

Andrea T. Kramer
Curriculum Vitae
August 2012

I. Personal Data:

Name: Andrea Tietmeyer Kramer
Address (business): Botanic Gardens Conservation International U.S. and
Chicago Botanic Garden
1000 Lake Cook Road
Glencoe, IL 60022
Phone: 847-835-6971
Email: akramer@chicagobotanic.org

II. Degrees Earned:

Ph.D., Biological Sciences, May 2009. University Illinois at Chicago
Thesis advisor: Mary V. Ashley
Dissertation Title: Ecological genetics of *Penstemon* in the Great Basin, U.S.A.
B.A., Biology and Environmental Studies, May 2000. Macalester College, St. Paul Minnesota
Cum laude, Phi Beta Kappa

III. Professional experience and appointments:

2012 – Present: Conservation Scientist, Ecological Genetics, Chicago Botanic Garden
2012 – Present: Adjunct Assistant Professor of Biological Sciences, Northwestern University
2008 – Present: Executive Director, Botanic Gardens Conservation International (U.S.)
2003 – 2007: Research assistant and Ph.D. candidate, Chicago Botanic Garden
2001 – 2003: Endangered Plant Specialist, Chicago Botanic Garden
2000 – 2001: Endangered & Native Plant Research Intern, Chicago Botanic Garden
1999 – 2000: Environmental Education & Restoration Intern, Dodge Nature Center, Minnesota
1997, 1999: Summer Research Assistant, Cedar Creek Natural History Area, University of Minnesota

IV. Peer-reviewed Publications:

Kramer, A.T., J. Fant and M.V. Ashley. 2011. Influences of landscape and pollinators on population genetic structure: examples from three *Penstemon* (Plantaginaceae) species in the Great Basin. *American Journal of Botany*. 98(1): 109-121.

Sundberg, M., P. DeAngelis, K. Havens, K. Holsinger, K. Kennedy, **A. Kramer**, R. Muir, M. Olwell, K. Schirenbeck, L. Stritch, and B. Zorn-Arnold. 2011. Perceptions of Strengths and Deficiencies; Disconnects between Graduate Students and Prospective Employers. *BioScience* 61(2): 133-138.

Britton, K.O., P. White, **A. Kramer**, Hudler, G., 2010. A new approach to stopping the spread of invasive insects and pathogens: early detection and rapid response via a global network of sentinel plantings. *New Zealand Journal of Forestry* 40: 109-114.

Kramer, A.T. and K. Havens. 2009. Plant conservation genetics in a changing world. *Trends in Plant Science*. 14(11): 599-607.

Wilk, J.A., **A.T. Kramer**, M.V. Ashley. 2009. High variation in clonal growth versus sexual reproduction in populations of the wild strawberry, *Fragaria virginiana* (Rosaceae). *Annals of Botany*. 04(7):1413-1419.

Vitt, P., K. Havens, **A.T. Kramer**, D. Sollenberger, E. Yates. 2009. Assisted migration of plants: changes in latitudes, changes in attitudes. *Biological Conservation*. 43(1): 18-27.

Kramer, A.T., J.L. Ison, M.V. Ashley, and H.F. Howe. 2008. The paradox of forest fragmentation genetics. *Conservation Biology* 22(4): 878 - 885.

- Kramer, A.T.** and J.B. Fant. 2007. Isolation and characterization of microsatellite loci in *Penstemon rostriflorus* (Plantaginaceae) and cross species amplification. Molecular Ecology Notes 7(6): 998-1001.
- Davis, M.A., C. Curran, **A. Tietmeyer**, and A. Miller. 2005. Dynamic tree aggregation patterns in a species-poor temperate woodland disturbed by fire. Journal of Vegetation Science 16: 167-174.

V. Other Publications:

- Kramer, A.T.**, B. Zorn-Arnold and K. Havens. (in press) Applying Lessons from the U.S. Botanical Capacity Assessment Project to Achieve 2020 Global Strategy for Plant Conservation Targets. Annals of the Missouri Botanical Garden.
- Hird, A. and **A.T. Kramer**. (in press) Achieving Target 8 of the Global Strategy for Plant Conservation: Lessons Learned from the North American Collections Assessment. Annals of the Missouri Botanical Garden.
- Kramer, A.** 2012. International collaboration for conservation. Public Garden 27:13-16.
- Kramer, A.**, and V. Pence. 2012. The challenges of *ex situ* conservation for threatened oaks. International Oaks (Journal of the International Oak Society). 23: 91-108.
- Kramer, A.** 2011. Assessing and integrating conservation through collections. The Botanic Garden (BGANZ) November 2011.
- Kramer, A.** and A. Hird. 2011. What is the conservation value of botanic garden plant collections? A baseline assessment for the world and North America. Public Garden 26: 22-24.
- Kramer, A.** and A. Hird. 2011. Building an international sentinel plant network. BGjournal 8: 3-6.
- Kramer, A.** 2011. A renewed Global Strategy for Plant Conservation and other COP 10 outcomes. Australasian Plant Conservation 19(4): 26-28.
- Kramer, A.** and K. Havens. 2011. Assessing botanical capacity in the United States: gaps identified and strategic recommendations made to maximize conservation success. Australasian Plant Conservation 19(3): 21-23.
- Kramer, A.**, A. Hird, K. Shaw, M. Dosmann, and R. Mims. 2011. *Conserving North America's Threatened Plants: Progress report on Target 8 of the Global Strategy for Plant Conservation*. 28 pp. + appendices. Botanic Gardens Conservation International U.S., Glencoe, IL.
- Kramer, A.T.**, Havens, K., Zorn-Arnold, B., 2010. *Assessing botanical capacity to address grand challenges in the United States*, 64 pp. plus appendices. Chicago Botanic Garden and Botanic Gardens Conservation International US, Glencoe, IL.
- Kramer, A.T.** 2010. Measuring botanic garden contributions to plant conservation and education in the United States. BGjournal 7(2): 24-28.
- Kramer, A.T.**, with Center for Plant Conservation Staff and Science Advisors. 2006. Genetic Considerations in Ecological Restoration (Annotated Bibliography). Online at http://www.centerforplantconservation.org/GCERB/CPC_GCERBRefTopicList.asp.
- Tietmeyer, A.** 2004. The Institute for Plant Conservation at the Chicago Botanic Garden. Samara (International Newsletter of the Partners of the Millennium Seed Bank Project) 6: 7.
- Tietmeyer, A.** and P. Bristol. 2002. Potential Invasibility of Crabapple Species and Cultivars in the Chicago Region. Malus 16: 3-11.

Posters

- Hird, A., **A.T. Kramer**, R. Mims. 2012. Care for the Rare – Interpretation for Conservation at Botanic Gardens. American Public Gardens Association Annual Conference. Columbus, Ohio.
- Kramer, A.T.**, B. Zorn-Arnold, K. Havens. 2010. Assessing botanical capacity to address grand challenges in the United States. 4th Global Botanic Gardens Congress. Dublin, Ireland.
- Kramer, A.T.**, B. Zorn-Arnold, K. Havens. 2010. Assessing botanical capacity to address grand challenges in the United States. American Public Gardens Association Annual Conference. Atlanta, Georgia.

- Kramer, A.T.,** B. Zorn-Arnold, K. Havens. 2010. Assessing botanical capacity to address grand challenges in the United States. National Native Seed Conference. Snowbird, Utah.
- Kramer, A.T.,** J.B. Fant, R. Tonietto and M.V. Ashley. 2007. Understanding genetic diversity to guide restoration practice. University of Illinois, Chicago. Biological Sciences Graduate Research Symposium. Chicago, Illinois.
- Kramer, A.T.,** J.B. Fant, R. Tonietto and M. Ashley. 2006. Plant population genetics in the Great Basin (U.S.): Outbreeding depression and implications for restoration. Janet Meakin Poor Research Symposium. Chicago Botanic Garden, Illinois.
- Kramer, A.T.,** J.B. Fant, R. Tonietto and M. Ashley. 2006. Plant population genetics in the Great Basin (U.S.): Outbreeding depression and implications for restoration. EPA STAR Fellows Conference. Washington, D.C.
- Tonietto, R., J.B. Fant, and **A.T. Kramer.** 2006. Intra-specific differences in *Penstemon* floral morphology. Midwest Ecology and Evolution Conference. St. Louis University, Missouri.
- Tonietto, R., J.B. Fant, and **A.T. Kramer.** 2006. Intra-specific differences in *Penstemon* floral morphology. Graduate Women in Science Conference. Madison, Wisconsin.
- Fant, J.B. and **A.T. Kramer.** 2004. Post Fire Restoration of the Great Basin: Seed Ecology. Janet Meakin Poor Research Symposium. Chicago Botanic Garden, Illinois.
- Fant, J.B. and **A.T. Kramer.** 2004. Post Fire Restoration of the Great Basin: Seed Ecology. Intermountain Native Plant Summit. Boise State University, Idaho.
- Bristol, P. and **A. Tietmeyer.** 2002. Potential Invasibility of Crabapple Species and Cultivars in the Chicago Region. International Symposium: Invasive Plants: Global Issues, Local Challenges. Chicago, Illinois.
- Vitt, P., K. Bradford, and **A. Tietmeyer.** 2001. Demographics of state-threatened *Viola conspersa*. Janet Meakin Poor Research Symposium. Chicago Botanic Garden, Illinois
- Tietmeyer, A.,** A. Day, and M.A. Davis. 1997. Effects of Habitat Fragmentation on Oak Savanna Bird Species. Pew Undergraduate Research Symposium. St. Louis, Missouri.

VI. Presentations:

- Current Issues in Botany: Botanical Capacity Shortcomings.* Invited Presentation, Pennsylvania Botany Symposium. Powdermill Nature Reserve, PA, USA. November 2012.
- Conserving trees for tomorrow.* Public and donor seminars at the Morton Arboretum. Lisle, IL, USA. November 2011.
- Assessment toward evolution of the Plant Conservation Alliance's National Framework.* Webinar during bimonthly meeting of the Plant Conservation Alliance. November 2011.
- Assessing and integrating conservation through collections.* Keynote address Botanic Gardens of Australia and New Zealand Conference. Albury, Australia. October 2011.
- Harnessing the power of botanic gardens.* Keynote address to Botanic Gardens of Australia and New Zealand Conference. Albury, Australia. October 2011.
- Assessing and building capacity for plant conservation, research and education in the United States.* Invited seminar, Shanghai Chenshan Botanical Garden. Sonjiang, China. August 2011.
- Lessons from the U.S. Botanical Capacity Assessment Project – Building Links Between Stakeholders.* International Botanical Congress. Melbourne, Australia. July 2011.
- Applying lessons from the U.S. Botanical Capacity Assessment Project to achieving the 2020 GSPC targets.* Global Partnership for Plant Conservation Conference. Missouri Botanical Garden, St. Louis, MO, USA. July 2011.
- Botanic gardens in China – growing and partnering for MORE plant conservation.* American Public Gardens Association conference. Philadelphia, PA, USA. June 2011.
- Botanical Capacity in the United States: How do we measure up?* Invited presentation at the Arnold Arboretum of Harvard University. Boston, MA, USA. April 2011.
- The state of botanical conservation in the U.S.: shoring up our future and building on our past.* Invited presentation to U.S. Fish and Wildlife Service staff. Washington DC, USA. March 2011.

Assessing botanical capacity to address grand challenges. Invited seminar at the Morton Arboretum. Lisle, IL, USA. November 2010.

International exchange and sharing of data for ex situ plant conservation and research. International symposium at Shanghai Chenshan Botanical Garden. Shanghai, China. October 12, 2010.

Ecological genetics of Penstemon in the Great Basin, USA. Australian Network for Plant Conservation Conference. Perth, WA, Australia. September 2010.

Assessing botanical capacity in the United States: gaps identified and recommendations made to maximize conservation success. Australian Network for Plant Conservation Conference. Perth, WA, Australia. September 2010.

Developing an international sentinel plant network to facilitate early detection and rapid response to invasive pests. 4th Global Botanic Gardens Congress. Co-organized and presented at session. Mike Buffin, Kerry Britton, Matthew Jeb, Andrea Kramer. Dublin, Ireland. June 13-18, 2010.

Strategic actions all botanic gardens can take to advance plant conservation. American Public Gardens Association Annual Conference. Co-organized, moderated and presented in session. Christine Flanagan, Jim Boudreau, Andrea Kramer, Janet Marinelli. Atlanta, Georgia, USA. June 1-5, 2010.

Genetic considerations in native plant materials development and use and Common garden studies and seed transfer guidelines. National Native Seed Conference. Co-organized and presented in session. Deborah Rogers, Elizabeth Leger, Erin Espeland, Matthew Horning, Andrea Kramer, RC Johnson, Jay Kitzmiller, Andy Bower. Snowbird, UT, USA. May 2010.

Plants and climate change. Invited presentation for Casey Trees class on *Landscapes give back*. Washington, D.C., USA. January 2010.

Genetic considerations that determine the success of native plantings: examples from Penstemon in the Great Basin. Invited presentation to the American Seed Trade Association. Kansas City, MO, USA. November 2009.

Global plant conservation science and outreach. Co-organized and moderated day-long Janet Meakin Poor Research Symposium at Chicago Botanic Garden. Chicago, IL, USA. October 2009.

Conserving native plant populations in a changing world. Natural Areas Conference. Vancouver, WA, USA. September 2009.

How much do living collections really aid conservation? Co-organized and moderated session at American Public Gardens Association annual meeting. Andrea T. Kramer, Abby Hird, M. Patrick Griffith, David Aplin. St. Louis, MO, USA. June 2009.

Plant conservation in a changing climate: a leading role for botanic gardens. Invited Seminar (Mason Pharr Seminar). North Carolina State University, Raleigh, NC, USA. April 2009.

Climate change and plants: Examples from Penstemon in the Great Basin. Seminar to Bureau of Land Management staff. Washington, D.C., USA. February 2009.

Ecological genetics of Penstemon in the Great Basin. Ecology and Evolution Seminar, University of Illinois at Chicago, USA. January 2009.

Plants in a changing climate. Invited presentation at Association of Zoological Horticulture Annual Conference. Cleveland, OH, USA. October 2008.

Conserving plant species with wide ecological amplitude in the face of climate change: common garden studies on Penstemon species in the western U.S. 2nd World Botanic Garden Science Congress, Delft, The Netherlands. June 2008.

Plants in a changing climate - how you can help plant for the planet. Public presentation at U.S. Botanic Garden. Washington, D.C., USA. June 2008.

Overview of Botanic Gardens Conservation International in the United States. Presentation to the Plant Conservation Alliance. Arlington, VA., USA. February 2008.

Conservation efforts at the Chicago Botanic Garden. Presentation to Elderhostel Groups at Chicago Botanic Garden. Glencoe, IL, USA. October 2007.

Successful restoration of plant communities: why pollinators matter. Presentations to Chicago Botanic Garden board members and potential and current donors. Glencoe, IL, USA. July 2007.

Ecotypes in Penstemon: Insights from Molecular and Quantitative Studies. Ecology and Evolution Departmental Seminar, University of Illinois, Chicago, IL, USA. April 2006.

Ecotypes in Penstemon: Insights from Molecular and Quantitative Studies. Intermountain Native Plant Summit, Boise, ID, USA. April 2006.

Effects of Habitat Fragmentation on Oak Savanna Bird Species. Minnesota Academy of Science-Winchell Symposium. Winona, MN, USA. April 1998.

VII. Awards, Fellowships, and Other Recognition:

Professional Citation. 2012. American Public Gardens Association.

Graduate Student Research Award. 2007, 2008. University of Illinois Chicago, Biological Sciences Department.

Science to Achieve Results Fellowship (STAR). 2005 – 2008. U.S. Environmental Protection Agency. (\$108,000).

NSF Graduate Research Fellowship, Honorable Mention. 2004, 2005. National Science Foundation.

University Fellowship. 2003 – 2005. University of Illinois, Chicago. (\$60,000).

VIII. Funding:

Stanley Smith Horticultural Trust. 2013. *Enhancing the PlantSearch database*. (\$20,000 to BGCI US; A. Kramer PI).

USDA APHIS Plant Protection and Quarantine. 2012-2013. *Enhancing the PlantSearch database to help APHIS-PPQ predict and prevent invasive plants and plant pests*. (\$45,000 to BGCI US; A. Kramer PI).

United State Botanic Garden. 2012. North American Collections Assessment and Care for the Rare. (\$85,000 to BGCI US; A. Kramer PI).

Wallace Genetic Foundation. 2011-2012. *Enable strategic and sustainable plant conservation action* (\$45,000 to BGCI US; A. Kramer PI).

United State Botanic Garden. 2011. North American Collections Assessment. (\$80,000 to BGCI US; A. Kramer PI).

USDA APHIS Plant Protection and Quarantine. 2010-2011. *Enhancing the utility of botanic garden plant collections databases to help APHIS-PPQ predict and prevent invasive plants and plant pests*. (\$80,000 to BGCI US; A. Kramer PI).

United State Botanic Garden. 2010. *Mid-Atlantic Seeds of Success Project and North American Collections Assessment*. (\$75,000 to BGCI US; A. Kramer PI).

Wallace Genetic Foundation. 2009-2010. *Empowering botanic gardens to protect plants and promote sustainability in a rapidly changing climate*. (\$45,000 to BGCI US; A. Kramer PI).

United State Botanic Garden. 2009. *Mid-Atlantic Seeds of Success Project*. (\$62,000 to BGCI US; A. Kramer PI).

United States Forest Service. 2009-2012. *Challenge cost share agreement for ex situ conservation of red listed oak species*. (\$10,000 to BGCI US; A. Kramer PI).

National Fish and Wildlife Foundation. 2009 – 2012. *Ex situ conservation of four Red Listed Oak species*. (\$15,000 to BGCI US, A. Kramer PI).

National Fish and Wildlife Foundation. 2009 – 2011. *Assessment towards evolution of the Plant Conservation Alliance National Framework*. (\$30,000 to BGCI US, A. Kramer PI).

Bureau of Land Management. 2009-2010. *Restoration on the Colorado Plateau*. (\$80,000 to Chicago Botanic Garden; A. Kramer collaborator).

National Fish and Wildlife Foundation. 2009-2010. *Restoration on the Colorado Plateau*. (\$49,937 to Chicago Botanic Garden; A. Kramer collaborator).

Center for Invasive Plant Management (CIPM). 2006 – 2007. *Impact of invasive plants on pollinators* (\$5,000 to Chicago Botanic Garden; A. Kramer, co-PI).

Bureau of Land Management (BLM). 2005 – 2007. *Plant-pollinator interactions* (\$43,000 to Chicago Botanic Garden; A. Kramer, co-PI).

Bureau of Land Management (BLM). 2005 – 2007. *Genetic diversity in seed collections* (\$20,000 to Chicago Botanic Garden; A. Kramer, co-PI).

National Fish and Wildlife Foundation. 2005 – 2006. *Marker development for threatened species* (\$10,000 to Chicago Botanic Garden; A. Kramer, co-PI).

X. Teaching and Mentoring Experience:

2012-present. Committee member: Janet Backs-Rizner, Ph.D. Student. University of Illinois at Chicago.

2012-present. Committee member: Ryan Disney, M.S. Student. Northwestern University Plant Biology and Conservation Masters program.

2012-present. Committee member: Matt Rhodes. M.S. Student. Northwestern University Plant Biology and Conservation Masters program.

2012-present. Committee member: Lindsey Darling, M.S. Student. Northwestern University Plant Biology and Conservation Masters program.

2011-2012. Committee member: Raakel Toppila, M.S. Student. Longwood Graduate Program, University of Delaware.

2009-2010. Committee member: Elizabeth Riley, M.S. Student. Northwestern University Plant Biology and Conservation Masters program.

2009. Guest lecturer (2-days) Northwestern University (*PBC 451 – BIO/SCI 335: Fundamentals of Plant Biology and Conservation*) on international plant conservation policy and the use of science to inform conservation policy and management decisions in the U.S.

2005, 2006, 2009. Research co-mentor for College First high school students at Chicago Botanic Garden.

XI. Professional Service:

Manuscript Reviewer – American Journal of Botany, Trends in Ecology and Evolution, Conservation Genetics, Restoration Ecology, Ecological Applications, Evolutionary Applications, Trends in Plant Science, Biological Conservation, Horticulture Technology, Plant Biology, Island Press, Molecular Ecology, Ecological Restoration

Professional Society Memberships – Botanical Society of America, Society for Ecological Restoration, Society for Conservation Biology, American Institute of Biological Sciences

Professional Service - American Public Gardens Association: chair plant conservation professional section (2010 – 2013); co-chair Conservation Track for Program Selection Committee (2009-2011); vice-chair plant conservation professional section (2009 – 2010);