

## Shan A. Kothari

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CONTACT INFORMATION	Phone: (734) 502-2817 E-mail: kotha020@umn.edu	
RESEARCH INTERESTS	Community assembly, plant ecophysiology, macroecology, hyperspectral imaging, remote sensing	
EDUCATION	<b>University of Minnesota—Twin Cities</b> , Falcon Heights, MN      2014—present <b>Ph.D. student</b> , Plant Biology Committee: Jeannine Cavender-Bares (advisor), George Weiblen, Rebecca Montgomery, Yaniv Brandvain, Phil Townsend (UW-Madison) Thesis topic: Variation in light use and light interception-related traits among trees and prairie plants  <b>Michigan State University</b> , East Lansing, MI      2010—2014 B.S., Zoology, Spec. in Ecology, Evolution, and Organismal Biology B.S., Anthropology Minor, Mathematics 3.97/4.0 overall GPA, Honors College	
PREVIOUS RESEARCH EXPERIENCE	<b>Undergraduate Researcher</b> 2012—2014 Department of English, Michigan State University Supervisor: Natalie Phillips, Ph.D.  <b>Undergraduate Researcher</b> 2010—2014 Department of Plant Biology, Michigan State University Supervisor: Nathan G. Swenson, Ph.D.  <b>REU Intern/Fieldworker</b> 2013 Department of Forestry, University of Washington/H.J. Andrews Forest Supervisor: Charles Halpern, Ph.D.  <b>REU Intern</b> 2012 Department of Plant Pathology, Kansas State University Supervisor: Chris Toomajian, Ph.D.  <b>REU Intern</b> 2011 Department of Ornithology, American Museum of Natural History Supervisor: Joel Cracraft, Ph.D.	
TEACHING EXPERIENCE	<b>Volunteer Teaching Assistant</b> Spring 2016 EEB 4068/5068: Plant Physiological Ecology University of Minnesota Jeannine Cavender-Bares	

PUBLICATIONS  
AND  
MANUSCRIPTS

Runquist, R. B.\*, Gorton, A.\*, Yoder, J. B.\*, Deacon, N. J., Grossman, J. J., Lyons, M., **Kothari, S. A.**, Sheth, S., Tiffin, P., and D. A. Moeller. *On the relative roles of living and nonliving environments in local adaptation and diversification*. (in prep) (\*equal contributors)

Halpern, C., Antos, J., **Kothari, S. A.**, and A. Olson. *Burn severity affects community reassembly in a meadow restoration experiment*. (accepted at *Ecological Applications*)

Cavender-Bares, J., **Kothari, S. A.**, and W. Pearse. *Evolutionary Ecology of Communities*. *Oxford Bibliographies in Evolutionary Biology* (2018).

Cavender-Bares, J.\*, **Kothari, S. A.\***, Meireles, J. E.\*, Hipp, A., Kaproth, M., and P. Manos. *The role of diversification in the continental scale community assembly of the American oaks (Quercus)*. *American Journal of Botany* 105 (2018): 565-586. (\*co-corresponding authors)

Wang, R., Gamon, J. A., Schweiger, A. K., Cavender-Bares, J., Townsend, P. A., Zygielbaum, A. I., and **S. A. Kothari**. *Influence of species richness, evenness, and composition on spectral diversity: a simulation study*. *Remote Sensing of Environment* 211 (2018): 218-228.

**Kothari, S. A.\***, Cavender-Bares, J.\*, Bitan, K., Verhoeven, A., Wang, R., Montgomery, R., and J. Gamon. *Community-wide consequences of variation in photoprotective physiology among prairie plants*. *Photosynthetica* 56 (2018): 455-467. (\*co-corresponding authors)

**Kothari, S. A.** *Characterization of a Family of Cubic Dynamical Systems*. *Ball State Undergraduate Mathematics Exchange* (2011), 8(1): 25-36, 201.

PRESENTATIONS

**Kothari, S. A.**, Montgomery, R., Hobbie, S. E., Reich, P., and J. Cavender-Bares. *The physiological underpinnings of facilitation in a tree diversity experiment*. Long-Term Ecological Research All-Scientists Meeting 2018. Poster. October 2018.

**Kothari, S. A.**, Montgomery, R., Hobbie, S. E., Reich, P., and J. Cavender-Bares. *The physiological underpinnings of facilitation in a tree diversity experiment*. Ecological Society of America 2018. Invited talk. August 2018.

**Kothari, S. A.**, Cavender-Bares, J., Bitan, K., Verhoeven, A., Wang, R., Montgomery, R., and J. Gamon. *Community-wide consequences of variation in photoprotective physiology among prairie plants*. Botanical Society of America 2018. Talk. July 2018.

**Kothari, S. A.** (substitute for J. Cavender-Bares) *Linking remotely sensed spectral diversity to genetic, phylogenetic and functional diversity to predict ecosystem processes*. Ecological Society of America 2017. Ignite talk. August 2017.

**Kothari, S. A.,** Cavender-Bares, J., Schweiger, A. K., Townsend, P. A., Hobbie, S. E., and R. Montgomery. *Nitrogen uptake and crown-level allocation across an experimental tree diversity gradient*. Ecological Society of America 2017. Talk. August 2017.

**Kothari, S. A.,** Cavender-Bares, J., Verhoeven, A., Bitan, K., Wang, R., Montgomery, R., and J. Gamon. *Seasonal variation in xanthophyll cycle pigments among species with contrasting water use strategies*. Ecological Society of America 2016. Talk. August 2016.

**Kothari, S. A.,** Cavender-Bares, J., Verhoeven, A., Bitan, K., Montgomery, R., and J. Gamon. *Seasonal variation in xanthophyll cycle pigments among species with contrasting water use strategies*. Long-Term Ecological Research All-Scientists Meeting. Poster. August 2015.

Phillips, N., Mayfield, K., Pearson, C., **Kothari, S. A.,** Garzaniti, I., Hakun, J., Silvasi, T., Gupta, M., Greulich, K., Zuchora, A., Pathak, A., and R. Dougherty. *Functional Regions Activated by Literary Reading: An fMRI Study*. Michigan Chapter, Society for Neuroscience. Poster. May 2014.

**Kothari, S. A.,** Pearson, C., Mayfield, K., Zuchora, A., and S. Smith. *Your Brain on Jane Austen*. Michigan State University Science Festival. Demonstration / Seminar. April 2014.

Phillips, N., Pearson, C., Silvasi, T., Mayfield, K., **Kothari, S. A.,** Fouty, P., and Dougherty, R. *Literature, Attention, and the Neuroscience of Reading: fMRI Shows Heightened Brain Activation in Close Reading of Jane Austen*. Michigan Chapter, Society for Neuroscience. Poster. May 2013.

Gorsuch, A., Zdziarska, P., **Kothari, S. A.,** Pearson, C., and Phillips, N. *Measuring the Impact of Poetic End-Line Structures on Attention and Memory*. Workshop on New Frontiers in Cognitive, Evolutionary, and Computational Models of the Mind at MSU. Dec 2012.

**Kothari, S. A.** and Cracraft, J. *Phylogeography of the King of Saxony Bird-of-Paradise*. American Museum of Natural History Summer Symposium Aug 2011.

**Kothari, S. A.** *Characterization of a Family of Cubic Dynamical Systems*. Michigan Section, Mathematical Association of America. Talk. May 2011.

SYMPOSIA AND  
WORKSHOPS  
ORGANIZED

*Interactions Between Leaf-Level and Canopy Physiology*, with Z. Carter Berry. Ecological Society of America 2018. Organized Oral Session.

*Spectral Detection of Plant Stress in a Changing Global Environment*, with Jeannine Cavender-Bares. Ecological Society of America 2018. Symposium.

WORKSHOPS  
ATTENDED

- RCN: Cross-Scale Processes Impacting Biodiversity. Cedar Creek Ecosystem Science Reserve, University of Minnesota, East Bethel, Minnesota. June 2018.
- PHYS-Fest. Konza Prairie, Kansas State University, Manhattan, Kansas. June 2016.
- Synthesizing Trait Evolution in Plants (sTEP). German Centre for Integrative Biodiversity Research (iDiv), Leipzig, Germany. May 2015.
- Open Tree of Life Hackathon. University of Michigan, Ann Arbor, Michigan. September 2014.

FUNDING	• Biodiversity Mini-Grant, NSF Cross-Scale Biodiversity RCN (\$2000)	2019
	• Cedar Creek Graduate Research Fellowship (\$2000)	2018
	• UMN Plant Biological Sciences Travel Grant (\$1000)	2018
	• UMN Plant Biological Sciences Travel Grant (\$760)	2017
	• Cedar Creek Graduate Research Fellowship (\$2000)	2017
	• Carolyn Crosby Research Grant (\$3000)	2016
	• UMN Plant Biological Sciences Travel Grant (\$1000)	2016
	• Cedar Creek Graduate Research Fellowship (\$2000)	2016
	• G. H. Lauff Tuition Scholarship, Kellogg Biological Station (\$500)	2014
	• National Science Foundation Graduate Research Fellowship (\$138,000)	2014
	• UMN College of Biological Sciences Excellence Fellowship (\$45,000)	2014
	• College of Arts and Letters Undergraduate Research Grant (\$750)	2013
	• MSU Professorial Assistantship (\$4,000)	2010
AWARDS	• AAAS/Science Program for Excellence in Science	2016
	• Goldwater Scholarship Honorable Mention	2012
	• American Chemical Society/Yates Award	2011
	• MSU Alumni Distinguished Scholarship (full ride)	2010
	• Intel Science Talent Search Semifinalist	2010
MENTORING	• Andrew Landsem, Cedar Creek Intern	2018
	Project title: Raspberry abundance and soil salinity levels along road edges	
	• Daav Sannerud and Ingrid Holstrom, Cedar Creek Interns	2018
	Project title: Interaction between tree productivity and mycorrhizal communities in relation to varying levels of tree diversity	
	• Jacob Becker and Valerie Gehn, Cedar Creek Interns (co-mentored with Kaitlin Kimmel)	2017
	Project title: Quantifying nitrogen's impact on C3 and C4 grass on the aniso- / isohydric continuum.	
	• Emily Geary, Cedar Creek Intern	2016
	Project title: Mapping migration corridors and land use of Northern Saw-whet owls in Minnesota	
	• Ella Johnson, Cedar Creek Intern (co-mentored with Jake Grossman)	2016-2017
	Project title: Changes in the mean and variation of percentage light transmission in relation to relative abundance of needle-leaf and broad-leaf trees in forest ecosystems	

## SERVICE

- Representative, Minnesota Student Legislative Committee
- Representative, UMN Council of Graduate Students
- Officer, Phytograds (UMN Plant Biology student association)
- Representative, UMN College of Biological Sciences Diversity & Initiatives Committee
- Student Liaison, Physiological Ecology Section, Ecological Society of America
- Reviewer for *Proceedings of the Royal Society of London: B* (1), *Global Ecology and Biogeography* (1), *Nature Ecology and Evolution* (1)
- Market Science (2015-8) – led sessions on Plant Chemistry, Remote Sensing, and the Biology of Sunscreen
- Judge at Minnesota State Science Fair (2015, 2017), Winchell Undergraduate Research Symposium (2015)
- Coordinating presenter at Michigan State University Science Festival (2014)
- Michigan Science Olympiad volunteer (2011, 2012, 2014)