biology program*. Writing Across the Curriculum conference, Charleston, SC, February 18 - 19, 1993
- ***Kirchoff, B. K.** 1993. *A model of floral development and evolution in the Zingiberales*. Keystone Symposium on Evolution and Plant Development, Taos, NM, January 26 - February 1, 1993
- Newman, W. H. and **B. K. Kirchoff**. 1991. Ovary and Nectary Structure in the Costaceae (Zingiberales). 42nd Annual American Institute of Biological Science Meeting. San Antonio, TX. August 4 - 8, 1991
- Kirchoff, B. K.** 1991. Heterochrony, heterotopy and homeosis in flowering plants. 42nd Annual American Institute of Biological Science Meeting. San Antonio, TX. August 4 - 8, 1991
- Kirchoff, B. K.** 1988. The structure of the ovary in the Strelitziaceae and Lowiaceae, support for the close relationship of these families. *Amer. J. Bot.* 75: 185
- ***Kirchoff, B. K.** 1987. Floral ontogeny and evolution in the ginger group of the Zingiberales. XIV International Botanical Congress, Berlin
- Kirchoff, B. K.** 1986. Inflorescence and flower development in *Costus scaber* (Costaceae). *American Journal of Botany* 73: 631
- Kirchoff, B. K.** 1985. Inflorescence development in *Thalia geniculata* (Marantaceae). *American Journal of Botany* 72: 819-820
- Kirchoff, B. K.** 1984. Medullary bundle structure and the initiation and structure of the secondary vascular system in *Phytolacca dioica* L. *American Journal of Botany* 71 (5) part 2: 35-36
- Kirchoff, B. K.** 1983. Allometric growth of the flowers in the Marantaceae and Cannaceae. Presented at the 7th Morphology and Anatomy Symposium of the Royal Dutch and German Botanical Societies
- Kirchoff, B. K.** 1982. Floral organogenesis in the Marantaceae and Cannaceae. Published in the Miscellaneous Series of the Botanical Society of America. Publication No. 162
- Kirchoff, B. K.** 1981. Floral development in the Marantaceae: Allometric growth. Published in the Miscellaneous Series of the Botanical Society of America. Publication No. 160
- Kirchoff, B. K.** 1981. Floral development in the Marantaceae: Organogenesis. Published in the Miscellaneous Series of the Botanical Society of America. Publication No. 160
- Allard, L. F., P. D. Thomas, W. C. Bigelow and **B. K. Kirchoff**. 1977. A simple airlock gold coater and technique for coating heat sensitive samples. 35th Annual Proceedings of the Electron Microscopy Society of America
- Kirchoff, B. K.**, L. F. Allard and W. C. Bigelow. 1977. SEM cold stage techniques for the observation of vegetative and floral apices of oat *Avena sativa* L.) plants. 35th Annual Proceedings of the Electron Microscopy Society of America: 590-591

OTHER PRESENTATIONS

- Kirchoff, B. K.** 2012. Evolution and Belief. Lloyd International Honors College, Food for Thought series, UNCG April 18, 2012
- Kirchoff, B. K.**, and A. Somers. 2012 Software to teach herpetology identification, a first look. HERPS Board of Directors Meeting, May 10, Greensboro, NC
- ***Kirchoff, B. K.** 2010. The only rational answer is YES! Tri-Beta Induction, Department of Biology, UNCG. Greensboro, NC. November 18, 2010

- Kirchoff, B. K.** 2009. Connecting to the earth. UNCG Sustainability Scholarship Fair. UNC Greensboro, Greensboro, NC. April 21, 2009
- ***Kirchoff, B. K.** 2009. Tools for Visual Learning. The 21st Century Entrepreneurial University, Innovation Showcase. UNCG, March 23, 2009

MEMBERSHIP IN PROFESSIONAL SOCIETIES

American Society of Plant Taxonomists
 Botanical Society of America
 Sigma Xi
 Society of Systematic Biologists

PROFESSIONAL DEVELOPMENT

Workshop, Building Undergraduate Research Skills into the Curriculum, UNCG Office of Undergraduate Research, May 14-16, 2012
 Curriculum Enhancement with Research and Writing Skills Workshop, University Writing Center in Collaboration with University Libraries, UNCG, June 9-10, 2009
 Teaching Well in a Time of Serious Budget Restrictions, Center for Faculty Excellence, The University of North Carolina at Chapel Hill, May 11, 2009.
 Training in Molecular Biology: Carolina Workshop on Human/Mammalian Genome Analysis. November 1-15, 1991, Chapel Hill, NC
 Managing for Commitment, Center for Creative Leadership, Greensboro, NC. January 23-25, 1991

SERVICE

Professional

Botanical Society of America, Developmental and Structural Section, Chair (2011-2013)
 Botanical Society of America, Cheadle Travel Award Committee, Member (2004-2011), Chair (2011- 2013)
 Botanical Society of America, Developmental and Structural Section, Program Chair, (2003-2007)
 Botanical Society of America, Education Committee Member (1991/94); Chair (1993/94)
 Botanical Society of America, Council of the Society Member (1993/94), (2011-2013)
 Botanical Society of America: I was the driving force behind the Botanical Society of America modifying its annual program to include discussion sections. See <http://www.botany.org/plantsciencebulletin/psb-2001-47-3.php> under "New and Noteworthy Program Components: *Discussion Sections*" (1999 and continuing)
 Journal of the Torrey Botanical Society: Associate Editor (1999-2007)
 Annals of Botany: Symposium Editor (1999-2001)
 Reviewer for: Annals of Botany; International Journal of the Plant Sciences; American Journal of Botany; Journal of Consciousness Studies; Nordic Journal of Botany; Annals of the Missouri Botanical Garden; Molecular Phylogenetics and Evolution; National Research Council of Canada; National Science Foundation; Smithsonian Institution; Systematic Botany; Botanical Review; Canadian Journal of Botany; SUNY Press; CSIRO Publishing, Australia.
 Systematics Agenda 2000, Member, Committee on *Integrative Role of Systematics in Development* (1992-94)
 University of Newcastle, NSW, Australia. External Dissertation Reviewer. (1998)

University

Faculty Government Committee, Member (1997/98 –1999/2000 & 2009/10), Chair (2010/11–present)
 University Graduate Studies Committee, Member (2008/09)
 Graduate Studies Committee of the UNCG Senate, Member, Sub-committee on Policy and Procedures (2008/2009)
 Digital Object Archiving and Access Working Group, Member (2008/09)
 Madison Digital Image Database (MDID) Working Group, Member (spring 2008)
 Research Grants Committee, Member (1996/97–1997/98 & 2004/05–2006/07)
 Faculty Assembly Delegation, Alternative Member (2002/2003 – 2006/07, including a two year extension due to a health-related resignation)

Student Fee Advisory Committee, Member (2002/03 – 2005/06)
 Provost's Committee on the Future of International Programs, Member (2002/03)
 SACS Self-Study UNCG Community Proposals for Excellence Advisory Group, Chair (2002/03)
 Teaching and Learning Center Committee, Member (2002/03 – 2003/04)
 University Academic Computing Committee, Member (2000)
 Faculty Senate, Biology Department Representative to the Faculty Senate, Senator (2000)
 Faculty Phone-a-thon to recruit new students, spring 1999/2000, 2002
 Women's Studies Coordinating Council, Member (1997/98 - 2000)
 Women's Studies Science Initiative, Co-Chair (1997/98 - 2000)
 Ad Hoc Chair: I was the driving force behind a successful multi-campus initiative to convince the UNC General Administration to send the Post-Tenure Review planning document to the campuses for review and comment (1996/97).
 Enrollment Management Committee, Member (1994/95 - 1996/97)
 Women's Studies International Exchange Committee, Member (1994/95 - 1996/97)
 All University Liberal Education Requirement, Natural Science Area Committee, Chair (1993/94)
 Computer and Information Systems Workstation Development Committee, Member (1992/93-1994/95)
 All University Liberal Education Requirement, Natural Science Area Committee, Member (1991/92 - 1993/94)
 Research Coordinating Committee of the North Carolina Zoological Park and UNCG, Member (1991/92 - 1996/97)
 University Library Committee, Member (1987/88 - 1989/90)

College of Arts and Sciences

Member, Environmental Studies Committee (1999/2000 – 2013/14)
 Chair of the College Assembly 2006/2007
 Executive Committee, College Assembly 2005/06-2007/08;
 Budget and Planning Committee 2006/07
 Curriculum and Teaching Committee 2005/06
 Consultant for preparation of NSF Collaborative for Excellence in Teacher Preparation grant (1995/96)
 Consultant on CUI 598: The Nature of Science and Mathematics; course taught as part of an NSF teacher preparation grant funded to the College and the School of Education (1995/96)
 Member, Advisory Board of the Center for Critical Inquiry (1994/95 - 1996/97)
 Member, College Council (1993/94)
 Member, College Committee on Classroom Resources (1992/93 - 1993/94)
 Member, College Ad hoc Committee to Study Special Opportunities for Freshmen and Sophomores (1991/92 - 1992/93)
 Member, Women's Studies International Exchange Committee (1994/95 - 1996/97)
 Member, College Ad hoc Committee on Selection of Distinguished Visiting Faculty in the Sciences (1991/92)

Department of Biology

Chair, Departmental Seminar Series (2011/12 – present)
 Member, Departmental Assessment Sub-Committee (2009/10 – present)
 Member, Greenhouse Committee (2009/10 - present)
 Chair, New Science Building Equipment Committee (2005/06)
 Co-Chair, New Science Building Equipment Committee (2004/05)
 Member, New Science Building Equipment Committee (2002/03)
 Biology Department Solicitor, State Employee's Combined Campaign (2000/2001 -2001 /02)
 Chair, Departmental Assessment Committee (1995/96 - 1996/97)
 Chair, Ad hoc Committee on Revision of Introductory Biology Program (1991/92 – 1993/94)
 Chair, Program Assessment Subcommittee, Departmental Review (1995/96)
 Director/Chair/Member, Departmental Greenhouse/Herbarium Committee (1988/89 – 2005/06)
 Director of the Introductory Biology Program (1989/90 - 1994/95)
 Member, Undergraduate Studies Committee (1994/95 – 2006/07)
 Member, Departmental Teaching Evaluation Committee (1989/90 - 1993/94; 1997/98 - 2005/2006)
 Member, Ad hoc Committee on Curriculum Revision (1991/92 – 1994/95)
 Member, Ad hoc Planning Group for the Analytical Visualization Facility (1993/94)
 Member/Chair, Analytical Visualization Facility Committee (1995/96 – 2005/06)
 Member, Biotechnology Interest Group (1993/94 - 1995/96)

Member, Graduate Studies Committee (1991/91-93/94)
 Member, Hiring Panel for Introductory Biology Preparator (1993/94)
 Member, Search Committee for Lecturers (1992/93 and 1995/96)
 Member, departmental sub-Committees for Biology Department Tenure Committees (ongoing)
 Affirmative Action Officer, two Departmental Search Committees for new Assistant Professors (1991-2002)

Community

Event Photography-Emerson Waldorf School, Chapel Hill, NC (2010-2012)
 Coordinator, Southeastern Center for Anthroposophy (a non-profit, adult-education organization), Chapel Hill, NC (2000–2004)
 Board Member, Piedmont Interfaith Council (2000-2002)
 Consultant to SCICON Scientific Consulting, Greensboro, NC (2001)
 Consultant to Timberlake Farms, Whitsett, NC (2001)
 The rainforest. Country Kids Daycare, Aberdeen, NC (May 15, 2001)
 What is a Botanist? 3rd Grade Classes, Wesleyan Academy, High Point, NC (2003, 2004)
 Presentations, many public workshops presented on various scientific and cultural subjects (1998-present)
 Board Member, Waldorf Educational Association of North Carolina (1989-1994)

COURSES TAUGHT (at UNCG unless otherwise noted)

Biology 111 & 111L	Principles of Biology I (Lecture and Laboratory)
Biology 112 & 112L	Principles of Biology II (Lecture and Laboratory)
Biology 112H	Honors Principles of Biology II (Lecture)
Biology 322	Plant Diversity (Lecture and Laboratory)
Biology 354	Plant Systematics (Lecture and Laboratory)
Biology 430	Biological Evolution (Lecture/Seminar)
Biology 499	Biological Problems (Undergraduate Independent Research)
Biology 512	Advanced Topics in Plant Structure and Evolution (Lecture and Laboratory)
Biology 549	Current Topics in Biology (Advanced Undergraduate Independent Research)
Biology 549-02	Current Topics in Biology: Phylogenetics (with Remington) (Lecture/Seminar)
Biology 695	Research Methods (Graduate Independent Research)
Biology 699	Thesis
Honors 204	Evolution and Belief
Honors 490	Senior Honors Thesis
Masters of Arts in	
Liberal Studies 630	The Forests of the Giant Redwoods
Freshman Seminar 104	Science as a Way of Knowing
Biology 1002	General Botany (Lecture; taught at Louisiana State University)