Amy E. Kendig

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Education

PhD in Ecology, Evolution, and Behavior 2011 – 2017
University of Minnesota, St. Paul, MN 55108 United States
Minor in Risk Analysis for Introduced Species and Genotypes
GPA: 3.89 out of 4.0

BS in Biology 2007 – 2011
Georgia Institute of Technology, Atlanta, GA 30332 United States
GPA: 3.82 out of 4.0, Highest honors

Additional Training
NSF Cyber Carpentry: Data Life-Cycle Training, Chapel Hill, NC July 2019
Enhancing Linkages between Math and Ecology, Kellogg Biological Station, MI June 2013
Ecology and Evolution of Infectious Diseases Workshop, Lansing, MI May 2012

Work Experience

Agronomy Department, University of Florida
3105 McCarty Hall B
Gainesville, FL 32611 United States

01/2018 - Present
Salary: 48,000.00 USD Per Year
Hours per week: 40
Postdoctoral Associate
Duties, Accomplishments and Related Skills:

- Project leader for experiments designed to understand how an emerging pathogen affects an invasive forest understory grass and co-occurring native species.
- Collaborated with plant pathologists, ecologists, and mathematicians across four universities.
- Reviewed the literature and described new topics in a book chapter on pathogens of invasive plants.
- Developed and led data collection for a two-year field experiment and two greenhouse experiments.
- Mentored eleven undergraduate researchers (two independent research projects).
- Coordinated data collection with a U.S. Fish and Wildlife biologist, two technicians, and volunteers.
- Analyzed complex experimental data in R and developed image analysis protocols in ImageJ.
- Simulated plant population dynamics in R with mathematical models parameterized with data.
- Communicated results through six public presentations to scientists and land managers.
- Prepared reports (draft manuscripts) on the results of experiments and analyses.

Supervisor: Luke Flory (flory@ufl.edu, 352-294-1581)
Okay to contact this Supervisor: yes

Minnesota Invasive Terrestrial Plants and Pests Center, University of Minnesota
1992 Folwell Ave
St. Paul, MN 55108 United States

12/2017 – 01/2018
Salary: 22.00 USD Per Hour
Hours per week: 10
Graduate Research Assistant
Duties, Accomplishments and Related Skills:

- Synthesized scientific literature about species that pose an invasion risk to Minnesota.

Supervisor: Heather Koop (hkoop@umn.edu, 612-626-1914)
Okay to contact this Supervisor: Contact me first

Department of Ecology, Evolution, and Behavior, University of Minnesota
140 Gortner Laboratory
1479 Gortner Avenue
St. Paul, MN 55108 United States

09/2011 - 12/2017
Salary: 27,000.00 USD Per Year
Hours per week: 40
PhD Candidate and Graduate Teaching Assistant
Duties, Accomplishments and Related Skills:

- Project leader for experiments and modeling designed to understand how soil nutrients affect interactions among grass viruses that reduce crop yields and alter wild plant communities.
- Collaborated with ecologists, plant pathologists, and mathematicians across six universities.
- Designed two growth chamber experiments and two mathematical modeling projects.
- Developed methods and led ten undergraduate researchers in data collection.
- Analyzed complex experimental data using Bayesian statistics and spatial statistics in R.
- Simulated population dynamics of plants and pathogens in R, Matlab, and Mathematica.
- Developed a risk assessment tool to prioritize management of silver and bighead carp invasion for U.S. Fish and Wildlife biologists with a multidisciplinary graduate student team.
- Analyzed plant and climate data from a long-term ecological research site with interdisciplinary team.
- Authored ten successful grant proposals, co-authored four peer-reviewed publications, and presented at ten conferences/universities.
- Created and delivered ecology and disease ecology curriculum for four semesters, which involved active learning, group research projects, and coding in R.

Supervisors: Eric Seabloom (seabloom@umn.edu, 612-624-3406) and Elizabeth Borer (borer@umn.edu, 612-624-9529)
Okay to contact this Supervisor: yes

Department of Biology, Georgia Institute of Technology
310 Ferst Drive NW
Atlanta, GA 30332 United States

01/2009 - 07/2011
Salary: 3,550.00 USD Per Year
Hours per week: 12
Undergraduate Researcher
Duties, Accomplishments and Related Skills:

- Used organic chemistry methods to characterize plant defenses against an invasive crayfish.
- Authored a successful grant proposal, wrote a thesis, and presented at a regional conference.

Supervisor: Julia Kubanek (julia.kubanek@biology.gatech.edu, 404-894-8424)
Okay to contact this Supervisor: Contact me first

NSF REU, St. Olaf College
1520 St. Olaf Ave
Northfield, MN 5057 United States

05/2010 - 07/2010
Salary: 5,178.00 USD Per Year
Hours per week: 40
Undergraduate Researcher
Duties, Accomplishments and Related Skills:

- Assessed the effectiveness of forest and prairie restorations in previous agricultural lands.

Supervisor: Kathy Shea (sheak@stolaf.edu, 507-786-3396)
Okay to contact this Supervisor: Contact me first

NSF REU, University of California - Santa Barbara
Life Sciences Building
Santa Barbara, CA 93106 United States

05/2009 - 07/2009
Salary: 5,000.00 USD Per Year
Hours per week: 40
Undergraduate Researcher
Duties, Accomplishments and Related Skills:

- Evaluated the effects of temporal variation on plant coexistence with mathematical modeling in R.

Supervisor: Jonathan Levine (levinej@princeton.edu, 609-258-8256)
Okay to contact this Supervisor: Contact me first

SURE Program, Emory University
201 Dowman Drive
Atlanta, GA 30322 United States

05/2008 - 07/2008
Hours per week: 40
Undergraduate Researcher
Duties, Accomplishments and Related Skills:

- Measured the impacts of parental involvement on infant language development.

Supervisor: Liz Sheehan (liz.sheehan@uky.edu, 859-218-6669)
Okay to contact this Supervisor: Contact me first

Peer-Reviewed Publications

Pell, B., **A. E. Kendig**, E. T. Borer, and Y. Kuang. 2019. Modeling nutrient and disease dynamics in a plant-pathogen system. *Mathematical Biosciences and Engineering* 16: 234-264. http://dx.doi.org/10.3934/mbe.2019013

Kendig, A. E., E. T. Borer, C. E. Mitchell, A. G. Power, and E. W. Seabloom. 2017. Characteristics and drivers of plant virus community spatial patterns in US west coast grasslands. *Oikos* 126: 1281-1290. http://dx.doi.org/10.1111/oik.04178

Seabloom, E. W., E. T. Borer, K. Gross, **A. E. Kendig**, C. Lacroix, C. E. Mitchell, E. A. Mordecai, and A. G. Power. 2015. The community ecology of pathogens: coinfection, coexistence and community composition. *Ecology Letters* 18: 401-415. http://dx.doi.org/10.1111/ele.12418

MacDougall, A. S., J. R. Bennett, J. Firn, E. W. Seabloom, E. T. Borer, E. M. Lind, J. L. Orrock, W. S. Harpole, Y. Hautier, P. B. Adler, E. Cleland, K. Davies, B. Melbourne, S. M. Prober, J. D. Bakker, P. a. Fay, V. L. Jin, **A. Kendig**, K. J. La Pierre, J. Moore, J. Morgan, and C. J. Stevens. 2014. Anthropogenic-based regional-scale factors most consistently explain plot-level exotic diversity in grasslands. *Global Ecology and Biogeography* 23: 802-810. http://dx.doi.org/10.1111/geb.12157

Manuscripts in Prep

Kendig, A. E., S. Luke Flory, Erica M. Goss, Robert D. Holt, Keith Clay, Philip F. Harmon, Brett R. Lane, Ashish Adhikari, and Christopher M. Wojan. The Role of Pathogens in Plant Invasions. *In revision* for Plant Invasions: The Role of Biotic Interactions. Anna Traveset and David M. Richardson, editors. CAB International Press. Wallingford, UK.

Kendig, A. E., E. T. Borer, E. N. Boak*, T. C. Picard*, and E. W. Seabloom. Host nutrient supply mediates facilitation and competition between plant viruses. *In review* in *Ecology.* https://www.biorxiv.org/content/10.1101/761254v1

*undergraduate mentee

Grants and Funding

Thompson Earth Systems Institute Outreach Grant ($665)	2018
Travel Award, Dept. of EEB, UMN (3 awards, $2,068)	2013 – 2018
Alexander and Lydia Anderson Research Grant, UMN ($3,000)	2015
Research Award, Dept. of EEB, UMN (2 awards, $3,944)	2014 – 2015
National Science Foundation Graduate Research Fellowship Program ($30,000)	2013 – 2014
Research and Stipend Award, HHMI Research Mentor Program, UMN ($3,000)	2014
Research Award, ISG-IGERT Program, UMN ($2,000)	2013
National Science Foundation Integrative Graduate Education and Research Traineeship (IGERT) in Risk Assessment of Introduced Species and Genotypes (ISG) ($60,000)	2011 – 2013
Georgia HOPE Scholarship (full undergraduate tuition)	2007 – 2011
William-Walls Life Science Award ($500)	2011
Travel Award, ACC Meeting of the Minds (travel, room, and board)	2011
President's Undergraduate Research Award ($1000)	2010
Ryder Roundtable Scholarship ($10,000)	2007

Invited Presentations

Panelist, Community Coding Groups, ResBaz (Research Bazaar), Gainesville, FL	2019
Seminar, Department of Plant Pathology, University of Minnesota, St. Paul, MN	2018
Seminar, INRA Plant Pathology Unit, Avignon, France	2017
Brown Bag Seminar, Kellogg Biological Station, Michigan State University, Hickory Corners, MI	2017
Interview, University of Florida, Gainesville, FL	2017
Interview, Stanford University, Stanford, CA	2017
Five Minute Thesis Presentation, UMN SIAM Minneapolis, MN	2016

Co-Organized Symposia

When a Raindrop is a Tsunami: Impacts of Disturbance on Plant-Associated Microbial Communities. Ecological Society of America (ESA) Annual Meeting: New Orleans, LA.	2018
The Introduction of Microbes: For Better or for Worse. University of Minnesota ISG-IGERT Annual Symposium: St. Paul, MN	2013

Contributed Presentations

Ecological Society of America Annual Meeting: Louisville, KY (talk)	2019
Florida Exotic Pest Plant Council Annual Symposium: Daytona Beach Shores, FL (poster)	2019
Emerging Pathogens Institute Research Day: Gainesville, FL (poster)	2019
North American Invasive Species Management Association Conference: Rochester, MN (talk)	2018
Ecological Society of America Annual Meeting: New Orleans, LA (talk)	2018
Population Biology of Vector-borne Diseases Symposium: Athens, GA (poster)	2018
Jacques Monod Conference: Roscoff, France (talk)	2017
Ecological Society of America Annual Meeting: Ft. Lauderdale, FL (talk)	2016
5th International Conference on Infectious Disease Dynamics: Clearwater Beach, FL (poster)	2015
Ecological Society of America Annual Meeting: Minneapolis, MN (talk)	2013
Ecological Society of America Annual Meeting: Austin, TX (poster)	2011
Atlantic Coast Conference Meeting of the Minds: Miami, FL (poster)	2011
Georgia State University Psychology Undergraduate Research Conference: Atlanta, GA (poster)	2008

Teaching Experience

Co-Instructor, *Introduction to R*, R-Ladies Gainesville	2019
Guest Lecture, *Biological Invaders*, University of Florida	2018
Teaching Assistant, *Toward Conquest of Disease*, University of Minnesota (2 semesters)	2016 – 2017
Teaching Assistant, *Ecology*, University of Minnesota (2 semesters)	2015 – 2016
Teaching Assistant, *Foundations of Biology II*, University of Minnesota (1 semester)	2014
Teaching Assistant, *Honors Biological Principles*, Georgia Tech (1 semester)	2010
Teaching Assistant, *Freshman Seminar*, Georgia Tech (1 semester)	2009

Science Outreach and Education

Organizer, *EDDMapS Plant Damage* — present
Collect citizen science data on invasive plant infectious diseases with EDDMapS.org.

Organizer, *Coding in the Environmental Sciences Workshops* — 2017 – present
K-12 students learn about environmental science research and basic coding.

Volunteer, *Collaborative Curriculum Design for Invasive Species Education* — 2019
Helped Florida K-12 teachers design lesson plans that incorporate authentic science.

Volunteer, *Girls Who Code* — 2016 – 2017
Mentored K-12 students learning how to code and build a smartphone app.

Curriculum Developer and Teacher, *Market Science* — 2015 – 2017
Science demonstrations at local farmer's markets and events.

Guest Teacher, *Heritage Middle School* and *Southside Family Charter School* — 2011 – 2017
Taught lessons on plant disease, population growth, and DNA extraction.

Science Fair Judge (5x) — 2012 – 2016

Co-Producer, *Biodiversity Briefs Podcast Series* — 2015
https://cbs.umn.edu/blogs/cbs-connect/biodiversity-briefs-podcast-series-launches

Leadership

Manuscript reviewer: *Journal of Animal Ecology*, *Land Degradation and Development, Fungal Ecology, Proceedings of the Royal Society B, Journal of Applied Ecology*

Co-Organizer, R-Ladies Gainesville	present
Invasion Ecology Student Presentation Award Judge, Ecological Society of America	2018
Undergraduate Research Opportunities Program Committee, UMN	2016
Friday Noon Seminar Planning Committee, UMN Department of EEB	2013 – 2014, 2016
Sexual Harassment Complaint Liaison, UMN Department of EEB	2015 – 2016
Volunteer Coordinator, UMN TeachingSMART	2012 – 2014
Graduate Student President Committee, UMN Department of EEB	2012 – 2013
Travel Grant Committee, UMN Department of EEB	2012
Council of Graduate Students Representative, UMN Department of EEB	2011 – 2012
Executive Committee Student Representative, UMN IGERT	2011 – 2012

Course Requirements

Course requirements satisfied by bachelor's degree in biology (see undergraduate transcripts)

Course	Semester Hours	Requirement
Honors Ecology + Lab	4	ecology
Aquatic Chemical Ecology	3	ecology
Marine Ecology	3	ecology
Population Biology	3	ecology
Total	**13**	**ecology***
General Chemistry	4	physical & mathematical sciences
Calculus I	4	physical & mathematical sciences
Problems in Biomedical Engineering I	3	physical & mathematical sciences
Calculus II	4	physical & mathematical sciences
Intro Physics I	4	physical & mathematical sciences
Experimental Design & Statistics	3	physical & mathematical sciences
Inorganic Chemistry + Lab	4	physical & mathematical sciences
Organic Chemistry I	3	physical & mathematical sciences
Intro Media Computation (CS)	3	physical & mathematical sciences
Earth System Modeling	3	physical & mathematical sciences
Organic Chemistry II + Lab	5	physical & mathematical sciences
Survey of Biochemistry	3	physical & mathematical sciences
Intro Physics II	4	physical & mathematical sciences
Differential Equations	4	physical & mathematical sciences
Total	**51**	**physical & mathematical sciences**
Biological Principles	4	additional biological sciences
Intro Organismal Biology	4	additional biological sciences
Honors Genetics + Lab	4	additional biological sciences
Intro Evolutionary Biology	3	additional biological sciences
Cell Biology	3	additional biological sciences
Learning from the Bioneers	1	additional biological sciences
Molecular Evolution	3	additional biological sciences
Bio-Inspired Design	3	additional biological sciences
Total	**25**	**additional biological sciences**

* additional ecology semester hours in graduate transcripts