Shan A. Kothari

Contact Information

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Research Interests

Community assembly, plant ecophysiology, macroecology, hyperspectral imaging, remote sensing

Education

University of Minnesota—Twin Cities, Falcon Heights, MN 2014—present
Ph.D. student, 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

Michigan State University, 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

Undergraduate Researcher 2012—2014
Department of English, Michigan State University
Supervisor: Natalie Phillips, Ph.D.

Undergraduate Researcher 2010—2014
Department of Plant Biology, Michigan State University
Supervisor: Nathan G. Swenson, Ph.D.

REU Intern/Fieldworker 2013
Department of Forestry, University of Washington/H.J. Andrews Forest
Supervisor: Charles Halpern, Ph.D.

REU Intern 2012
Department of Plant Pathology, Kansas State University
Supervisor: Chris Toomajian, Ph.D.

REU Intern 2011
Department of Ornithology, American Museum of Natural History
Supervisor: Joel Cracraft, Ph.D.

Teaching Experience

Volunteer Teaching Assistant Spring 2016
EEB 4068/5068: Plant Physiological Ecology
University of Minnesota
Jeannine Cavender-Bares

Publications

Halpern, C., **Kothari, S.A.**, and J. Antos. *Burn severity affects community reassembly in a meadow restoration experiment.* (in prep, title tentative)

Wang, R., Gamon, J. A., Schweiger, A. K., Cavender-Bares, J., **Kothari, S.**, Townsend, P. A., and A. I. Zygielbaum. *Investigating the effect of species richness, evenness and composition on spectral diversity using simulated hyperspectral images.* (in prep)

Kothari, S.A., Cavender-Bares, J., Verhoeven, A., Bitan, K., Wang, R., Montgomery, R., and J. Gamon. *Spectral signatures of seasonal variation in xanthophyll cycle pigments among species with contrasting water use strategies.* (in prep, invited *Photosynthetica*)

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

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

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

Presentations

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. M., Mayfield, K., Pearson, C. S., **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., 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.**, 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.**, 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. and Cracraft, J. *Phylogeography of the King of Saxony Bird-of-Paradise*. American Museum of Natural History Summer Symposium Aug 2011.

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

Workshops

- 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

- Cedar Creek Graduate Research Fellowship ($2000) 2017
- Carolyn Crosby Research Grant ($3000) 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 Graduate 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
- Dean's Honor List 2010-2014
- MSU Honors College 2010-2014
- MSU Alumni Distinguished Scholarship (full ride) 2010
- Intel Science Talent Search Semifinalist 2010
- National Merit Scholar 2010

Mentoring

- 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 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

- 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*
- Market Science (2015-7)
- 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)