

Alicia J. Foxx, PhD

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aliciafoxx.github.io/

Research Foci

Basic plant ecology, applied restoration ecology, synthesis and metascience, diversity, equity, inclusion, accessibility in science

Professional Experience

Conservation Scientist: Chicago Botanic Garden, Mar 2023 – present

Adjunct Faculty Plant Biology and Conservation, Northwestern University

Research Scientist: NSF Biological Integration Institute, New Roots for Restoration: integrating plant traits, communities, and the soil ecosphere to advance restoration and agricultural systems. Jul 2022 - Mar 2023

Postdoctoral Fellow: Oak Ridge Institute for Science and Education and the USDA-ARS, SciNet Postdoctoral Fellow: Synthesis and metagenomic research in metagenomics and plant-microbe interactions. Mentor: Adam Rivers, PhD. Jun 2020 – Jun 2022

Education

PhD: Northwestern University, 2020; Plant Biology and Conservation
Implications of Within-Species Root and Shoot Trait Variation and Plasticity for Species Coexistence. Advisor: Andrea T. Kramer, PhD

Graduate certificate Kellogg School of Management: Management for Scientists and Engineers

MS: Northwestern University, 2014; Plant Biology and Conservation
*Intraspecific variation in *Elymus elymoides* root traits and its influence on competitive outcomes*. Advisor: Andrea T Kramer, PhD

BS: Elmhurst University, 2012; Biology. Advisor: Paul Arriola, PhD

Publications

Published | mentee or trainee

1. Rosa, S., Hollis, S., Francia, R.M., Renner, A., Johnson, N., Barak, R., Jones, H., Williams, E.W., Foxx, A.J. **Shifting dynamics in restoration ecology: concrete steps toward centering BIPOC communities and perspectives. *Second revisions submitted - Ecological Solutions and Evidence.***
2. Foxx A.J. & Adeniran A (2024). **Virtual conference challenges must be overcome to improve inclusion in science.** [*Frontiers in Ecology and the Environment*](#).
3. De Vitis, K., Havens, M., Barak, R., Egerton-Warburton, L., Ernst, A., Evans, M., Fant, J. Foxx, A.J., Hadley, K., Jabcon, J., O'Shaughnessey, J., Ramakrishna, S., Sollenberger, D., Taddeo, S., Urbina Casanova, Lan, X., R., Woolridge, C., Zeldin, J., & Kramer. (2022) **Diagnosing and treating causes of dark diversity in restoration.** [*Frontiers in Conservation Science*](#).
4. Foxx A.J. (2022) **Species variability in relative strength of intraspecific and interspecific interactions.** [*Folia Oecologica*](#); 49(2).
5. Foxx A.J., Franco Melendez K.P., Hariharan J., K., Kozik A., Wattenburger C., Godoy-Vitorino F., & Rivers A.R. (2021) **Advancing Equity and Inclusion in Microbiome Sciences.** [*mSystems*](#); 5(5): e01151-21.
6. Foxx A.J., Wojcik S. (2021) **Plasticity in response to soil texture affects the relationships between a shoot and root trait and responses vary by population.** [*Folia Oecologica*](#); 48(2): 199-204.
7. Foxx A.J. (2021) **Induced plasticity alters responses to conspecific interactions in seedlings of a perennial grass.** [*Scientific Reports*](#); 11: 1-8.
8. Foxx A.J., & Kramer A. (2020). **Hidden variation: cultivars and wild plants differ in trait variation with surprising root trait impacts.** [*Restoration Ecology*](#); 29: e13336.
9. Foxx A.J. & Kramer, A. (2020). **Variation in number of root tips influences survival in competition with an invasive grass.** [*Journal of Arid Environments*](#); volume 179.
10. Zeldin J., Lichtenberger T., Foxx A.J., Williams E., & Kramer A. (2020). **Intraspecific functional trait structure of restoration-relevant species: Implications for restoration seed sourcing.** [*Journal of Applied Ecology*](#); 57: 864-874.
11. Foxx A.J., & Fort F. (2019). **Root and shoot competition lead to contrasting competitive outcomes under water stress: A systematic review and meta-analysis.** [*PLoS ONE*](#). 14(12): e0220674.
12. Foxx A.J., Barak R., Lichtenberger T., Richardson L., Rodgers A.J., & Williams E. W. (2019). **Evaluating the prevalence and quality of conference codes of conduct.** [*Proceedings of the National Academy of Sciences*](#). 116 (30): 14931-14936.
13. Hintz L., Eshleman M., Foxx A.J., Wood T., & Kramer A. (2016). **Population differentiation in early life history traits of *Cleome lutea* var. *lutea* in the Intermountain West.** [*Western North American Naturalist*](#). 76(1): 6-17.

Submitted | mentee or trainee

1. Foxx A.J., Varrientos G., & Kramer A. **Multigenerational invasive plant competition causes greater root trait shifts in a perennial grass. *Revisions submitted.***
2. Foxx A.J. **Native plants diverge in resource availability response depending**

on whether they experienced
multigenerational invasive interactions.
Under Review.

3. Foxx A.J., Fort F., & Kramer A.
Population and species neighbor identity
impact trait-trait relationships and plant
performance. *Under review.*

Professional Experiences

2024	Black Earth Restoration Collective (BERC) aliciafoxx.github.io/berc/
2021	Co-moderator of Scientific Computing Initiative (SCINet) and AI Center of Excellence 2021 Fellows conference.
Nov 2020 - Feb 2021	Contributions to proposal ideas and writing, with contributions as a research scientist pending funding. BII: New Roots for Restoration: integrating plant traits, communities, and the soil ecosphere to advance restoration of natural and agricultural systems." PI: Allison Miller; Co-PIs: Kay Havens (Chicago Botanic Garden); Sarah Lovell (University of Missouri); Jim Bever (University of Kansas); Kris Callis-Duehl (Danforth Plant Science Center). National Science Foundation Biology Integration Institute. \$12,500,000. Awarded August, 2021.
Feb 2018	Delivered keynote address at inaugural Elmhurst College American Dream Fellowship Competition for first generation college students; Elmhurst, IL.
2015 – 2018	Science journalism collaboration in workshop with journalism students under Dr. Donna Leff, PhD (Medill School of Journalism; Northwestern University).
Feb 2017	Advocated for increased funding for plant restoration research in meetings with Legislative directors and assistants of Colorado Senators and Representatives. Washington, D.C.
Feb 2017	Session moderator at the National Native Seed Conference; Washington, DC
Nov 2016	Addressed Cook County Commissioners during Forest Preserve Budget hearing to increase funding for the Chicago Botanic Garden.
2014 - 2016	ComSciCon Chicago Organizing Committee conference organizer executing fundraising and performed and event responsibilities, Chicago, IL

Grants

Feb 2023	Synthesis Center for Conservation and Restoration (sCORE): Reframing restoration practice, \$23,000
Feb 2023	Synthesis Center for Conservation and Restoration (sCORE) Seedling working group, \$30,000
Sept 2021	NSF BII Grant: New Roots for Restoration. \$12,500,000
Jun 2018	Plant Biology and Conservation Travel Award; Northwestern University
Feb 2017	Plant Biology and Conservation Research Award; Northwestern University

June 2014 Plant Biology and Conservation Travel Award; Northwestern University
 Mar 2013 Plant Biology and Conservation Research Award; Northwestern University

Mentoring Experiences

<i>Postdoctoral Researchers</i> Nia Johnson (2024-present)	
<i>PhD and MS students</i> Teagan LeVar (MS, 2023-present) Tayah Carlisle (MS, 2024-present) Norbaya Durr (MS, 2024-present)	
<i>Student Committees</i> Alison Branz (MS, 2023-2024)	
<i>Research Assistants</i>	
Samantha Rosa (2023-present) Amelia Renner (2023-present) Tayah Carlisle (2023-present) Sarah Hollis (2022-present) Rory Schiafo (2024)	Liz Vogel (2023-present) Reg Francia (2022-present) Leah Lenzo (2023-present) Camilla Mancini (2023-present)
<i>Undergraduate mentees</i>	
<i>NSF REU</i> Moirra Newman (2024) Kiera Carpenter (2023) Brooke Allen (2017) Giselle Varrientos (2014) Lisa Hintz (2014)	<i>Other Programs</i> Marian Arevalo (2023) Anissa Loyola (2018; Lake Forest College) Siobhan Wojcik (2015; Lake Forest College) Osja Brinson (2013; Lake Forest College)
<i>High School mentees</i>	<i>Elementary School mentees</i>
Meah Johnson (2023) Raymond Diaz (2018) Giovannie Lanzo (2017) Breanna Giametta (2016) Elise Miedlar (2016)	Grace Guarraia (2013-2014)

Fellowships & Commendations

2020-2022 SCINet Postdoctoral Fellowship; USDA-ARS & ORISE
 Feb 2018 Elmhurst University American Dream Fellowship; Honorary Fellowship
 Apr 2016 Black Graduate Student Association's 19th Annual Conference; Poster award

May 2012	James F. Berry Biology Chairperson's Award; Elmhurst College
May 2008	Gottlieb Memorial Hospital Scholarship
May 2008	Pepsi Scholarship

Teaching Experiences

Mar 2022	Data Carpentry support staff – R and data management
Apr 2021	Data Carpentry support staff – R and data management
Jan - Apr 2019	Quantitative Methods in Ecology and Conservation. Teaching Assistant Northwestern University. <i>Responsibilities:</i> Graded homework, in-class assistant, held office hours. Instruction using R statistical software.
Mar - Jun 2017	Evolutionary Processes. Teaching Assistant, Northwestern University. <i>Responsibilities:</i> Graded quizzes and tests, in-class assistant, held office hours.
Apr - Jun 2016	Evolutionary Processes. Teaching Assistant, Northwestern University. <i>Responsibilities:</i> Graded quizzes and tests, in-class assistant, held office hours.
Jan - Apr 2013	Health of the Biosphere, Teaching Assistant, Northwestern University. <i>Responsibilities:</i> Graded quizzes and tests, in-class assistant, held office hours.
Jul 2010 & 2012	Math and Science Summer Academy, High school student tutor & lab assistant Elmhurst College, 140 contact hours (2 weeks). <i>Responsibilities:</i> Graded quizzes, tutored, assisted in lab, supported team building.

Resources



foxxlab R package:

github.com/aliciafoxx/foxxlab/

Conference Presentations

**mentee coauthor*

2022	Implications of seedling traits and explorations belowground. Foxx, A & Kramer, A. Ecological Society of America
2021	Variability accounting methods in metagenomic and amplicon meta-analyses. Foxx, A & Rivers, A. SCINet fellows conference
2018	Exploring the role of plastic responses in competitive intensity and coexistence. Foxx, A, Allen B*, & Kramer, A. Ecological Society of America

2018	Impact of plasticity on competition and coexistence. Foxx, A, Allen, B*, & Kramer, A. Chicago Botanic Garden
2017	Competitive intensity among and between seedlings: what do the roots tell? Foxx, A. National Native Seed Conference
2017	Rooting Intraspecific variation and plasticity in coexistence. Foxx, A. Chicago Botanic Garden
2016	Impact of intraspecific variation in root traits of a perennial grass on competitive outcomes. Foxx, A & Kramer, A. Black Graduate Student Association Conference
2016	The role of root trait diversity in seedling establishment. Foxx, A. Chicago Botanic Garden.
2016	Seed Bank Germination Report. Foxx, A. Chicago Botanic Garden
2015	Does number of lateral roots in <i>Elymus elymoides</i> populations vary and influence competitive outcomes with cheatgrass? Foxx, A & Kramer, A. National Native Seed Conference
2014	Variation in Intraspecific Root Traits of <i>Elymus elymoides</i> & Implications for water stress tolerance and competition. Foxx, A & Kramer, A. Colorado Plateau Native Plant Program.
2014	Intraspecific variation in <i>Elymus elymoides</i> root traits and its influence on competitive outcomes. Chicago Botanic Garden
2014	Intraspecific variation in <i>Elymus elymoides</i> root traits and its influence on competitive outcomes. Botanical Society of America
2012	The Impact of Weed Competition - Preliminary Studies. Associated Colleges of the Chicago Area Symposium.

Invited Seminars

Feb 2024	University of Illinois, Chicago: "Exploring plant population trait variation in restoration contexts"
Oct 2023	Morton Arboretum: "Exploring plant population trait variation in restoration contexts"
Jul 2023	Washington University, Tyson Research Center: "Exploring plant population trait variation in restoration contexts"
Apr 2021	Elmhurst University, "Importance Of Native Plant Conservation"

Service to the Field

Associate Editor		
Ecological Solutions and Evidence, British Ecological Society		
Manuscript Reviewer		
2020	2021 Plant Signaling & Behavior Plant Ecology Ecosphere	2022 Agronomy International Journal of Plant Sciences PLOS Computational Biology Annals of th


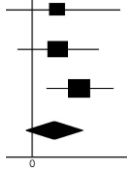


Biological Conservation New Phytologist Ecology	African Journal of Plant Sciences Restoration Ecology Agronomy	Brazilian Academy of Science PLoS One Soil Systems
2023 New Phytologist Ecology and Evolution Plant and Soil	2024	

Community Service & Outreach

Mar 2024	<i>Oak Ridge Institute for Science and Education</i> , Career panel
Oct 2023	<i>Elmhurst University</i> , Career panel
Apr 2023	<i>New Roots For Restoration</i> , Salary negotiation panel
Dec 2022	<i>Northwest Compass</i> , Organized food donation and collection
Apr 2019	<i>Northwestern University Service Project</i> , Organized and lead planting of campus native plant garden
May 2019	<i>The Night Ministry</i> , Organized and lead toiletry kit creation and donation for homeless LGBTQ+ youth
Jun 2018	<i>Evanston Scholars</i> , Participated in panel on graduate school experiences for high school students
Apr 2018	<i>Purple Pantry</i> , Participated in food distribution for students in need
Apr 2018	<i>Chicago Botanic Garden Science Festival</i> , lead an activity explaining molecules to children
Apr 2017	<i>The Night Ministry</i> , Organized and lead toiletry kit creation and donation for homeless LGBTQ+ youth
Jun 2016	<i>Stellar Girl Program</i> , delivered a presentation to young girls on my research to encourage their futures in science
May 2016	<i>Northwestern University Service Project</i> , Participated in invasive plant removal as part of the Botany Club
Apr - Jun 2016	<i>STEAM</i> , designed and executed art x science activities for grade school students on drawing the benefits of plant diversity
Mar 2016	<i>Somme Woods, Cook County Forest Preserve</i> , Volunteer to cut trees
Dec 2015	<i>McCutcheon Elementary School Science Fair Judge</i> assessed and scored grade school student's science fair projects.
Nov 2015	<i>LaBagh Woods, Cook County Forest Preserve</i> , Volunteer native seed cleaning
Jul 2015	<i>Elmhurst College</i> , invited outreach speaker to encourage pursuit of secondary education of high school students

Mar - Jun 2015	<i>Northwestern Science Club</i> mentor of elementary students
Jun-Aug 2015	<i>Northwestern Y.O.U.</i> Science Club mentor of elementary students
Jul 2014	<i>Firewise: Botany in Action, Idaho Botanic Garden</i> , brush removal volunteer
Feb - Jun 2014	<i>New Life for Old Bags</i> service project, Organized and lead plastic bag collection and processing for converting to bed mats for homeless people
Jun 2013	<i>World Environment Day, Chicago Botanic Garden</i> , conducted seed and invasive species demonstration and communicated importance of conservation with public
Feb 2013 & 2015	<i>Elmhurst College</i> invited outreach speaker for college students to encourage the pursuit of graduate school.

Skills

R	Data Synthesis	Python	Bash Scripting
			
Advanced	Advanced	Some	Some

References

Andrea Kramer, PhD Chicago Botanic Garden & Northwestern University Ph: (847) - 835-6971 akramer@chicagobotanic.org Reference Type: Supervisor	Adam Rivers, PhD United States Department of Agriculture - ARS E: adam.rivers@usda.gov Reference Type: Supervisor	Kayri Havens, PhD Chicago Botanic Garden Ph: (847) - 467-1266 khavens@chicagobotanic.org Reference Type: Supervisor
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