

Karen E. Rice-David

Education

Master of Science, Natural Resources Science and Management (Track: Forest Biology, Conservation and Management)
University of Minnesota – Twin Cities August 2013-April 2016

Bachelor of Science, Environmental Studies (Concentration: Social Science)
English Minor
Wheaton College, Wheaton IL May 2006- May 2010

Relevant Experience

Archbold Biological Station at Buck Island Ranch, Lake Placid, FL October 2022-present
Agroecology Research Assistant IV

- Researched the efficacy of using overseeded cover crops to improve soil health in pasturelands
- Organized and conducted sampling campaigns for soil coring, root harvesting, plant surveys
 - Analyzed data and wrote quarterly reports
 - Led outreach efforts and communications
 - Oversaw interns and research assistants in field and laboratory

University of Florida Extension Education, Davie, FL August 2018-May 2021
4-H Youth Development Extension Agent (STEM)

- Led the county-wide youth education and volunteer program focusing on science outreach
- Taught hands-on science and leadership programming for ~6,000 youth annually for ages 5-18
 - Managed ~80 adult volunteers through trainings, individual consultations, and weekly newsletter
 - Oversaw 501c3 financial operations, fundraising, event planning and volunteer recruitment
 - Created interactive websites, blogs, and videos for asynchronous learning
 - Focused programming and outreach on underserved youth in a county of 1.9 million

USDA Invasive Plant Research Lab, Davie, FL May 2016-July 2018
Lead Plant Technician

Organized and collected data in the lab and field to examine ecological impacts of biocontrol insects

University of Minnesota, St Paul, MN January 2015-April 2016
Research Assistant

Collaborated with the US Forest Service to collect data on the SPRUCE climate change project

University of Minnesota, St Paul, MN May 2011-January 2015
Assistant Scientist

- Supervised research assistants and curated data for boreal forest climate change experiment
- Hired and supervised 120 interns for the B4WarmED project
 - Organized the schedule and logistics of the project
 - Facilitated collaborations between PIs and outside researchers
 - Organized and curated data for multiple projects including phenology, gas exchange, soil fauna
 - Maintained experimental warming and rainfall manipulation treatments
 - Promoted from Field Assistant to Junior Scientist to Assistant Scientist

Peer-reviewed Publications

- Reich, P.B., Bermudez, R., Montgomery, R.A., Rich, R.L., **Rice, K.E.**, Hobbie, S.E., Stefanski, A. 2022. Even modest climate change can be a tipping point for boreal forests. *Nature* (608): 540-545
- Rice, K.E.**, Montgomery, R.A., Stefanski, A., Rich, R.L., Reich, P.B. 2021. Species-specific flowering phenology responses to experimental warming and drought alter herbaceous plant species overlap in a temperate-boreal forest community. *Annals of Botany* 127(2): 203-211.
- Williams, L.J., Butler, E.E., Cavender-Bares, J., Stefanski, A., **Rice, K.E.**, Messier, C., Paquette, A., Reich, P.B. 2021. Enhanced light interception and light use efficiency explain overyielding in young tree communities. *Ecology Letters* 24(5): 96-1006.
- Montgomery, R.A., **Rice, K.E.**, Stefanski, A., Rich, R.L., Reich, P.B. 2020. Phenological responses of temperate and boreal trees to warming depend on ambient spring temperatures, leaf habit and geographic range. *Proceedings of the National Academy* 117(19): 10397-10405.
- Rice, K.E.**, Montgomery, R.A., Stefanski, A., Rich, R.L., Reich, P.B. 2018. Experimental warming advances phenology of groundlayer plants at the boreal-temperate forest ecotone. *American Journal of Botany* 105(5): 1-11.
- Wright, A.J., Fisichelli, N.A., Buschena, C., **Rice, K.E.**, Rich, R., Stefanski, A., Montgomery, R.A., Reich, P.B. 2018. Biodiversity bottleneck: seedling establishment under changing climatic conditions at the boreal-temperate ecotone. *Plant Ecology* 219(6): 691-704.
- Thakur, M.P., Reich, P.B., Hobbie, S.E., Stefanski, A., Rich, R., **Rice, K.E.**, Eisenhauer, N. 2017. Climate warming reduces the feeding activity of soil detritivores in drier environments. *Nature Climate Change*, Accepted.
- McCulloh, K.A., Petitmermet, J., Stefanski, A., **Rice, K.E.**, Rich, R.L., Montgomery, R.A., Reich, P.B. 2016. Is it getting hot in here? Adjustment of hydraulic parameters in six boreal and temperate tree species after 5 years of warming. *Global Change Biology* 22(12): 4124-4133
- Jacques, M.H., Lapointe, L., **Rice, K.E.**, Montgomery, R.A., Stefanski, A., Reich, P.B. (2015). Responses of two understory herbs, *Maianthemum canadense* and *Eurybia macrophylla*, to experimental forest warming: Early emergence is the key to enhanced reproductive output. *American Journal of Botany* 102: 1610-1624
- Reich, P.B., Sendall, K.M., **Rice, K.E.**, Rich, R.L., Stefanski, A., Hobbie, S.E., Montgomery, R.A. (2015) Geographic range predicts photosynthetic and growth response to warming in co-occurring tree species. *Nature Climate Change* 5(2):148-152
- Sendall, K.M., Reich, P.B., Zhao, C., Jihua, H., Wei, X., Stefanski, A., **Rice, K.E.**, Rich R.L., Montgomery, R.A. (2014) Acclimation of photosynthetic temperature optima of temperate and boreal tree species in response to experimental forest warming. *Global Change Biology* 21(3):1342-1357
- Fisichelli, N., Wright, A., **Rice, K.E.**, Mau, A., Buschena, C., Reich, P. B. (2014). First-year seedlings and climate change: species-specific responses of 15 North American tree species. *Oikos*, 123(11), 1331-1340
- Eisenhauer, N., Stefanski, A., Fisichelli, N. A., **Rice, K.E.**, Rich, R., Reich, P. B. (2014). Warming shifts worming: effects of experimental warming on invasive earthworms in northern North America. *Scientific reports*, 4

Presentations

Rice-David, K.E., B. Marty-Jimenez. 2020. 4-H BBQ Tailgate: Igniting a passion for food safety and cooking. Extension Professionals Association of Florida Conference, Virtual, Sep. 2, 2020.

Rice-David, K.E., N. Parkell, P. Daniel, E. Cannon, E. Lavelly, M. Souers, W. Wilbur. 2020. 4-H Collaboration to learn by doing: “Grow With It” virtual camp. Extension Professionals Association of Florida Conference, Virtual, Sep. 2, 2020.

Rice-David, K.E., E. Lavelly, L. Bravo. 2020. Caterpillars in the classroom: creating conservation connections. Extension Professionals Association of Florida Conference, Virtual, Sep. 2, 2020.

Rice-David, K.E. 2019. 4-H Bug Camp: Engaging an urban audience with science and art. Extension Professionals Association of Florida Conference, Fort Meyers, FL, Aug. 27, 2019.

Rice, K.E., R.A. Montgomery, R.L. Rich, N.A. Fisichelli, M.-H. Jacques, A. Stefanski, P.B. Reich. 2013. B4WarmED forest warming experiment: Increased temperature effects on herbaceous plant phenology. Ecological Society of America, Minneapolis, MN, Aug. 4-9, 2013.

Rice, K.E., R.A. Montgomery, R.L. Rich, N.A. Fisichelli, M.-H. Jacques, A. Stefanski, P.B. Reich. 2013. B4WarmED forest warming experiment: Increased temperature effects on herbaceous plant phenology. Natural Resources Association of Graduate Students Symposium, Saint Paul, MN, April 22, 2013.

Professional Development & Engagement

- University of Florida Implicit Bias Training completion, *February 2021*
- Florida 4-H Diversity, Equity and Inclusion Committee member, *January-May 2021*
- National Association of Extension 4-H Agents Curriculum Editing member, *April-December 2020*
- Florida Association of Extension 4-H Agents: awards committee member, *August 2019-May 2021*
- Camp Cloverleaf Advisory Committee member, *August 2018-May 2021*
- National Association of Extension 4-H Agents member, *August 2018-May 2021*
- Florida Fish & Wildlife’s Wings Over Florida Butterfly Workshop completion, *March 2019*
- Project WILD course completion, *December 2018*
- Project Learning Tree course completion, *December 2018*
- Ag in the Classroom (gardening & STEM) course completion, *November 2018*

Volunteer Activities

- Broward County 4-H Non-profit Board member, *May 2021-present*
- Florida Native Plant Society member, *August 2019-present*
- Florida Audobon Society member, *August 2019-present*
- University of Florida Master Gardener volunteer, *March 2018-present*
- National Park Service, Crew leader volunteer, *June-September 2015*
- ToastMasters International, serving various Officer roles, *January 2014- April 2016*
- Natural Resources Association of Graduate Students, Events coordinator, *Fall 2013- April 2016*

Notable Grants & Fundraising

- \$10,000. *Glick Philanthropies*: 4-H community garden outreach due to COVID-19 hardship (2020)
- \$750. *Broward County Farm Bureau*: hydroponic garden materials for 4-H high school members (2020)

- \$3,000. *Mobsin and Fauzja Jaffer Foundation*: provide award monies for competitive 4-H events (2020)
- \$1,000. *Holy Cross Hospital*: support leadership training and food science education for 4-H members (2019)

Awards & Honors

- Florida 4-H 2020 Program of Excellence Team Award
- Extension Professionals Association of Florida 2020 Top Presenter Award

Additional Skills

- Computer skills using R, JMP, ArcGIS, T4 website creation, Microsoft Office: (Word, Excel, PowerPoint, TEAMS), Canva, Adobe Premiere, Adobe Spark, Adobe Lightroom
- Plant identification in savannas, forests, wetlands and peatlands in the midwest, eastern and southeast North America
- Scientific research design and data management
- Technical skills including thermocouple installation, Licor 6400xt, LAI-2200
- Public speaking and presentation skills