

Andrea T. Kramer
Curriculum Vitae
2010

I. Personal Data:

Name: Andrea T. Kramer (legal name Andrea Lea Tietmeyer Kramer)
Address (business): Botanic Gardens Conservation International (U.S.)
at Chicago Botanic Garden, 1000 Lake Cook Road, Glencoe, IL 60022
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II. Degrees Earned:

Ph.D., Biological Sciences, 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, Macalester College
Cum laude, Phi Beta Kappa

III. Professional experience:

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, Minnesota

IV. Peer-reviewed Publications:

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

Britton, K.O., White, P., **Kramer, A.**, 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.**, Havens, K., Zorn-Arnold, B., 2010. *Assessing botanical capacity to address grand challenges in the United States*, p. 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.
- 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

- 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**. March 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:

- Developing an international sentinel plant network to facilitate early detection and rapid response to invasive pests.* 4th Global Botanic Gardens Congress. Co-organized and spoke at session. Mike Buffin, Kerry Britton, Matthew Jeb, Andrea Kramer. Dublin, Ireland. June 13-18 2010.
- Carpe Plantas! Strategic Actions all Botanic Gardens Can Take to Advance Plant Conservation.* 2010 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 18, 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 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.
- Geographic variation in plant-pollinator interactions.* Jeremie B. Fant, Andrea T. Kramer, Rebecca Tonietto. Ecological Society of America/Society for Ecological Restoration Joint Meeting. San Jose, CA, USA. 2007.
- Pollen movement and the genetic prospects for fragmented forests in tropical and temperate systems* Mary V. Ashley, Andrea T. Kramer, Jennifer L. Ison, Henry F. Howe. Ecological Society of America/Society for Ecological Restoration Joint Meeting. San Jose, CA. 2007.
- Ecotypes in Penstemon: Insights from Molecular and Quantitative Studies* Andrea T. Kramer, Jeremie B. Fant, Rebecca Tonietto, Kayri Havens. Ecology and Evolution Departmental Seminar, University of Illinois, Chicago, IL, USA. April 2006.
- Ecotypes in Penstemon: Insights from Molecular and Quantitative Studies.* Andrea T. Kramer, Jeremie B. Fant, Rebecca Tonietto, Kayri Havens Intermountain Native Plant Summit, Boise, ID, USA. April 2006.

Effects of Habitat Fragmentation on Oak Savanna Bird Species. Andrea Tietmeyer, Amy Day, and Mark A. Davis. Minnesota Academy of Science-Winchell Symposium. Winona, MN, USA. April 1998.

VII. Awards and Other Recognition:

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

National Science Foundation (NSF), 2004 and 2005. *Honorable Mention, Graduate Research Fellowship.*

VIII. Funding:

US Farm Bill, USBG

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). Funding to help botanic gardens maximize their role as plant diversity protectors, environmental educators, and promoters of sustainability in a time of climate change.

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 – 2011. *Ex situ conservation of four Red Listed Oak species.* (\$15,000 to BGCI US, A. Kramer PI).

National Fish and Wildlife Foundation. 2009 – 2010. *Assessment towards evolution of the Plant Conservation Alliance National Framework.* (\$30,000 to BGCI US, A. Kramer PI).

Center for Invasive Plant Management (CIPM), 2006 – 2007. *Impact of invasive plants on pollinators* (\$5,000; A. Kramer, co-PI). Research to address effects of non-native annual grass on plant-pollinator interactions. Includes creation of web-based resources to aid in pollinator surveys and identification.

Bureau of Land Management (BLM), 2005 – 2007. *Plant-pollinator interactions* (\$43,000; A. Kramer, co-PI). Use of field work and genetic analyses to understand how pollinators drive local adaptation in wildflowers, including implications for seed source considerations in restoration contexts.

Bureau of Land Management (BLM), 2005 – 2007. *Genetic diversity in seed collections* (\$20,000; A. Kramer, co-PI). Use of genetic analyses to compare bulked common garden samples against wild collection sites, with the aim of guiding seed production practices to maximize genetic diversity.

National Fish and Wildlife Foundation (NFWF), 2005 – 2006. *Marker development for threatened species* (\$10,000; A. Kramer, co-PI). Collaboration with Center for Plant Conservation's member-institutions to expand genetic (microsatellite) marker development to include endangered species. Journal article published to facilitate use of genetic markers in conservation contexts, and detailed information made available online.

U.S. Environmental Protection Agency (US EPA), 2005 – 2008. *Science to Achieve Results Fellowship (STAR)* (\$108,000; A. Kramer, PI). Research to address effects of mixing wildflower seed sources

in the western US for large scale restoration after wildfires, with emphasis on policy and management implications.

University of Illinois, Chicago (UIC), 2003-2004. *University Fellowship*. (\$60,000). Full tuition remission and living stipend to allow for focused research.

IX. Teaching and Mentoring Experience:

2009. Committee member: Elizabeth Riley, MS Student, Northwestern University Plant Biology and Conservation Masters program.

2007. Introduction to Ecology. Brown bag lunch series, Chicago Botanic Garden.

2005, 2006, 2009. Research co-mentor for College First high school students at Chicago Botanic Garden. This is an intensive, dynamic program for Chicago Public High School students who could be the first in their families to attend college. The program consists of part career mentorship, part field ecology and conservation science, and part college prep and assistance.

X. Professional Service:

American Public Gardens Association - Member of Conservation Committee (2008-present), vice-chair plant conservation professional section (2009 – 2010), chair plant conservation professional section (2010 – present), co-chair of conservation track for Program Selection Committee (2009-2011),
Association of Zoological Horticulture - Member of Conservation Committee (2008-present)