CURRICULUM VITAE

Christine A. McAllister

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CURRENT POSITION

2016 – Professor, Department of Biology and Natural Resources, Principia College, Elsah, IL

EDUCATION

2014 Ph.D. Biology (*with distinction*), St. Louis University, St. Louis, MO
Advisor: Dr. Allison J. Miller

1997 M.S. Biology, Kansas State University, Manhattan, KS
Advisor: Dr. Alan Knapp

1993 B.S. Environmental Science, Principia College, Elsah, IL

PUBLICATIONS (* Undergraduate student)

McAllister CA, MR McKain, M Li, B Bookout*, and EA Kellogg. 2018. Specimen-based analysis of morphology and the environment in ecologically dominant grasses: the power of the herbarium. *Philosophical Transactions of the Royal Society B* 274: 20170403. http://dx.doi.org/10.1098/rstb.2017.0403.

McAllister CA and AJ Miller. 2016. SNP discovery via genotyping-by-sequencing for assessment of population genetic structure and recurrent polyploidization in big bluestem (*Andropogon gerardii*). *American Journal of Botany* 103: 1314-1325.

Thompkins, RD, **CA McAllister**, and S Bloom. 2015. Ploidy levels for some remnant eastern big bluestem (*Andropogon gerardii*) populations: implications for their conservation and restoration. *Ecological Restoration* 33: 289-296.

McAllister CA, RA Blaine, P Kron, B Bennett*, H Garrett*, J Kidson*, B Matzenbacher*, A Glotzbach*,and AJ Miller. 2015. Environmental Correlates of Cytotype Distribution in *Andropogon gerardii* (Poaceae). *American Journal of Botany* 102: 92-102.

Maragni, LA, AK Knapp and **CA McAllister**. 2000. Patterns and determinants of potential carbon gain in the C_3 evergreen *Yucca glauca* (Liliaceae) in a C_4 grassland. *Am.J.Bot*. 87: 230-236

Knapp, AK, N Bargmann, LA Maragni, and **CA McAllister**. 1999. Elevated CO_2 and leaf longevity in the C_4 grassland-dominant *Andropogon gerardii*. *Int.J.Plant Sci*. 160: 1057-1061

McAllister, CA, AK Knapp, and LA Maragni. 1998. Is leaf-level photosynthesis related to plant success in a highly productive grassland? *Oecologia* 117: 40-46.

Hamerlynck, EP, **CA McAllister**, AK Knapp, JM Ham, and CE Owensby. 1997. Photosynthetic gas exchange and water relation responses of three tallgrass prairie species to elevated carbon dioxide and moderate drought. *Int.J.Plant Sci*. 158: 608-616.

INVITED PRESENTATIONS

2018 **McAllister CA**, M McKain, M Li and E Kellogg. 2018. Harnessing the power of the herbarium: a specimen-based analysis of morphology and environment in ecologically dominant grasses. Revolutionizing systematics: Herbaria in the Genomics Age (symposium) at Botanical Society of America, Rochester, MN

2017 Miller, A.J**.** and **CA McAllister**. 2017. Single nucleotide polymorphism discovery via Genotyping-By-Sequencing to assess population genetic structure and recurrent polyploidization in *Andropogon gerardii*. XXV International Plant and Animal Genome meeting, San Diego, CA.

2013 Deans Colloquium speaker, Principia College

2009 2nd Hill Prairie Conference, Plenary Speaker, Augustana College, Rock Island, IL

2008 Deans Colloquium speaker, Principia College

2007 Sierra Club chapter, Alton, IL

2007 Principia College Summer Session

2001 Deans Colloquium speaker, Principia College

CONTRIBUTED PRESENTATIONS/POSTERS

(* Current or former Principia undergraduate student co-author)

Peterson K, P Minx, K Biang*, S Clewell*, B Bookout*, **C McAllister**, M McKain, and E Kellogg. Insights into the evolutionary ecology of grass awns and spikelets within the Andropogoneae. Botanical Society of America meetings, July 2021 (Virtual meeting)

McKain M, J Pienaar, S Saman, T AuBuchon, M Lewis, **C McAllister**, and E Kellogg. 2018. More than a phylogeny: evolutionary genomics in the herbarium. Botanical Society of America meetings, 2018, Rochester, MN)

McKain M, J Pienaar, K Zudock, T AuBuchon, S Sama, R Pasquet, D Layton, C Welker, W Arthan, P Traiperm, **C McAllister**, and E Kellogg. 2018. Transposon diversity and abundance variation as a consequence of climatic variables in Andropogoneae (Poaceae). Botanical Soceity of America meetings, 2018, Rochester, MN

McAllister CA, B Bookout*, S Clewell*, K Biang*, M McKain and E Kellogg. 2017. Diaspore diversity in the tribe Andropogoneae.

- Botanical Society of America national meeting, Ft Worth, TX
- St. Louis Ecology, Evolution, and Conservation Retreat, Saint Louis University, MO

McAllister CA, K Biang*, S Clewell*, B Bookout*, and E Kellogg. 2016. Diaspore diversity in the tribe Andropogoneae. St. Louis Ecology, Evolution, and Conservation Retreat, Principia College, Elsah, IL

McAllister CA and A Miller. 2016. Single nucleotide polymorphism discovery via genotyping by sequencing to assess population genetic structure and recurrent polyploidization in *Andropogon gerardii*. St. Louis Ecology, Evolution, and Conservation Retreat, Principia College, Elsah, IL

McKain M, **CA McAllister**, K Biang*, S Clewell*, T AuBuchon, S Saeidi, C Welker, W Art-han, R Pasquet, P Traiperm, EA Kellogg. Phylogenomics and adaptive trait evolution of ecologically dominant grasses. Botanical Society of America meetings, 2016, Savannah, GA

Biang K*, Clewell S*, Kellogg E, and **CA McAllister**. 2015. Diaspore diversity in the Andropogoneae. St. Louis Ecology, Evolution, and Conservation Retreat, St. Louis Zoo, St. Louis.

Pyne L*, **CA McAllister**, K Olson, and R Reuss. 2014. Abundance, growth, and nitrogen fixation by

Shepherdia canadensis in early- and mid-successional boreal forest uplands of interior Alaska. St. Louis Ecology, Evolution and Conservation Retreat, Southern Illinois University, Edwardsville.

McAllister CA, RA Blaine, P Kron, B Bennett*, H Garrett*, J Kidson*, B Matzenbacher*, A Glotzbach*,and AJ Miller. 2013. Environmental Correlates of Cytotype Distribution in *Andropogon gerardii* (Poaceae).

- Annual meetings of the Botanical Society of America and the American Society of Plant Taxonomists. New Orleans, LA
- Third Annual St. Louis Ecology, Evolution, and Conservation retreat, St. Louis, MO

Sarmiento S*, P Bernhard, M Joseph*, **C McAllister**, J Timmer* and A Miller. 2013. Mate limitation and reduced fertility in a clonally propagated perennial crop. Annual meetings of the Botanical Society of America and the American Society of Plant Taxonomists. New Orleans, LA.

McAllister CA, P Kron, R Blaine, and A Miller. 2012. Environmental determinants of cytotype diversity in big bluestem (Andropogon gerardii).

- Annual meetings of the Botanical Society of America and the American Society of Plant Taxonomists. Columbus, OH.
- Second Annual St. Louis Ecology, Evolution, and Conservation retreat, Elsah, IL

Miller AJ, DS Sampliner, I Al-Shebaz, C Romero-Hernandez, CA McAllister, T Bertram and S Waninger. 2010. Phylogenetic approaches to understanding sterility in crop species: origin and evolution of horseradish (*Armoracia rusticana*, Brassicaceae). Annual meetings of the Botanical Society of America and the American Society of Plant Taxonomists. Providence, RI.

Hamerlynck, EP, **CA McAllister**, AK Knapp, JM Ham, and CE Owensby. 1997. Photosynthetic gas exchange and water relation responses of three tallgrass prairie species to elevated carbon dioxide and moderate drought. Annual meeting of the Ecological Society of America, Providence, RI.

HONORS, GRANTS AND AWARDS

2019	Integration and modularity in grass diversification. PI: Toby Kellogg (Danforth Plant Science Center). NSF DEB-1927588
2019	Recipient of the Horace Edwin Harper Jr. and Evelyn Wright Harper Award for Teaching Excellence, Principia College
2018	Faculty Research Fund Grant, Principia College
2018	Summer Research Assistanship Grant (to involve undergraduates in research), Principia College
2017	Summer Research Assistantship Grant (to involve undergraduates in research), Principia College
2016	U.S. Department of Energy Joint Genome Institute's Community Sequencing Program. Pan-genomics of big bluestem, a broadly adapted dominant grass. (PIs: Toby Kellogg, Michael McKain, Chrissy McAllister)
2016	Summer Research Assistantship Grant (to involve undergraduates in research), Principia College
2015	Summer Research Assistantship Grant (to involve undergraduates in research), Principia College
2014	Evolution of dispersal and pollination in ecologically dominant grasses. PI: Toby Kellogg (Danforth Plant Science Center). NSF DEB-1427769
2013	Travel Award for annual meetings of the Botanical Society of America and the American Society of Plant Taxonomists (Genetics Section), New Orleans, LA

2013 Undergraduate Research Grant (for involvement of undergraduate students in research), Principia College
2012 Best Poster, Genetics Section, Botanical Society of America meetings July 2012
2012 Faculty Research Grant to support dissertation research using genotyping-by-sequencing approach, Principia College
2012 Undergraduate Research Grant (for involvement of undergraduate students in research), Principia College
2012 Undergraduate Research Grant (for involvement of undergraduate students in research), Principia College
2011 Faculty Development Summer Research Grant, Principia College
2008 President's Summer Research Grant, Principia College
1996-1997 James Ackert Graduate Award. (Outstanding Achievement by a Graduate Student, Division of Biology, Kansas State University)

SYMPOSIA AND COLLOQUIA ORGANIZED

2016 St. Louis Ecology, Evolution and Conservation Retreat (with Peter Hoch, Bob Ricklefs, Bob Marquis, and Allison Miller), held at Principia College, Elsah, IL
2012 St. Louis Ecology, Evolution and Conservation Retreat (with Peter Hoch, Bob Ricklefs, Bob Marquis and Allison Miller), held at Principia College, Elsah, IL

PROFESSIONAL EXPERIENCE

Principia College – Elsah, Illinois

Professor *2016 to present*
Associate Professor *2011 to 2016*
Assistant Professor *1999 to 2011*
Department of Biology and Natural Resources

Design and implement curriculum for both introductory and advanced-level major-specific courses within the Biology and Environmental Studies programs. Courses include Introductory Botany, Plants & Society, Conservation Genetics, Global Environmental Issues, Grassland Ecology, and Methods & Research in Science. Served as Math & Natural Science Unit representative to Faculty Council, Writing Advisory Board, and Study Abroad Advisory Committee. Serve as academic advisor for average of 12 students.

Division Head, Math, Science and Engineering *2014 to present*

Supervise seven department chairs as well as technical staff within those departments; conduct annual evaluation of thirteen faculty members in Math, Science, and Engineering; oversee division course scheduling; administer Division budgets and oversee departmental budgets.

Study Abroad Director *2001 to present*

Designed and led multiple domestic and international study programs for undergraduates; two weeks in Yellowstone National Park (2001 and 2005), nine weeks in New Zealand (2003, 2005, 2007, 2018), three weeks in Dominica (2014) and two weeks in New Zealand (2018). Designed and taught coursework used prior to and during study tours. Organized itineraries, activities, and guest speakers. Established and managed budgets before, during, and after travel.

Department Chair *2003 to 2008*
Department of Biology and Natural Resources

Managed academic department consisting of 5 faculty. Supervised one full-time academic staff member and 8-10 student workers per quarter. Managed $29,000 operating budget and over $100,000 in additional special funds. Responsible for 3 vehicles, one boat, one ATV, a greenhouse, and tropical

aviary. Served as advisor to campus Land Steward; provided recommendations for prescribed burning, invasive species removal.

Freshman Writing Instructor *2005 to 2007*
Created and implemented writing-to-learn techniques during Principia College's 2-week Freshman Writing Seminar.

Mojave Desert Ecosystem Program – Ft. Irwin, CA
Geographic Information System Technician *1998-1999*
Provided scientific and technical expertise to the Department of Defense representative to the Desert Managers' Group (a cooperative interagency consortium of land managers from the Department of Interior and the Department of Defense).

Kansas State University, Division of Biology – Manhattan, KS
Graduate Teaching/Research Assistant *1995-1998*
Taught 4 semesters of General Botany to classes of approximately 50 students (majors and non-majors) per semester. Organized and analyzed long-term data sets for projects involving irrigation of native grassland area, and the effects of elevated carbon dioxide on both plant water stress and leaf longevity. Prepared data for presentation and publication.

Battelle Pacific Northwest Laboratory – Richland, WA
Staff Scientist *1994-1995*
Researched, authored, edited and managed publication of inter-site research project, cataloguing ecological resources on 10 Department of Energy sites nationwide. Researched mitigation banking and transplanting options for native vegetation impacted by road construction on Hanford Site. Conducted herpetological and small mammal surveys in the Mojave Desert, California, for the U.S. Army's Fort Irwin Expansion Project.

U.S. Department of Energy – Richland, WA
Science and Engineering Research Semester Intern *1993-1994*
Prepared reports for researchers working on inter-site catalogue of ecological resources on Department of Energy sites. Aided in conducting surveys for rare, threatened, and endangered plant species on the Columbia River.

PROFESSIONAL AFFILIATIONS
2017-present Research Associate, Missouri Botanical Garden, St. Louis Missouri

COMMUNITY SERVICE

2019	Invited external program reviewer for Environmental Science program at McKendree University
2004-2010	Contributing lecturer, La Vista Ecological Learning Center's Ecological Literacy Program, Godfrey, IL
2005-2010	Member, Board of Trustees, Great Rivers Land Trust, Godfrey, IL.
1996-1998	Master Gardener, Cooperative Extension Service, Manhattan, KS
1991-1993	Nature Center Staff, Mark Twain National Wildlife Refuge, Brussels, IL

MANUSCRIPT REVIEWS
American Journal of Botany
PLOS One

Conservation Genetics
Annals of Botany
Frontiers in Ecology and Evolution
Botanical Journal of the Linnean Society
Midwestern Association of Graduate Schools, Distinguished Masters Thesis Award

TRAINING/CERTIFICATIONS

2012 R Basics Workshop, Missouri Botanical Garden, St. Louis, MO
2011 GIS in Biology Workshop, Saint Louis University
2004 Haz Comm Standard. 29CFR1910.1200
2003 Care Initiator CPRIFA (First Aid training)
2003 Rattlesnake Handling Permit, Illinois Department of Natural Resources
2003 Chainsaw Safety Training
2002 S-190 (Introduction to Wildland Fire Behavior), S-130 (Basic Firefighter Training), and ICS 100 (Introduction to the Incident Command System) training/certifications
1998 ESRI Basic ArcInfo Training (2-week introductory course at ESRI Headquarters)

MEMBERSHIPS

Phi Alpha Eta Honor Society
National Association of Biology Teachers
Botanical Society of America