CURRICULUM VITAE

JEANNINE M. CAVENDER-BARES

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BIOGRAPHICAL DATA

Education:

1994-2000	HARVARD UNIVERSITY, Dept. of Organismic and Evolutionary Biology Dissertation: *Physiological and evolutionary ecology of oaks* (Quercus)*: Plant functional traits in relation to habitat, environmental stress, and global change* Ph.D. (June 2000) (Advisor: Fakhri A. Bazzaz)
1990-1992	YALE UNIVERSITY, School of Forestry and Environmental Studies Master of Environmental Studies (May 1992)
1986-1990	CORNELL UNIVERSITY, College of Arts and Sciences College Scholar in Environmental Studies Bachelor of Arts (June 1990) *magna cum laude*, Distinction in All Subjects

Professional Appointments:

2017 – pres.	PROFESSOR Department of Ecology, Evolution and Behavior (EEB), University of Minnesota, St. Paul MN; Graduate faculty in Plant and Microbial Biology Program
2017 – pres.	DIRECTOR OF UNDERGRADUATE STUDIES, Department of Ecology, Evolution and Behavior, College of Biological Sciences), University of Minnesota
2010 - 2017	ASSOCIATE PROFESSOR Department of Ecology, Evolution and Behavior, University of Minnesota, St. Paul MN; Graduate faculty in Plant Biological Sciences Program and Conservation Biology
2011	VISITING SCIENTIST Centro de Investigaciones en Ecosistemas, Universidad Autónoma de México (CIEco-UNAM), Morelia, Michoacán, Mexico (1-7/2011); Diversification and ecological assembly of the American oaks.
2008	VISITING ASSISTANT PROFESSOR Department of Ecology and Evolutionary Biology, Princeton University, Princeton NJ (9/08-2/09); Merging of community ecology and phylogenetic biology
2003- 2010	ASSISTANT PROFESSOR Department of Ecology, Evolution and Behavior, University of Minnesota, St. Paul MN; Graduate faculty in Plant Biological Sciences Program and Conservation Biology
2003	POSTDOCTORAL RESEARCH FELLOW Office of Science and Technology, Consulate General of France; Centre d'Ecologie Fonctionnelle et Evolutive, Centre Nationale de la Recherche Scientifique, Montpellier, France (S. Rambal and R. Joffre; 2/2003-8/2003)

2000 – 2003 POSTDOCTORAL RESEARCH FELLOW Smithsonian Environmental Research Center, Edgewater, MD (C. Lovelock and G. Parker)

2001 ADJUNCT ASSISTANT PROFESSOR, Georgetown University, Center for the Environment, Program for Science, Technology, and International Affairs, School of Foreign Service, Washington, DC. Taught Environmental Science STIA 102. (spring semester 2001)

Fellowships/Honors/Awards:

2015-2016 Leopold Leadership Program Fellow, Stanford University Woods Institute for the Environment
2010-2011 Fulbright Grant to Mexico, Fulbright Scholarship Board, U.S.- Mexico Commission for Educational and Cultural Exchange
2011 Stanley Dagley-Samuel Kirkwood Award for Excellence in Undergraduate Education, College of Biological Sciences, University of Minnesota
2009 – pres. Resident Fellow, Institute on Environment, University of Minnesota
2008 Barbara McClintock Distinguished Lecturer Award, Cornell University
2003 Chateaubriand Postdoctoral Fellowship, Office of Science and Technology, Consulate General of France; CEFE-CNRS, Montpellier, France
2001-2003 Smithsonian Institution Postdoctoral Fellowship, Edgewater MD
1999 Ecological Society of America's Billings Award for Physiological Ecology
1997 Harvard Merit Fellowship
1996-1997 Derek Bok Award for Excellence in Teaching, Harvard University
1994-1997 Fellowship support from Mellon Training Grant for research at the Harvard Forest
1992-1993 Fulbright Scholarship to Germany, University of Bonn
1993-1994 Pre-doctoral Fellow, Harvard Kennedy School of Government, Belfer Center for Science and International Affairs
1990-1992 Yale Merit Scholarship
1990-1992 Jacob K. Javits Fellowship
1990 John F. Kennedy Award for Public Service, Cornell University
1990 Phi Beta Kappa, Cornell Chapter
1989 German Academic Exchange Service Scholarship, Goethe Institute, Freiburg; University of Freiburg
1988-1990 Harry S. Truman Scholarship
1986-1990 Cornell National Merit Scholarship
1985 American Junior Academy of Sciences Young Scientist Award, Ohio representative

RESEARCH ACTIVITIES

Grant Proposals and Awards:

<u>Pending Grant Proposals:</u>

NSF Dimensions: Collaborative Research: Consequences of multispecies introgression for adaptation and community biodiversity (P. Gugger lead PI, UMCES; J. Cavender-Bares PI, G. May Co-PI, UMN; P. Manos PI, Duke; A. Hipp PI, Morton Arboretum; H. McCarthy PI, OKU)
Total award : $1,999,999, **UMN**: $600,000, Oct. 2018-2023)

National Science Foundation-Long-Term Ecological Research: NSF-LTER: Multi-decadal responses of prairie, savanna, and forest ecosystems to interacting environmental changes: insights from experiments, observations, and models. E. Seabloom (PI), S. Hobbie (Co-PI), E. Borer (Co-PI), **J. Cavender-Bares** (Co-PI), F. Isbell (Co-PI),
Total award: $6,762,000, Jan. 2019-2025.

Currently Funded Grants:

NSF, NASA: COLLABORATIVE RESEARCH: Dimensions NASA*: Linking remotely sensed optical diversity to genetic, phylogenetic and functional diversity to predict ecosystem processes*
J. Cavender-Bares (Lead PI, UMN)**,** Sarah Hobbie (UMN), Rebecca Montgomery (UMN), John Gamon (UNL), Art Ziegelbaum (UNL), Phil Townsend (U Wisconsin), Rick Lindroth (U Wisconsin), Mike Maddritch (Appalachian State), May 2014 – 2019
Total award: $1,999,999, **UMN:** $858,411

Broadening Participation REU Supplement, 2016, $19,000 to UMN in collaboration with Wren Walker Robbins (Changing Communities Consulting).

Broadening Participation REU Supplement, 2014, $8,846 to UMN in collaboration with Amy Verhoeven (U St. Thomas)

NSF, Research Coordination Network: Cross-Scale Processes Impacting Biodiversity. Ana Carnaval (PI), **J. Cavender-Bares** (Co-PI), Renato Figueiredo (Co-PI), Bette Loiselle (Co-PI)
Total award: $499,713. 2017 – 2021.

Minnesota Invasive Terrestrial Plants and Pests Center. Accurate Detection and Integrated Treatment of Oak Wilt *(Ceratocystis fagacearum)* in Minnesota. **J. Cavender-Bares** (PI), R. Montgomery (Co-PI), J. Juzwik (Co-PI).
Total award: $357,419. Oct. 2017-2021

Keck Institute for Space Studies: Unlocking a New Era in Biodiversity Science: Linking Integrated Space Based and In-Situ Observations. K. McDonald (PI), Cavender-Bares (Co-PI), Erika Podest (Co-PI).

National Institute for Mathematical and Biological Synthesis (NIMBioS): Remote sensing of biodiversity: Linking leaf optical spectra to plant functional traits and phylogenetics, April 2016 - present. **J. Cavender-Bares (**Lead-PI), Brian O'Meara (Co-PI), Phil Townsend (Co-PI), Jose Meireles (Co-PI).

NSF, LONG-TERM ECOLOGICAL RESEARCH: *Biodiversity, Multiple Drivers of Environmental Change, and Ecosystem Functioning at the Prairie Forest Border*
PI: D. Tilman, Co-PIs: E. Seabloom, PB Reich, S. Hobbie; Senior Personnel: **J. Cavender-Bares**, E. Borer, J. Knops, L. Kinkel, R. Montgomery, R. Sterner. Jan. 2013 – Dec. 2018.
Total award: $5,879,701

University of Minnesota, Provost's Grand Challenges Exploratory Research Grants. Protection of biodiversity and ecosystems services through early detection of tree disease using hyperspectral remote sensing, **J. Cavender-Bares (PI)**, R. Montgomery (Co-PI), J. Juzwik (Co-PI).
Sept. 2016 -2018.
Total award: $60,000.

NSF, Collaborative Research: MSB-FRA: Alternative ecological futures for the American Residential Macrosystem, Peter Groffman (Lead PI), 8 institutions. S. Hobbie (PI), **J. Cavender-Bares** (Co-PI), K. Nelson (Co-PI). Jan. 2017-2020.
Total award $3.6 million. **UMN**: $624,023.

US National Park Service: *Assessing Genetic Diversity, Ecological Niches, and Climate Change Vulnerability of Niobrara NSR Aspens*
J. Cavender-Bares (Lead PI), Mark Dixon (Co-PI, USD). Oct. 2014- 2017
Total award: $381,440, **UMN:** $330,00

SESYNC (Socio-Environmental Synthesis Center): Venture: *Macroevolution of Ecosystem Services from Trees*
J. Cavender-Bares (Lead PI), Stephen Polasky, 2014 –2017
Two year working group with 12 participants + computer programming and post-doctoral support, hosted by SESYNC. ~$120,000

NASA, Scoping Study for a Biodiversity Field Campaign, David Schimel (Lead-PI), Frank Davis, Stuart Davies, Paul Moorcroft, Greg Asner, Liane Guild, Sassan Saatchi (Key Personnel); **Jeannine Cavender-Bares**, Phil Townsend, Michael Schaepman, Ralph Dubayah, Jeff Masek, Michael Keller (Collaborators). ~$850,000 to Jet Propulsion Laboratory for flights, data collection and subcontracts to individual efforts, 2016-2020; Awarded Aug. 2016.

Previously Funded Grants

Grant-in-Aid, University of Minnesota, **J Cavender-Bares** (PI), Timothy Griffis, Eric Seabloom, Purchase of Thermal Infrared Camera, 2015, $25,000.

Synthesis Center of Biodiversity Sciences (sDiv), Germany. *Synthesizing Trait Evolution in Plants (STEP)*, Will Pearse and **J. Cavender-Bares (**Co-PI). Funded Oct. 2014 (~30,000 €), May 2015 Meeting.

NSF, COLLABORATIVE RESEARCH: *Adaptive differentiation, selection and water use of a seasonally dry tropical oak: implications for global change*
J. Cavender-Bares (Lead PI, UMN), J. R. Etterson (UMN-D), J.P. Sparks (Cornell), May 2009 – April 2015
Total award: $612,000, **UMN:** $524,560 + $52,000 in REU and graduate research supplements from IOS and OISE (International Office)

NSF, COLLABORATIVE RESEARCH: *Phylogeny of the New World oaks: Diversification of an ecologically important clade across the tropical-temperate divide*
Andrew Hipp (Morton), **J. Cavender-Bares** (UMN; Collaborating PI), P. Manos (Duke), J. Romero-Severson (Notre Dame), Antonio Gonzalez-Rodriguez (Senior personnel: UNAM; subcontract from UMN), March 2012-2015
Total award: $675,000, **UMN:** $185,095

NSF, COLLABORATIVE RESEARCH: *Ecological Homogenization of Urban America*
PIs: P. Groffman (Cary), C. Polsky (Clark), K. Larson (ASU), S. J. Hall (ASU), R. Chowdhury (ASU), J. M. Grove (UVM), C. Hopkinson, J. B Heffernan (Duke), L. Ogden (FIA), S. Hobbie (UMN), K. Nelson (UMN), **J. Cavender-Bares** (UMN), D. Pataki (UCLA), C. Neill, June 2011 – May 2015
Total award: $2,904,882, **UMN:** $303,666.00, **J. Cavender-Bares**: $108,000

NSF, LONG-TERM ECOLOGICAL RESEARCH: *Biodiversity, Multiple Drivers of Environmental Change, and Ecosystem Functioning at the Prairie Forest Border*
PI: D. Tilman, Co-PIs: E. Seabloom, PB Reich, S. Hobbie; Senior Personnel: **J. Cavender-Bares**, E. Borer, J. Knops, L. Kinkel, R. Montgomery, R. Sterner. Jan. 2006 – Feb. 2012.
Total award: $5,884,133, **J. Cavender-Bares**: $156,000 + $35,000 in supplements

NCEAS (National Center for Ecological Analysis and Synthesis), *Developing Curricula and Model Systems for Sustainability Science;* **J. Cavender-Bares** (Lead PI), Steve Polasky. $75,000

Fulbright-Comexus Grant for travel to Mexico, *Mexico, the cradle of diversity of the New World oaks: Lessons for a threatened planet***,** Jan. 2011 – June 2011, **J. Cavender-Bares**, $24,000

Grant-in-Aid, University of Minnesota, *Testing the growth – cold tolerance trade-off in willows: a phylogenetic approach,* Sept. 2004 – 2006, **J. Cavender-Bares**, $17,000

NCEAS (National Center for Ecological Analysis and Synthesis) *Linking phylogenetic history, plant traits, and ecological processes at multiple scales*
Working Group Jan. 2007 – Jan. 2009
J. Cavender-Bares (Lead PI, UMN), D. Ackerly (UC Berkeley), R. Ree (Field Museum), M. Mack (UFL), P. Reich (UMN), $120,000 + $20,000 in supplemental funds for student support

LTER (Long-term Ecological Research) Network Office, *Linking phylogenetic history, plant traits, and environmental gradients to understand community organization at local and continental scales* **J. Cavender-Bares** (PI), $10,000, 2006-2007.

NSF, MRI, *Development of the University of Minnesota Terrestrial Integrated Mesocosm for Biophysical and Ecophysiological Research (TIMBER),* T. Griffis, M. Russelle, **J. Cavender-Bares** (Co-PI), P. Reich, and J. King, $927,418.00, 2004-2007.

Grant-in-Aid, University of Minnesota, *Genetic structure and local adaptation to climate in live oak populations across a latitudinal gradient,* 2004 -2006,
J. Cavender-Bares, $23,561

Sponsorship of Postdoctoral Fellowship Proposals

NSF Microbial Postdoctoral Fellowship, *Limitations to regeneration of* Q. oleoides *in the Guanacaste region of Costa Rica*, Jeffrey Klemens (PI), (9/2004-9/2006)

Peer Reviewed Publications:

As of May 2018, I have published (or have in press) 110 peer-reviewed journal articles or international assessments and 10 book chapters, and I have edited two special issues in peer-reviewed journals. Google Scholar shows an H-index of 42 (42 publications have been cited a least 42 times); an i10 index of 85 (85 publications have been cited at least 10 times) and a total number of citations of >13,000; 15 publications have been cited > 100 times; 8 have been cited ≥ 400 times.

2018

110. **Cavender-Bares, J.**; Arroyo Kalin, M.; Abell, R.; Ackerly, D.; Ackerman, D; Arim, M.; Belnap, J.; Castañeda Moya, F.; Dee, L; Estrada-Carmona, N.; Gobin, J.; Isbell, F.; Köhler, G.; Koops. M; Kraft , N.; Macfarlane, N.; Martínez-Garza, C.; Metzger, J.P.; Mora, A.; Oatham, M.; Paglia, A.; Peri, P.L.; Piñeiro, G.; Randall, R.; Weis, J. 2018. Status and trends of biodiversity and ecosystem functions underpinning nature's benefit to people. *United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) Americas Regional Assessment* (in press).

109. Grossman J, **Cavender-Bares J**, Hobbie, S, Reich PB, Montgomery R. Phylogenetic diversity, host density, and community structure regulate herbivores and disease in a tree diversity experiment *Journal of Ecology* (accepted).

108. Marcilio-Silvaa V, Marquesa MCM, **Cavender-Bares J**, Assessing the land use trade-offs between tree biodiversity and crop production in the Atlantic forest. *Conservation Biology* (accepted).

107. **Cavender-Bares J**, S Kothari, Pearse WD Evolutionary Ecology of Communities, *Oxford Bibliographies* (in press)

106. Erlandson, S., X. Wei, J. Savage, J. Cavender-Bares, and K. Peay. 2018. Soil abiotic variables are more important than Salicaceae phylogeny or habitat specialization in determining soil microbial community structure. *Molecular Ecology* 27:2007-2024.

105. Schweiger, Anna K, **J Cavender-Bares**, PA Townsend, SE Hobbie, MD Madritch, D Tilman, JA Gamon. 2018. Plant spectra integrate components of biodiversity and predict ecosystem function, *Nature Ecology and Evolution.* DOI:10.1038/s41559-018-0551-1

104. Yamasaki, E., Altermatt, F., **Cavender-Bares, J.**, Schuman, M. C., Zuppinger-Dingley, D., Garonna, I., Schneider, F. D., Guillén-Escribà, C., van Moorsel, S. J., Hahl, T., Schmid, B., Schaepman-Strub, G., Schaepman, M. E., Shimizu, K. K. 2018. Genomics meets remote sensing in global change studies: monitoring and predicting phenology, evolution and biodiversity. *Current Opinion in Environmental Sustainability*, 29, 177-186.

103. Ramírez-Valiente, J., A., N. J. Deacon , J. Etterson, A. Center, J. Sparks, P., K. Sparks, L., T. Longwell, G. Pilz, and **J. Cavender-Bares**. 2018. Natural selection and neutral evolutionary processes contribute to genetic divergence in leaf traits across a precipitation gradient in the tropical oak Quercus oleoides. Molecular Ecology **27**:2176-2192.

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

101. **Cavender-Bares, J**, S Kothari, JE Meireles, M Kaproth, P Manos, A Hipp. 2018. The role of diversification in the community assembly of the oaks (*Quercus* L.) across the continental U.S., *American Journal of Botany* 105(3): 565–586.

100. Fallon, E.A., **J. Cavender-Bares**. Leaf-level trade-offs between drought avoidance and desiccation recovery drive elevation stratification in arid oaks: site environmental data, individual tree stem and leaf physiological data, and analyses. *Ecosphere* 9 (3), e02149.

99. Krug, C. B., M. E. Schaepman, L. J. Shannon, **J. Cavender-Bares**, W. Cheung, P. B. McIntyre, J. P. Metzger, Ü. Niinemets, D. O. Obura, B. Schmid, B. B. N. Strassburg, A. J. A. Van Teeffelen, O. L. F. Weyl, M. Yasuhara, and P. W. Leadley. 2018. Observations, indicators and scenarios of biodiversity and ecosystem services change — a framework to support policy and decision-making. *Current Opinion in Environmental Sustainability* 29:198-206.

98. Gholizadeh, H., J. A. Gamon, A. I. Zygielbaum, R. Wang, A. K. Schweiger, and **J. Cavender-Bares**. 2018. Remote sensing of biodiversity: Soil correction and data dimension reduction methods improve assessment of α-diversity (species richness) in prairie ecosystems. Remote Sensing of Environment **206**:240-253.

97. Cline L. Hobbie SE, Madritch M, Buyarski CR, Kennedy P, Tilman D, **Cavender-Bares J.** 2017. Resource availability underlies the plant-fungal diversity relationship in a grassland ecosystem *Ecology* 99 (1), 204-216.

96. Kothari S, **Cavender-Bares J**, K. Bitan, Verhoeven, AS, Wang R, Gamon, J. 2018. Community-wide consequences of variation in photoprotective physiology among prairie plants. *Photosynthetica*. https://doi.org/10.1007/s11099-018-0777-9. Invited special issue for Govindjee's 85th Birthday.

95. Grossman J, M Vanhellemont; N Barsoum; J Bauhus; H Bruelheide; B Castagneyrol; **J Cavender-Bares**; N Eisenhauer; O Ferlian; D Gravel; A Hector; H Jactel; H Kreft; S Mereu; C Messier; B Muys; C

Nock; A Paquette; J Parker; M P Perring; Q Ponette; PB Reich; A Schuldt; M Staab; M Weih; D Clara Zemp; M Scherer-Lorenzen; K Verheyen. 2018. Using the tree diversity experiments of TreeDivNet to reveal the relationships between biodiversity and tree performance and damage worldwide, *Environmental and Experimental Botany* https://doi.org/10.1016/j.envexpbot.2017.12.015.

94. Hipp AL, Manos PS, Gonzalez-Rodrıguez A, Hahn M, Kaproth M, McVay J, Valencia-Avalos S, **Cavender-Bares J**. 2018. Sympatric parallel diversification of major oak clades in the Americas and the origins of Mexican species diversity. *New Phytologist* 217 439–452.

93. Pearse, W. D., **J. Cavender-Bares**, S. E. Hobbie, M. L. Avolio, N. Bettez, R. Roy Chowdhury, L. E. Darling, P. M. Groffman, J. M. Grove, S. J. Hall, J. B. Heffernan, J. Learned, C. Neill, K. C. Nelson, D. E. Pataki, B. L. Ruddell, M. K. Steele, and T. L. E. Trammell. 2018. Homogenization of plant diversity, composition, and structure in North American urban yards. *Ecosphere* 9:e02105.

2017

92. Deacon, N. J., Grossman, J. J., Schweiger, A. K., Armour, I., & **Cavender-Bares, J**. 2017. Genetic, morphological, and spectral characterization of relictual Niobrara River hybrid aspens (*Populus x smithii*). *American journal of botany*, *104*(12), 1878--1890.

91. Groffman, P. M., M. Avolio, **J. Cavender-Bares**, N. D. Bettez, J. M. Grove, S. J. Hall, S. E. Hobbie, K. L. Larson, S. B. Lerman, D. H. Locke, J. B. Heffernan, J. L. Morse, C. Neill, K. C. Nelson, J. O'Neil-Dunne, D. E. Pataki, C. Polsky, R. R. Chowdhury, and T. L. E. Trammell. 2017. Ecological homogenization of residential macrosystems, *Nature Ecology and Evolution* **1**:0191.

90. Wheeler, M. M., Neill, C., Groffman, P. M., Avolio, M., Bettez, N., Cavender-Bares, J., . . . Trammell, T. L.E. (2017). Continental-scale homogenization of residential lawn plant communities. *Landscape and Urban Planning*, *165*, 54-63. doi: 10.1016/j.landurbplan.2017.05.004

89. Cotrozzia L, Couture JJ, **Cavender-Bares J**, Kingdon CC, Fallon B, Pilz G, Pellegrinia E, Nalia C, Townsend PA. 2017. Using foliar spectral properties to assess the effects of drought on plant water potential, *Tree Physiology* (in press).

88. **Cavender-Bares, J**, JA Gamon, SE Hobbie, MD Madritch, JE Meireles, AK Schweiger, and PA Townsend. 2017. Harnessing plant spectra to integrate the biodiversity sciences across biological and spatial scales. *American Journal of Botany* **104**:1-4.

87. Wang R, Gamon JA, **Cavender-Bares J**, Townsend PA, Zygielbaum AI. 2017. The spatial sensitivity of optical diversity-biodiversity relationship: an experimental test in a prairie grassland (Cedar Creek). *Ecological Applications.* DOI: 10.1002/eap.1669

86. Shipley, B., Belluau, M., Kühn, I., Soudzilovskaia, N. A., Bahn, M., Penuelas, J., **Cavender-Bares, J**., Poschlod, P. (2017). Predicting habitat affinities of plant species using commonly measured functional traits. *Journal of Vegetation Science*, *28*(5), 1082-1095. doi: 10.1111/jvs.12554

85. Beier G, Held B, Giblin C, **Cavender-Bares J**, Blanchette R.2017. American elm cultivars: variation in compartmentalization of infection by *Ophiostoma novo-ulmi* and its effects on hydraulic conductivity, *Forest Pathology*, DOI: 10.1111/efp.12369 (early online).

84. Ramirez-Valiente, J; Center A, Sparks JP, Sparks KL, Longwell T, Pilz G, Cavender-Bares, **Cavender-Bares, J**. 2017. Population-level differentiation in growth rates and leaf traits in 1 seedlings of the neotropical live oak *Quercus oleoides* grown under natural and manipulated precipitation regimes *Frontiers in Plant Science*, 8. doi.org/10.3389/fpls.2017.00585

83. Ramirez-Valiente, J; **Cavender-Bares, J**. 2017. Evolutionary trade-offs in drought resistance mechanisms across a precipitation gradient in the seasonally dry tropical oak (*Quercus oleoides*), *Tree Physiology*. **37**:889-901.

82. Grossman J, **Cavender-Bares J**, Hobbie, S, Reich PB, Montgomery R. 2017. Species richness and traits predict overyielding in stem growth in an early successional tree diversity experiment. *Ecology* (in press). Jul 20. doi: 10.1002/ecy.1958.

81. Meireles JE, Beulke E, Borkowski D, Romero-Severson J, **Cavender-Bares J**, 2017. Balancing selection maintains diversity in critical cold tolerance gene in broadly distributed Live Oaks, *Genome* (special issue on "Tree Diversity") 60:762-769.

80. Rubio de Casas R, Willis CG, Pearse WD, Baskin C C, Baskin JM, **Cavender-Bares J**. 2017. Global biogeography of seed dormancy is determined by seasonality and seed size: a case study in the legumes. *New Phytologist.* **214**:1527-1536.

79. Williams L, Paquette A, **Cavender-Bares J**, Messier C, Reich PB. 2017. Spatial complementarity in crowns increases with functional diversity and helps drive overyielding in young tree communities. *Nature Ecology and Evolution*, 1:0063.

78. Wei, X; Savage, J; Riggs, C; **Cavender-Bares, J.** 2017. An experimental test of fitness variation across a hydrologic gradient predicts willow and poplar species distributions, *Ecology*, 98:1311-1323.

2016

77. Nelson EJ, Helmus MR, **Cavender-Bares J**, Polasky S, Lasky JR, Zanne AE, Pearse WD, Kraft NJB, Miteva DA, Fagan WF. 2016. Commercial plant production and consumption still follow the latitudinal gradient in species diversity despite economic globalization. *PLoS ONE* 11: e0163002

76. Center A, Etterson JR, Deacon N, **Cavender-Bares J**. 2016. Seed production timing influences seedling fitness in the tropical live oak, *Quercus oleoides*, of Costa Rican dry forests. *American Journal of Botany* 103(8): 1407–1419..

75. Kennedy P., Williams L, **Cavender-Bares J**, Reich P, Vincent J, Stefanski A, Messier C, Paquette A, Gravel D, Nguyen N, (2016) Ectomycorrhizal and saprotrophic fungal diversity are linked to different tree community attributes in a field-based tree experiment, *Molecular Ecology*, DOI: 10.1111/mec.13719.

74. **Cavender-Bares J**, Ackerly DD, Hobbie SE, Townsend PA. 2016. Linking biogeographic origins of plant functional traits to ecosystem functions, spectral data and global detection of biodiversity for sustainability. *Annu. Rev. Ecol. Evol. Syst.* 47:433–62.

73. **Cavender-Bares J**, Meireles JE, Couture JJ, Kaproth M, Kingdon CC, Singh A, Serbin S., Pilz G., Center A, Townsend P 2016. Associations of leaf spectra with genetic and phylogenetic variation in oaks: prospects for remote detection of biodiversity *Remote Sensing*, *8*(3), 221. doi:10.3390/rs8030221

72. Trammell TLE, Pataki DE, **Cavender-Bares J**, Groffman PM, Hall SJ, et al. 2016. Plant nitrogen concentration and isotopic composition in residential lawns across seven US cities. *Oecologia*: 1-15

71. Wang R, Gamon JA, Montgomery RA, Townsend PA, Zygielbaum AI, **Cavender-Bares, J**. 2016. Seasonal variation in the NDVI–species richness relationship in a prairie grassland experiment (Cedar Creek). *Remote Sensing* 8: 128

70. Jetz W*, **Cavender-Bares J***, Pavlick R, Schimel D, Davis FW, Asner GP, Guralnick R, Kattge J, Latimer A, Moorcroft P, Schaepman M, and Ustin SL. 2016. Monitoring plant functional diversity from space. *Nature Plants*:10.1038/nplants.2016.1024-1010.1038/nplants.2016.1024. (*Equal contribution.)

69. Barak R, Hipp A, **Cavender-Bares J**, Pearse W, Hotchkiss S, Larkin D. 2016. Taking the Long View: Integrating Recorded, Archeological, Paleoecological, and Evolutionary Data into Ecological Restoration. *International Journal of Plant Sciences* 177

2015

68. Verheijen LM, Aerts R, Brovkin V, **Cavender-Bares J**, Cornelissen JHC, et al. 2015. Inclusion of ecologically based trait variation in plant functional types reduces the projected land carbon sink in an earth system model. *Global Change Biology* 21(8):3074-86

67. Riggs CE, Hobbie SE, **Cavender-Bares J**, Savage JA, Wei X. 2015. Contrasting effects of plant species traits and moisture on the decomposition of multiple litter fractions. *Oecologia* 179(2):573-84

66. Pearse WD, Cadotte MW, **Cavender-Bares J**, Ives AR, Tucker CM, et al. 2015. pez: phylogenetics for the environmental sciences. *Bioinformatics*: btv277

65. Lind EM, Vincent JB, Weiblen GD, **Cavender-Bares J**, Borer ET. 2015. Trophic phylogenetics: evolutionary influences on body size, feeding, and species associations in grassland arthropods. *Ecology* 96: 998–1009

64. Gastauer M, Saporetti-Junior AW, Magnago LFS, **Cavender-Bares J**, Meira-Neto J, Alves A. 2015. The hypothesis of sympatric speciation as the dominant generator of endemism in a global hotspot of biodiversity. *Ecology and Evolution* 5: 5272-83

63. Ramírez-Valiente JA, Koehler K, **Cavender-Bares J**. 2015. Climatic origins predict variation in photoprotective leaf pigments in response to drought and low temperatures in live oaks (*Quercus* series *Virentes*). *Tree Physiology* 35(5):521-534.

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Program was developed from earlier modules written by J. Cavender-Bares in Visual Basic (Cavender-Bares et al 2004, Cavender-Bares et al 2006).

Symposia and Workshops Organized:

2017:

Origins and consequences of genetic and functional variation in tropical oaks under global change. **J Cavender-Bares** and A Gonzalez-Rodriguez (organizers), Association for Tropical Biology and Conservation. Merida, Mexico, July 2017.

Socioenvironmental Synthesis Center (SESYNC), Macroevolution of Ecosystem Services of Trees, November 2017. Working group meeting; organized and led
November 2015 Working group meeting; organized and led

2016:

Taller Internacional sobre Conservación de Encinos México y Centroamérica. International workshop on conservation of Mexican and Central American oaks. Nicole Cavender, Antonio Gonzalez-Rodriguea, **Jeannine Cavender-Bares** (Co-organizer). Sponsored by Morton Arboretum and UNAM. March 12-16, 2016, Morelia, Mexico.

NIMBioS Linking phylogenetics and spectral data for remote sensing of biodiversity, Oct 10-14, 2016, Knoxville, TN. **J. Cavender-Bares** (lead PI), B. O'Meara, P. Townsend, J. Meireles.

NIMBioS Linking phylogenetics and spectral data for remote sensing of biodiversity, April 20-24, 2016, Knoxville, TN. **J. Cavender-Bares** (lead PI), B. O'Meara, P. Townsend, J. Meireles.

Sustainability Science in Education Symposium, Association for Tropical Biology and Conservation, Montpellier France, June 2016. Organized by T. Mwampamba, P. Balvanera, **J. Cavender-Bares** & L. Lohmann.

2015

Socioenvironmental Synthesis Center (SESYNC), Macroevolution of Ecosystem Services of Trees, June 2015 Working group meeting; organized and led
November 2015 Working group meeting; organized and led

2014

Socioenvironmental Synthesis Center (SESYNC), Macroevolution of Ecosystem Services of Trees, May 2014 Working group meeting; organized and led
November 2014 Working group meeting; organized and led

2013

Association for Tropical Biology and Conservation, June 2013, *Evolutionary Perspectives On Tropical Trees: Linking Historical Biogeography, Adaptation and Conservation Genetics*, San Jose, Costa Rica.

Socioenvironmental Synthesis Center (SESYNC), Macroevolution of Ecosystem Services of Trees, May 2013 Working group meeting; organized and led
Sept. 2013 Working group meeting; organized and led

2012

EcoSummit 2012 – *Ecological Sustainability: Restoring the Planet's Ecosystem Services*, September 30 – October 5, 2012, Columbus, OH, USA. http://www.ecosummit2012.org/symposia-cavender-bares.html

National Center for Ecological Analysis and Synthesis (NCEAS): Grand Synthesis Meeting for Distributed Graduate Seminar on Sustainability Science, April. 20-24, 2012.

2011

NCEAS Synthesis meeting for Distributed Graduate Seminar on Sustainability Science Oct. 14-16, 2011

2010

NCEAS Symposium *Phylogenetic Ecology:* Symposium for special supplemental issue in *Ecology* on Phylogenetic Ecology, Nov 17-21, 2010.

NCEAS, *Sustainability Science* Organizational Meeting for Distributed Graduate Seminar with steering committee and student representatives from seven institutions, Aug. 2010.

2009

NCEAS Meeting *Linking phylogenetic history, plant traits, and environmental gradients: Part III: Developing comprehensive phylogenies for land plants across North America*, organized and led meeting, Jan 17-22, 2009.

Encyclopedia of Life, Field Museum of Natural History, University of Chicago, *Synthesis workshop to train students in "mega-phylogeny" assembly,* April 8-10, 2009 Co-organized and co-led meeting with Richard Ree.

2008

Live Oak Phenology Network (LOPnet), McKenzie Field Station, ACE Basin Reserve, South Carolina, Feb. 15-17, 2008. Training workshop for LOPnet participants. See supporting documentation: http://www.cbs.umn.edu/cavender/LOPnet/index.htm

NCEAS Meeting *Linking phylogenetic history, plant traits, and environmental gradients: Part II: Changes in community phylogenetic structure across spatial and temporal scales in North America*, organized and led meeting, May 17-24, 2008.

NCEAS Meeting *Linking phylogenetic history, plant traits, and environmental gradients: Part I (cont'd): Changes in community phylogenetic structure across spatial and temporal scales in North America*, organized and led meeting, Jan. 14-18, 2008.

2007

LTER Workshop on Ecophylogenetics, University of Minnesota, May 31-June 3, 2007; *Linking phylogenetic history, plant traits, and environmental gradients to understand community organization at local and continental scales,* included fourteen participants from seven LTER sites. Organized and led meeting.

Tropical Oaks: Diversity, Ecology and Conservation
Organized and led two-part symposium (14 speakers from 5 countries) with A. Gonzalez-Rodriguez Association for Tropical Biology and Conservation, Morelia, Mexico July 2007;

LTER Workshop on *Ecophylogenetics* (second meeting), Harvard Forest, Oct. 11-14, 2007, Seventeen participants from seven sites; Organized and lead meeting

2006

LTER All Scientists Meeting; *Community age and assembly in a phylogenetic context: Forging links between ecology and evolution in the LTER framework*; Workshop organized and led by **J. Cavender-Bares** with Clarence Lehman, Rebecca Montgomery, Robert Holt and Peter Reich. 9/ 2006

2005

University of Minnesota Center for Community Genetics: *Community Genetics and Phylogenetics* Co-organized two-day NSF-funded symposium (12 invited speakers drawn nationally) George Weiblen, **J Cavender-Bares**, Peter Tiffin and Ruth Shaw, University of Minnesota, April 8-10, 2005;

Invited Training Workshops for Skill Development

Leopold Leadership Program June 15-22, 2015, Mid-career leadership training for environmental scientists; practice year 2015-16 and second training meeting in June 2016.

NSF-Funded, Bayesian Modeling for Practicing Ecologists, Colorado State University, May 20-30, 2013, https://classes.warnercnr.colostate.edu/bayes-workshop/

SESYNC-Funded, Software Carpentry Bootcamp, Annapolis, MD, Dec. 2-6, 2013. http://wltrimbl.github.io/2013-12-03-sesync/

Leopold leadership and effective communication training workshop, Hosted and sponsored by Institute on Environment, University of Minnesota; week-long training. August 2010.

Invited Keynotes, Symposia, Workshops and Lecture Series:

2018

Keynote Speaker, Workshop on Informing Species Distribution Models and Essential Biodiversity Variables using Remote Sensing; Workshop organized by the European Space Agency's GlobDiversity and Future Earth's Global Mountain Biodiversity Assessment, bioDISCOVERY and Global Land Programme. "Informing species distribution models and essential biodiversity variables using remote sensing" University of Zürich, February 2018.

2017

National Academies Workshop on the Future of Atmospheric Boundary Layer Observations, "Exchange/interactions between the biosphere and atmosphere," National Academies of Science and Engineering. (October 2017). Panel organizer and discussion leader.

Keynote Speaker, 6th Global Botanic Gardens Congress, Geneva, Switzerland, Botanic Gardens Conservation International,"Ecosystem Services of Trees and Tree Diversity: Implications for Managing Planet Earth in the Anthropocene" June 2017. https://www.youtube.com/watch?v=E8qwRmGqVXY

NASA, NCEAS Scoping Study for Biodiversity Airborne Campaigns, Santa Barbara, March 2017.

bioDISCOVERY Scientific steering committee, University of Zurich, Switzerland, April 2017.

NASA Terrestrial Biodiversity Annual PI Meeting, "Linking remotely sensed optical diversity to genetic, phylogenetic and functional diversity to predict ecosystem processes," Washington D.C., May 2017.

Intergovernmental Platform on Biodiversity and Ecosystem Services, Third Authors Meeting, Coordinating Lead Author (CLA), Cartagena, Colombia, August 2017.

Invited Ignite Session Speaker, "Linking remotely sensed optical diversity to genetic, phylogenetic and functional diversity to predict ecosystem processes," *Connecting Remote Sensing to Biodiversity Science in the Anthropocene*. Ecological Society of America Meeting, Portland OR. August 2017.

2016

New Phytologist Plenary Lecturer, 101st Ecological Society of America Meeting, Ft. Lauderdale, Florida, August 2016, "Evolutionary Legacy Effects on Ecosystems: Implications for managing Planet Earth in the Anthropocene."

Keynote Speaker, Conference on *Change and Biodiversity: Integrating Mechanisms of Interactions, Feedbacks and Scale*." University of Zürich University Research Priority Programme (URPP) on Global Change and Biodiversity, 28 Aug. - 1 Sept. 2016, Monte Verità, Ascona, Switzerland. "Biodiversity in the Anthropocene: global detection, evolutionary legacies and stewardship"

Invited Speaker, National Science Foundation, Lunch seminar to NSF program officers in the Department of Environmental Biology, "Linking remotely sensed optical diversity to functional and phylogenetic diversity", May 2016.

Invited Panelist, *Phys-Fest, a meeting for plant eco-physiologists will convene in the tallgrass prairie ecosystem,* sponsored by NSF, June 5-9, 2016.

Invited Discussion Leader, Gordon Research Conference, *Multiscale Plant Vascular Biology, Identifying Interdisciplinary Opportunities for a New Era of Plant Vascular Biology*, "Trait-Based Approaches in Comparative Vascular Biology," June 26 - July 1, 2016

Invited Participant, *Future Earth* workshop, "Linking Earth System and Socio-Economic models to predict and manage changes in land use and biodiversity," the Research Institute for Humanity and Nature, Kyoto, Japan, September 28-30, 2016.

2015

Ecological functions in suburban landscapes workshop, Nov. 5-6, 2015, Marine Biological Laboratory, Woods Hole, MA, Invited speaker, *Linking plant diversity and ecosystem services in suburban landscapes.* **Jeannine Cavender-Bares**, coauthors: Will Pearse, Sarah Hobbie, Kristen Nelson, and the urban homogenization macrosystems biology team.

Keynote Speaker, International Oak Society, *Ecology of the American Oaks*, Morton Arboretum, Lisle Illinois, October, 2015.

Leaf Optics Workshop, Ebernberg, Germany, Oct. 2015, Invited participant/speaker, *Associations of leaf spectra with genotypic and phylogenetic variation in oaks: prospects for remote detection of biodiversity*, **J Cavender-Bares**, coauthors: Jose Eduardo Meireles, John Couture, Phil Townsend, Matt Kaproth, Clayton Kingdon, Alyson Center, Esau Zuniga, George Pilz,

NASA Terrestrial Biodiversity Annual PI Meeting, April 2015, College Park, MD, *Linking remotely sensed optical diversity to genetic, phylogenetic and functional diversity to predict ecosystem processes*, **J Cavender-Bares** and Dimensions of Biodiversity Team

EcoSIS Workshop, University of Wisconsin, Madison, May, 2015, Invited participant/speaker, *Linking remotely sensed optical diversity to genetic, phylogenetic and functional diversity to predict ecosystem processes*. **J Cavender-Bares** and Dimensions of Biodiversity Team

2014

Invited Speaker and Participant, National Evolutionary Synthesis Center, co-leader of project "Global distributions of dormancy and non-dormancy in legumes are determined by seasonality and seed-size," *Germination, Trait Coevolution, and Niche Limits in Changing Environment* Working Group, January 2015.

Invited Speaker and Participant, National Center for Ecological Analysis and Synthesis, "Functional traits and functional diversity." **J. Cavender-Bares.** *Prospects and Priorities for Satellite Monitoring*

of Global Terrestrial Biodiversity, NASA-funded Working Group, Dec. 10 – 12 co-organized by Frank Davis, David Schimel, Mark Schildhauer, and Ryan Pavlick.

Invited Symposium Speaker, "Evolutionary hot spots and temporal trends in the ecosystem services derived from plants," **J. Cavender-Bares**, William F. Fagan, Matthew R. Helmus, Nathan Kraft, Jesse R. Lasky, Ian Muñoz, Erik J. Nelson, David J. Nowak, Jarlath O'Neil-Dunne, William D. Pearse, Steve Polasky, Mary Shelley, Amy E. Zanne, Symposium: *Operationalizing the Concept of Ecosystem Services through Interdisciplinary Research and Synthesis*, 99th Ecological Society of America Meeting, Sacramento, Aug. 2014.

Invited Ignite Session speaker, "Physiological Ecology Section – 20 years," **J. Cavender-Bares**, Section Chair, Ignite Session highlighting ESA sections and chapters, 99th Ecological Society of America Meeting, Sacramento, Aug. 2014.

2013

Keynote speaker, Missouri Botanical Garden, *Phylogeny meets Ecology: Patterns of Diversity, Community Assembly, and Niche Evolution*, "Integrating ecology and phylogenetics: the deep footprint of evolution on modern-day communities" Oct. 2013.

Invited Symposium speaker, *Geo-Genomics: Integrating Geology and Genetics to Understand the Evolution of Neotropical Biodiversity*, Association for Tropical Biology and Conservation, June 2013

Invited Participant, *Grand Challenges in the Environmental and Earth Sciences*, National Center for Ecological Analysis and Synthesis, sponsored by NSF, March 2013

Invited Symposium speaker, *Evolution, Biodiversity and Ecosystem Functioning,* "Evolutionary transitions in seed dormancy in the Legume family: Consequences for global scale plant distributions" **J. Cavender-Bares**, R. Rubio de Casas, C. Willis, W. Pearse, Ecological Society of America, Minneapolis, 2013

2012

Invited Symposium speaker, *Evolving Communities*, "Stasis and Recent Evolution: Complementary Dimensions of American Oak Community Structure and Biogeography", Society for the Study of Evolution Meeting, Ottawa, Canada, July 2012

Invited Symposium speaker, *Revisiting the Holy Grail: Using Trait-Based Ecology As a Framework for Preserving, Utilizing, and Sustaining Our Ecosystems*, Ecological Society of America meeting, Portland Oregon, August 2012

Invited Participant, Socioenvironmental Synthesis Center (SESYNC), *Macroevolution of Ecosystem Services*, Brainstorming Session, July 2012

Keynote Speaker, IUFRO Meeting, "Diversification, stasis and recent evolution in the American oaks: linking multiple dimensions of American oak community structure and biogeography", Bordeaux France, *Genetics of Fagaceae*, Oct. 2012

Invited Participant, Socio-Environmental Synthesis Center (SESYNC) Brainstorming Workshop on Macroevolution of Ecosystem Services, Annapolis MD July, 2012.

Invited Speaker, LTER Mini-Symposium, National Science Foundation, Washington D.C. Feb. 2012, The Challenge of a Sustainable Future: Long-term Ecological Research Offers New Answers, "*Innovations and lessons learned in distributed graduate education on sustainability science,"* live webcast:

http://mtsms.unm.edu/Mediasite/Play/c2f33bbade0443a6b6c7da95079397b61d?catalog=cf020feb-9c6a-4222-a57d-8daa334f7e35.

2011

Keynote Speaker, Centre d'Ecologie Fonctionnelle & Evolutive, "*50 ans de Recherche en Ecologie – 50 years of research in Ecology,"* 50th Anniversary Celebration of the Center for Functional and Evolutionary Ecology, Centre Nationale de la Recherche Scientific, Montpellier, France. Dec. 1-2.

Keynote Speaker, Ecological Society of Germany, Switzerland and Austria (GfÖ) 41st annual meeting, Oldenburg, Germany, *Ecological Functions, Patterns, and Processes*: "Linking phylogenetic history, functional traits and environmental gradients in time and space," Sept. 2011

Invited Symposium Speaker, "*Evolutionary Ecology of Organisms in Human Altered Environments*" Ecological Society of Mexico, Veracruz, Mexico, April 2011

Symposium Speaker, Fulbright-Comexus Scholar Meeting, "*Mexico: the cradle of diversity of the New World oaks. Lessons for a threatened planet*." Mexico City, February 2011.

2010

Invited Speaker, *North American Oak Genome Workshop*, Sedgewick Biological Reserve, UCLA, California, Nov 21-22, 2010

Invited Speaker, National Center for Ecological Analysis and Synthesis (NCEAS), Symposium

Invited Participant, National Evolutionary Synthesis Center (NESCent) *Germination, Trait Coevolution, and Niche Limits in Changing Environments*, Part II, Durham, NC, October 22 – 24, 2010

Invited Participant, National Science Foundation, *Dimensions of Biodiversity Design Charette*, National Evolutionary Synthesis Center, Durham, NC. Sept. 17-19, 2010.

Invited Participant, National Evolutionary Synthesis Center (NESCent) *Germination, Trait Coevolution, and Niche Limits in Changing Environments*, Part I, Durham, NC, February, 2010

2009

Invited Speaker, Conference on *Niche Evolution: a unifying concept for systematics, ecology, paleontology and conservation biology*, Zurich, Switzerland, 3-4 July 2009, "Nich Evolution in the American Live Oaks."
http://www.systbot.uzh.ch/niche/

Keynote Speaker, 5th Annual Early Career Scientists Symposium: *Using Phylogenies in Ecology*, University of Michigan, Ann Arbor, MI, March 2009: "The integration of community ecology and phylogenetic biology: finding questions to some of life's persistent questions"
http://sitemaker.umich.edu/ecss2009/home

2008

Invited Participant, National Center for Ecological Analysis and Synthesis (NCEAS) –*Botanical Information and Ecology Network* (BIEN) working group, organized by Brian Enquist, Richard Condit, Robert Peet, Dec. 7-12, 2008.

Invited Participant, National Evolutionary Synthesis Center (NESCent): *Catalysis Meeting: "Perspectives on the Origin and Conservation of Biodiversity in Patagonia,"* organized by Jack Sites, 16 – 19 June 2008

Invited *Barbara McClintock Distinguished Lecturer*, Cornell University, Spring 2008; awarded to a Cornell alumna to give a broad-reaching seminar, to provide undergraduates with a role model, and to discuss graduate school and faculty careers.

Invited Participant, National Center for Ecological Analysis and Synthesis, *Evolving Metacommunities* working group meeting; macroevolution group, organized by Mathew Leibold and Mark Urban, Jan. 4-7, 2008.

2007

Invited Participant, NSF-Sponsored Research Coordination Network, *TraitNet,* (S. Naeem and D. Bunker), Original member; Gave presentation on "Linking Plant Traits and Ecophylogenetics," University of Columbia, NYC, Dec. 2007

Invited Lecturer, Harvard University, Dept. of Organismal and Evolutionary Biology; April 16, 2007 Invited to give a lecture as part of a series and course entitled "*Comparative Methods*" during spring semester 2007; Series organized by Jonathan Losos, Niaomi Pierce, Scott Edwards, Charles Davis, and Josh Plotkin.

Invited Speaker, National Science Foundation, Division of Environmental Biology, Lunch seminar to NSF program officers, Feb. 16, 2007 *The role of phylogenetic history in ecological processes*. Organized by P. Firth.

2006

Invited Speaker, Stanford University, Two-Day Symposium on *Seasonally Dry Tropical Forests* organized by R. Dirzo and H.A. Mooney. 12/2006. Presentation: **Cavender-Bares, J.** Klemens, J. Deacon. N. "Limitations to regeneration of a keystone species in the highly fragmented tropical dry forest of Guanacaste, Costa Rica." Invited to contribute a chapter to the upcoming book on the same topic. http://www.stanford.edu/group/seasonally_dry/

2004

Invited Symposium Speaker, Ecological Society of America, *Phylogenetics and Communities*, Symposium organized by J. Losos and C. Webb, Portland Oregon, 8/2004. Presentation: **Cavender-Bares, J.,** "Phylogenetic structure of communities is scale dependent."

Invited Symposium Speaker, Association of Tropical Biologists and Conservation, *Evolutionary constraints on leaf history and physiological traits in tropical plants,* Symposium organized by G. Goldstein and F. Meinzer, Miami, Florida, 7/2004. Presentation: **Cavender-Bares, J.,** "Convergence and conservatism in functional traits of oaks; implications for coexistence."

2003 and earlier

Invited Participant, Workshop on *Xylem and Growth,* Montpellier, University of Montpellier, France, Organized by H. Cochard, 3/2003. Presentation: **Cavender-Bares, J.,** Ecophysiology of eastern North American oaks.

Invited Speaker, Harvard Forest Workshop on *Long-Distant Transport of Water,* Petersham, MA, Organized by M. Holbrook and M. Zwieniecki, 11/2002. Presentation: **Cavender-Bares, J.,** V. Terwilliger, G. Parker, and C. Lovelock with B. Wisnosky, L. Urgenson, B. Smith and J. Renteria, "Intraspecific variation in hydraulic conductance and water use efficiency of oak trees and seedlings across natural and experimental hydrologic gradients."

Invited Participant, National Center for Ecological Analysis and Synthesis (NCEAS), *Workshop on Phylogenetics and Community Ecology*, Organized by C. Webb and M. Donoghue, 3/2002. Presentation: **Cavender-Bares, J.**, D. Ackerly, D. Baum, F.A. Bazzaz "Phylogenetic repulsion in Floridian oak communities."

Invited Speaker, *Workshop on Climate and Ener*gy, sponsored by the Arbeitskreis Energie in Niedersachsen, Hannover, Germany; 3/1993. Presentation: **Cavender-Bares, J.** „Der Klimadebatte in Deutschland: Die Entwicklung des Vorsorgeprinzips." (presented in German)

Invited Speaker and Participant, *Workshop on Environmental Management in the FRG*, Wuppertal Institute for Climate, Energy and Environment, Germany, 10/1992. Presentation: **Cavender-Bares, J.** "Managing stratospheric ozone depletion and climate change."

American Junior Academy of Sciences Symposium, Los Angeles CA, 4/1985. Presentation: **Cavender, J., "**Lichens as indicators of air quality in Southeastern Ohio."

Invited University or Agency Seminars and Lectures:

2018 University of Montana, Missoula MT
2017 University of Oklahoma, Norman OK (May)
Arnold Arboretum, Harvard University (October)
University of Washington (November)
2016 University of Minnesota (EEB-CBS)
University of Kyoto, Japan
National Aeronautic and Space Agency (NASA) Headquarters
2015 National Center for Ecological Analysis and Synthesis, UC Santa Barbara
German Center for Biodiversity Synthesis, sDiv, Leipzig
University of Zürich, Switzerland, Geographisches Institut
Morton Arboretum, Lisle, Illinois
University of Tennessee-Knoxville, Department of Ecology and Evolution
Rice University, Houston, Department of Biosciences
2014 University of California Los Angeles, College of Life Sciences
University of Georgia, Department of Plant Sciences
Institut National de la Recherche Agronomique (INRA)-University Bordeaux, France
University of California Los Angeles, College of Life Sciences
2013 The Morton Arboretum, Lisle Illinois
Cornell University
Universidad Nacional a Distancia, Costa Rica
Chicago Botanic Garden/Northwestern University
2012 University of Connecticut
University of Minnesota, Institute on Environment
University of Minnesota, Arboretum evening lecture
2011 Universidad Nacional Autonoma de Mexico (UNAM), CIEco, Morelia, Michoachan
2010 Michigan State, Ecology, Evolutionary Biology and Behavior Program
Kellogg Biological Station
2009 University of Florida, Department of Biology
University of Texas, Austin Texas, Plant Biology Graduate Program
2008 University of Pennsylvania, Ecology and Evolutionary Biology Program
Stony Brook University, Stony Brook, NY, Dept. Ecology and Evolution
Rutgers University, Federated Department of Biology, Newark NJ
Princeton University, Ecology and Evolutionary Biology
University of Minnesota, Duluth, Biology Dept.
University of California, Davis, Evolution and Ecology
University of California, Santa Barbara and NCEAS seminar series
2007 University of California, Davis, Evolution and Ecology seminar series
2006 University of Minnesota, Department of Ecology, Evolution and Behavior
Duke University, Biology Department
North Carolina State University, Department of Botany
2005 University of Minnesota, intern lecture series, Cedar Creek LTER
2004 University of Missouri, St. Louis, Department of Biology, MO
McGill University, Department of Biology, Montreal, Canada
UNAM, Centro de Investigaciones en Ecosistemas, Morelia, Mexico

University of Minnesota, Dept. of Soil, Water and Climate, St. Paul, MN
University of Wisconsin, Dept. of Botany, Madison, WI
2003 University of Minnesota, Dept. of Plant Biology, St. Paul, MN
Centre d'Ecologie Fonctionnelle et Evolutive, Centre Nationale de la Recherche Scientifique, Montpellier, France
Smithsonian Environmental Research Center, Edgewater MD
2002 Wesleyan University, Department of Biology, Conn.
University of Minnesota, Department of Ecology, Evolution and Behavior, St. Paul, Minn.
University of Toronto, Department of Botany, Ontario, Canada
Yale School of Forestry and Environmental Studies, New Haven, Conn.
Ohio University, Department of Environmental and Plant Biology
University of California, Santa Cruz, Environmental Studies Department
2001 Georgetown University, Department of Biology, Washington D.C.
Yale University, Department of Ecology and Evolutionary Biology, New Haven, Conn.
2000 Georgetown University, Center for the Environment, Washington D.C.
Ohio State University, Department of Horticulture; Department of Ecology, Evolution, and Organismal Biology, Columbus, Ohio
Université de Paris-Sud, Département Ecologie Végétale, Orsay, France
Smithsonian Environmental Research Center, Edgewater, Maryland
University of Florida, Department of Botany, Gainesville, Florida
Yale University, Department of Ecology and Evolutionary Biology, New Haven, Conn.
1999 Ohio University, Department of Environmental and Plant Biology, Athens, Ohio
Harvard University, Dept. of Organismic and Evolutionary Biology, Cambridge, Mass.
1997 Université de Paris-Sud, Département Ecologie Végétale, Orsay, France
1996 Üniversität Bayreuth, Fachbereich Planzenökologie, Bayreuth, Germany

Contributed talks and posters:

2017

Cavender Bares, J., Schweiger, A. and Dimensions of Biodiversity Team, American Geophysical Union, "Detecting Belowground Properties in a Savanna Ecosystem with Spectroscopy Across Different Scales." (December 2017).

Cavender Bares, J., Schweiger, A. and Dimensions of Biodiversity Team, American Geophysical Union, "Remote Sensing of a Manipulated Prairie Grassland Experiment to Predict Belowground Processes." (December 2017).

Cavender-Bares J, Jose Ramirez-Valiente. Adaptive differentiation in water use of a tropical oak: implications for global change, Association for Tropical Biology and Conservation, Merida Mexico, July 2017.

Pavlick, Ryan P., David S. Schimel, Frank W. Davis, Gregory P. Asner, Genevieve Burgess, Kyle C. Cavanaugh, **J Cavender-Bares**, Stuart J. Davies, Ralph Dubayah, Liane Guild, Daniel Jensen, Walter Jetz, Paul Moorcroft, Helene C Muller-Landau, Philip A. Townsend. Moving towards a Global Biodiversity Observatory, Ecological Society of America Meeting, Portland OR, 2017

Williams, Laura J., Artur Stefanski, John J. Couture, Aitor Amaztegui, **J Cavender-Bares**, Christian Messier, Alain Paquette, Peter B. Reich and Philip A. Townsend Inherent and plastic differences in traits shape how neighbors affect the growth of young trees, Ecological Society of America Meeting, Portland OR, 2017

Kothari, Shan, **J Cavender-Bares**, Anna K. Schweiger, Philip A. Townsend, Sarah E. Hobbie and Rebecca A. Montgomery, Nitrogen uptake and crown-level allocation across an experimental tree diversity gradient, Ecological Society of America Meeting, Portland OR, 2017

Gholizadeh, Hamed, John A. Gamon, Arthur I. Zygielbaum, **J Cavender-Bares**, Ran Wang and Anna K. Schweiger, Remote sensing of biodiversity: Dimension reduction and soil correction methods to improve assessment of α-diversity (species richness) in prairie ecosystems, Ecological Society of America Meeting, Portland OR, 2017

Grossman, Jake J., **J Cavender-Bares**, Sarah E. Hobbie, Peter B. Reich and Rebecca A. Montgomery Consequences of functional traits and phylogenetic diversity for the provision of biomass, cycling of nutrients, and regulation of herbivores in tree diversity experiments, Ecological Society of America Meeting, Portland OR, 2017

Fallon, Beth and **J Cavender-Bares**, Stem drought resistance, but not stomatal closure, is strongly predicted by aridity among American oaks that differ in leaf habits, Ecological Society of America Meeting, Portland OR, 2017

2016

Cavender-Bares, J, J Gamon, P Townsend, S E Hobbie, M Madritch, R Lindroth, R Montgomery, A Zygielbaum, Linking remotely sensed optical diversity to genetic, phylogenetic and functional diversity to predict ecosystem processes. 2016 NASA Biodiversity and Ecological Forecasting Team Meeting, Washington D.C. May 2016.

Cavender-Bares, J, Anna Schweiger, J Couture, J Gamon, P Townsend, S E Hobbie, M Madritch, R Lindroth, R Montgomery, A Zygielbaum, Remotely sensing biodiversity in the Cedar Creek BioDIV experiment: linkages between above and below ground processes. Remote sensing of biodiversity workshop; University of Nebraska-Lincoln. Jan. 2016.

Kothari, Shan , **J Cavender-Bares**, Keren Bitan, Amy S. Verhoeven, Ran Wang, Rebecca A. Montgomery and John A. Gamon, Spectral signatures of seasonal variation in xanthophyll cycle pigments among species with contrasting water-use strategies

Cavender-Bares J, Anna K. Schweiger, Sarah E. Hobbie, Michael D. Madritch, John J. Couture, John A. Gamon, Philip A. Townsend, Dave Tilman, Art Zygielbaum, Linking remotely sensed optical diversity to functional and phylogenetic diversity in the Cedar Creek prairie grassland biodiversity experiment to predict belowground processes

Wang, Ran, John A. Gamon, **J Cavender-Bares**, Arthur Zygielbaum and Philip A. Townsend, The scale-dependence of optical diversity in a prairie ecosystem (Cedar Creek)

Meireles, José E. and **J Cavender-Bares** Linking leaf spectra to phylogenies

Grossman, Jake J., **J Cavender-Bares**, Sarah E. Hobbie, Rebecca Montgomery, Species richness and trait means, but not phylogenetic or functional diversity, predict biomass in the establishment phase of a tree diversity experiment

Schweiger, Anna K., **J Cavender-Bares**, Ran Wang, Philip A. Townsend and John A. Gamon. Scaling from leaf optical properties to canopies: How does optical diversity predict biodiversity?

Wei, Xioajing, Jessica A. Savage **J Cavender-Bares** Response of growth and physiological traits to flooding in seven willow (Salix) species with contrasting distributions along hydrologic gradients

Fallon, Beth and **J Cavender-Bares**, Drought response strategies establish elevation ranges in semi-arid montane oak species of SE Arizona

2015

Cavender-Bares, J, NCEAS Remote Sensing of Biodiversity Team; NSF-NASA Dimensions of Biodiversity Team, *A global remote sensing mission to detect and predict plant functional biodiversity change*, American Geophysical Union, San Francisco, Dec. 2015

Cavender-Bares, J, Jose Meireles, Phil Townsend, M. Kaproth et al, *Phylogenetic Distribution of Leaf Spectra and Optically Derived Functional Traits in the American Oaks*, American Geophysical Union, San Francisco, Dec. 2015

Ran Wang*, John Gamon, **Cavender-Bares, J**, R. Montgomery, P. Townsend, *The scale dependence of optical diversity in a prairie ecosystem,* American Geophysical Union, San Francisco, Dec. 2015

Cavender-Bares, J.; Polasky, S.; Balvanera, P.; Mwampamba, T.; Sala, O.; Turner, B. *Innovations and lessons learned in distributed graduate education on sustainability science: a replicable teaching model*, American Association for Sustainability in Higher Education, Minneapolis, October 2015

Wei, Xiaojing, J.Savage, C.Riggs*, & **J. Cavender-Bares**, *Water related stresses drive distributions and fitness differences among closely-related Salicaceae species along a hydrological gradient*, Ecological Society of America meeting, Baltimore, MD, August 2015.

Kaproth, M., and **J. Cavender-Bares**, *Testing hypothesized trade-offs between drought tolerance and growth rate in 40 oak species across an experimental hydrologic gradient*, Ecological Society of America meeting, Baltimore, MD, August 2015.

Kaproth, M**, and **J Cavender-Bares**, 10-2015. Drought tolerance and climatic distributions of the American oaks. Invited speaker. 8th International Oak Society Conference (Morton Arboretum, Lisle, IL)

Cavender-Bares, J, F Hoerner, J Meireles, M Kaproth, A Hipp, *Evolution of freezing tolerance in the American Oaks* , American Society of Plant Biologists. June 2015. Minneapolis, MN (poster).

Fallon, B. & **J. Cavender-Bares**. *Mechanisms underlying elevation stratification in southwestern US oak species are not revealed by leaf wilting point and stem freezing injury tests*. American Society of Plant Biologists. June 2015. Minneapolis, MN (poster).

Teshera-Levye, Jen, B. Miles, Terwilliger, **J. Cavender-Bares**, Patterns in sap flow and water use in sympatric oak species along a hydrologic gradient, American Society of Plant Biologists. June 2015. Minneapolis, MN (poster).

Cavender-Bares, J, J Gamon, P Townsend, S E Hobbie, M Madritch, R Lindroth, R Montgomery, A Zygielbaum, Linking remotely sensed optical diversity to genetic, phylogenetic and functional diversity to predict ecosystem processes. 2015 NASA Biodiversity and Ecological Forecasting Team Meeting, Washington D.C. May 2015.

2014

Cavender-Bares, J, J Gamon, P Townsend, S E Hobbie, M Madritch, R Lindroth, R Montgomery, A Zygielbaum, Linking remotely sensed optical diversity to genetic, phylogenetic and functional diversity to predict ecosystem processes. 2014 NASA Biodiversity and Ecological Forecasting Team Meeting, Washington D.C. May 2014.

Cavender-Bares, J, J Gamon, P Townsend, S E Hobbie, M Madritch, R Lindroth, R Montgomery, A Zygielbaum, Linking remotely sensed optical diversity and chlorophyll fluorescence to genetic, phylogenetic and functional diversity to predict ecosystem processes. 5th International Workshop on Remote Sensing of Vegetation Fluorescence, Paris, France, April 2014.

Gamon, J, R Wang, **J. Cavender-Bares**, P Townsend, S E Hobbie, M Madritch, R Lindroth, R Montgomery, A Zygielbaum, Exploring biodiversity through optical diversity, HyspIRI Science and Applications Workshop, NASA Decadal Survey Mission, October 2014.

Pearse, William, Sarah Hobbie, Kellie Larson, **J Cavender-Bares**, New methods to rapidly quantify (leaf) shape and model its evolution, Symposium on Empirical Approaches to Phylogenetic Comparative Methods in Plant Science, Botanical Society of America Annual Meeting, July 26 - 30 2014, Boise, Idaho.

Pearse, William, **J. Cavender-Bares**, Sarah E. Hobbie, Neil D. Bettez, Lindsay Darling, Christopher Neill, Peter M. Groffman, Sharon Hall, Jim Heffernan, Kelli L. Larson, Jennifer L. Morse, Kristen C. Nelson, J. O'Neil-Dunne, Diane E. Pataki, Colin Polsky, R. Roy Chowdhury, Meredith K. Steele Homogenization of plant diversity in six major USA cites: Integrating socio-economic, environmental, and phylogenetic information, 99th Ecological Society of America Meeting, Sacramento, Aug. 2014.

Kaproth, Matthew A., Valery J. Terwilliger**, Jeannine Cavender-Bares**, Phenotypic plasticity and performance of seven oak species seedlings across a hydrologic gradient: Support for the specialization hypothesis, 99th Ecological Society of America Meeting, Sacramento, Aug. 2014.

Ramirez-Valiente, Jose A., **J. Cavender-Bares**, Population differences in leaf traits in *Quercus oleoides*: Effects of natural selection and neutral evolutionary processes, 99th Ecological Society of America Meeting, Sacramento, Aug. 2014

2013

Pearse, William D., **Jeannine Cavender-Bares**, Sarah E. Hobbie, Peter Groffman, and Members of the Urban Homogenization Project, Plant diversity and community composition in six major USA cities , Ecological Society of America Meeting, Minneapolis, Aug. 2013

Center, Alyson E., Julie R. Etterson, **Jeannine Cavender-Bares**, Differentiation of physiological traits among tropical live oak populations throughout dry forests of Central America, 98th Ecological Society of America Meeting, Minneapolis, Aug. 2013

Williams, Laura, Peter B. Reich, **Jeannine Cavender-Bares**, Alain Paquette, Intraspecific variation in plant traits mediated by neighborhood composition and its effects on ecosystem properties in a tree functional diversity experiment, 98th Ecological Society of America Meeting, Minneapolis, Aug. 2013

Lind, Eric, John Vincent, George Weiblen, **Jeannine Cavender-Bares**, Elizabeth Borer, Phylogenetic structure of an arthropod consumer community: Specialization, turnover and response to plant diversity manipulation, Ecological Society of America Meeting, Minneapolis, Aug. 2013

Beulke, Anne K., Dan Borkowski, Jeanne Romero-Severson, **J. Cavender-Bares**, Selection in candidate genes associated with drought and freezing response in live oaks (*Quercus* series Virentes) across a latitudinal gradient, Ecological Society of America Meeting, Minneapolis, Aug. 2013

Wei, Xiaojing, Jessica A. Savage, **J. Cavender-Bares**, Habitat differentiation among closely-related willow species along a water table gradient, Ecological Society of America Meeting, Minneapolis, Aug. 2013

Quiram, Gina L., **Jeannine Cavender-Bares**, Ruth G. Shaw, Long-term consequences of biocontrol agents: Demographic variation among Lythrum salicaria populations 16 years after herbivore introduction, Ecological Society of America Meeting, Minneapolis, Aug. 2013

Fallon, Beth, **Jeannine Cavender-Bares**, Functional differentiation among seven ecologically-stratified oak (Quercus) species in southeastern Arizona, Ecological Society of America Meeting, Minneapolis, Aug. 2013

2012

Center A. and **J. Cavender-Bares**, Do seasonal water availability and seed production timing influence germination rates, seedling growth and survival in the tropical dry forests of Costa Rica? ¿Tienen la disponibilidad estacional de agua y producción de semillas de tiempo influyen en las tasas de germinación, crecimiento y supervivencia de plántulas en los bosques secos tropicales de Costa Rica? Area Conservacion Guanacaste, Research and Education Symposium, Santa Rosa National Park, Costa Rica, May 2012.

Wei X. and **J. Cavender-Bares**, Consequences of water stress and herbivory on species habitat differentiation in diverse willow communities, Long-Term Ecological Research, All Scientists Meeting, Estest Colorado, Sept. 2012.

Quiram, G. ,R. Shaw and **J. Cavender-Bares**, Evolution of an Invasive Plant in Response to Management. Evolution Meeting, Ottawa Canada, July 2012.

2011

Alyson Center and **J. Cavender-Bares**, "Differential germination success rates between seasonal seed cohorts in two populations of the tropical live oak," *Quercus oleoides*, in dry forests of Northwest Costa Rica: implications for a changing climate, Ecological Society of America, Austin TX Aug. 2011

2010

J. Cavender-Bares, A. Gonzalez-Rodriguez, et al. Phylogeography and climatic niche evolution in live oaks (*Quercus* series *Virentes*) from the tropics to the temperate zone, Evolution. Portland OR, July 2010

Savage, J. and **J. Cavender-Bares.** An ecological and evolutionary perspective on the role of functional trade-offs in determining willow species (genus: *Salix*) distributions at two geographic scales. Presented at the Ecological Society of America Annual Conference, Pittsburgh, PA. Aug. 2010

Gugger, P., S. Sugita, **J. Cavender-Bares** Synergy of fossil and molecular data for understanding late Quaternary history of Douglas-fir. [Presentation] Ecological Society of America 95th Annual Meeting, Pittsburgh, PA, 3 August 2010.

Quiram, G., R. Shaw & **J. Cavender-Bares**. 2010, Genetic variation in vigor and competitive performance of *Lythrum salicaria* (purple loosestrife) following the introduction of biological control agents, Evolution, Portland OR, 25-29th June

Knapp, S., Dinsmore, L., Fissore, C., Hobbie, S., Jacobsdottir, I., King, J., Klotz, S., McFadden, J., **Cavender-Bares, J.** . "Functional and phylogenetic characteristics of spontaneous garden floras"40th annual conference of the Ecological Society of Germany, Switzerland and Austria (GfÖ)", Giessen, Germany from 2010/08/30 to 2010/09/03

Park, J.-H., **Cavender-Bares, J.**, and Juzwik, J. "Consequences of multiple *Ceratocystis smalleyi* infections for stem water transport in maturing bitternut hickory." North Central Division meeting of the American Phytopathological Society: Rapid City, SD. June 2010. Poster.

Merriman MP, Gugger PF, Koehler K, **Cavender-Bares J**. Using leaf morphology to determine the origin of Cuban oaks. [Poster] Undergraduate Research Symposium, University of Minnesota, Minneapolis, MN, April 2010

2009

Savage, J. and **J. Cavender-Bares** (2009) The ecological consequences of niche evolution in the genus *Salix*. Ecological Society of America Annual Conference, Albuquerque, NM.

Gugger, P., S. Sugita, **J. Cavender-Bares**. 2009. Comparing range-wide phylogeography of Douglas-fir to the fossil record. [Presentation] Evolution, Moscow, ID, 13 June 2009.

Cavender-Bares, J. C. Willis and PB Reich, Community assembly and phylogenetic diversity of understory oak savanna communities on a long-term fire frequency experiment, Ecological Society of America, Albuquerque, NM August, 2009

Deacon, N and **J. Cavender-Bares**, Role of local adaptation in Quercus oleoides populations from contrasting environments, Ecological Society of America, Albuquerque, NM August, 2009

2008

Cavender-Bares J., *Linking physiological function and phylogeography in the American live oaks,* Young Investigator's Symposium, Evolution Meeting, Minneapolis, MN July 2008.

Savage J. and **J. Cavender-Bares,** Variation in the cold- acclimation and growth of twenty-seven North American Willow and poplar species (family: *Salicaceae*) relates to their latitude of origin, Ecological Society of America, August, 2008

Deacon N. and **J. Cavender-Bares**, *Pollen dispersal among fragmented and genetically distinct tropical live oak (Quercus oleoides) populations in Guanacaste, Costa Rica*, Evolution Meeting, Minneapolis, MN July 2008.

Whittington H., **J. Cavender-Bares**, A. Wilczek, J. Schmidt, Arabidoposis thaliana *ecotypes from warmer climates display greater thermal dissipation of light energy when grown in a common garden during winter*, Ecological Society of America, August. 2008

Cavender-Bares J., *Linking phylogenetic history, plant traits and communities across environmental gradients* Winter Science Meeting, Cedar Creek, Feb. 1, 2008

Savage J. and **J. Cavender-Bares**, *Photoprotective mechanisms in willows in response to drought*, Winter Science Meeting, Cedar Creek, Feb. 1, 2008

Koehler K. and **J. Cavender-Bares**, *Consequences of global change for phenological processes*, Winter Science Meeting, Cedar Creek, Feb. 1, 2008

Savage, J. and **J. Cavender-Bares** (2008) *Willow (Salix) habitat specialization and community assembly at Cedar Creek*. Presented at the Cedar Creek Ecosystem Science Preserve Symposium, Bethel, MN. July, 2008

2007

Cavender-Bares, J., Annette Pahlich, Antonio Gonzalez-Rodriguez, Nicholas Deacon, Frank Hoerner, and Jessica Savage, Physiological phylogeography of live oaks from the tropics to the temperature zone, Association for Tropical Biology and Conservation, July 2007, Morelia, Mexico; organized symposium with my former post doc, Antonio Gonzalez-Rodriguez, on Tropical Oaks: Diversity, Ecology and Conservation with speakers from four countries.

Klemens, J., N. Deacon, and **J. Cavender-Bares,** Factors limiting regeneration of a tropical lowland oak: a case study
Association for Tropical Biology and Conservation, July 2007, Morelia, Mexico

Deacon, N and **J. Cavender-Bares**, Population genetic structure and pollen flow in a highly fragmented monomdominant live oak forest of Costa Rica. Association for Tropical Biology and Conservation, July 2007, Morelia, Mexico

Savage, J, **J. Cavender-Bares** and A. Verhoeven; non-photochemical quenching and changes in xanthophyll pigment concentrations in response to an experimental dry-down in six co-occurring willow species. Botanical Society of America, June 2007, Chicago, IL.

Deren A. R. Eaton, Heather R. Whittington, Marcus V. Warwell, and Sonja J. Riddle; Mentor: **J. Cavender-Bares** Variation among natural accessions of *Arabidopsis thaliana* in utilization of photoprotective mechanisms during cold stress. University of Minnesota Undergraduate Research Symposium, April 2007.

2006

Cavender-Bares, J., Annette Pahlich, Antonio Gonzalez-Rodriguez+, and Jessica Savage**, Genotypic and ecophysiological differentiation of live oaks from the tropics to the temperate zone, Population Genetics and Genomics of Forest Trees, Madrid, Spain, 10/2006

Cavender-Bares, J., Clarence Lehman, Rebecca Montgomery, Peter Reich and Robert Holt, Forging links between ecology and evolution within the LTER framework, LTER All Scientists Meeting, Estes Park, Colorado, 9/2006

Willis, Charles, **Cavender-Bares, J.**, C. Lehman, M. Halina, A. Keen, S. McCarthy, P. Reich, Peter, Phylogenetic structure and community assembly of two long-term experimental plant communities, Ecological Society of America, Memphis, 8/2006.

Savage, Jessica, **Cavender-Bares, J.**, Differentiation in drought response strategies of co–occurring willow (*Salix*) species, Ecological Society of America, Memphis, 8/2006.

Cavender-Bares, J., J. Savage, F. Hoerner, A. Pahlich, N. Deacon, St. Paul, MN, Ecophysiological and genetic differentiation of live oaks across a latitudinal gradient from the tropics to the temperate zone, Ecological Society of America, Memphis, 8/2006.

Deacon, Nicholas, **Cavender-Bares, J.**, Microsatellite variation and structure of 12 populations of the common dry forest tree, *Quercus oleoides*, in a fragmented landscape, Ecological Society of America, Memphis, 8/2006.

2005

N. Deacon and **J. Cavender-Bares**. Effects of Habitat Fragmentation on *Quercus oleoides* Forests in Costa Rica, Ecological Society of America, Montreal, 8/2005.

Cavender-Bares, J., B. Miles, V. Terwiliger, L. Urgenson, G. Parker and C. Lovelock. Intraspecific variation in hydraulic conductance and water use efficiency of oak trees and seedlings across natural and experimental hydrologic gradients, Ecological Society of America, Montreal, 8/2005.

J. Savage and **J. Cavender-Bares**. Vulnerability to drought-induced cavitation of co-occurring willow species from different habitats. Cedar Creek Summer Research Symposium, 6/2005.

Cavender-Bares, J., A. Keen, B. Miles. Phylogenetic structure of Floridian plant communities depends on taxonomic and spatial scale**,** Community Genetics and Phylogenetics Symposium, Center for Community Genetics, University of Minnesota, 4/2005.

C. Willis, **J. Cavender-Bares,** A. Keen, C. Lehman. Phylogenetic structure of long-term experimental communities. Community Genetics and Phylogenetics Symposium, Center for Community Genetics, University of Minnesota, 4/2005.

N. Deacon and **J. Cavender-Bares**. Effects of Habitat Fragmentation on *Quercus oleoides* Forests in Costa Rica. Community Genetics and Phylogenetics Symposium, Center for Community Genetics, University of Minnesota, 4/2005.

2003 and earlier

Cavender-Bares, J., D. Ackerly, D. Baum, and F.A. Bazzaz. Phylogenetic overdispersion in Floridian oak communities, Ecological Society of America, Tuscon, Arizona, 7/2002.

Cavender-Bares, J., D. Ackerly, D. Baum, and F.A. Bazzaz. Phylogenetic repulsion in the assembly of Floridean oak communities, American Society of Naturalists Meeting, Banff, Canada, 7/2002.

Cavender-Bares, J. Comparative ecology and evolution of north-central Florida oaks, International Oak Society. North Carolina Arboretum, Asheville NC, 10/2000.

Cavender-Bares, J. and N.M. Holbrook. Hydraulic properties and freezing-induced cavitation in sympatric evergreen and deciduous oak species. Ecol. Soc. of America Mtg., Snowbird, UT 8/2000.

Cavender-Bares, J., D. A. Ackerly, D. Baum and F.A. Bazzaz. Correlated evolution in 17 sympatric species of oaks: a study of habitat and plant functional traits. Ecol. Soc. of America Mtg., Spokane, WA 8/99.

Cavender-Bares, J., F.A. Bazzaz and N.M. Holbrook. Linking leaf traits to growth strategies and habitat in a complex of sympatric oak species. International Canopy Conference, Marie Selby Botanical Gardens, Sarasota, Florida, 11/98.

Cavender-Bares, J., S. Apostol, I. Moya, J.M. Briantais and F.A. Bazzaz. PSII Sensitivity to cold stress in an evergreen and a deciduous oak: Are evergreen leaves inherently protected against chilling-induced photoinhibition. XIth International Congress on Photosynthesis, Budapest, Hungary 8/98.

Cavender-Bares, J. and F.A. Bazzaz. Predicting growth strategies from leaf traits and habitat: Can we understand plant responses to global change? Ecol. Soc. of America Mtg., Baltimore, MD 8/98

Cavender-Bares, J., M. Potts, E. Zacharias and F.A. Bazzaz. Effects of CO_2 and light on phenology and senescence in red oak saplings, Ecol. Soc. of America Mtg., Albuquerque, NM 8/97.

Cavender-Bares, J. and F.A. Bazzaz. Ontogenetic changes in the physiology of *Quercus rubra* in response to prolonged drought: a prelude to scaling ecosystem physiology, Ecol. Soc. of America Mtg., Providence, RI 8/96; also presented at the Harvard Forest Symposium, Petersham, MA, 3/96

Cavender-Bares, J., P.B. Voss and F.A. Bazzaz. Responses of *Rumex crispus* to diurnal variations in carbon dioxide concentration and light intensity, Ecol. Soc. of America Mtg., Snowbird, UT 8/95.

Cavender-Bares, J., J. Cavender and H. Hohl. Ecological distribution of cellular slime molds in forest soils of Germany. Fifth International Mycological Congress (IMC5), Vancouver, BC, 8/94.

Cavender-Bares, J. and J. Jäger. Learning to manage global environmental risks in Germany: Lessons for North America; Policy Symposium on Air Issues, sponsored by Environment Canada and the B.C. Environment Ministry. Victoria, BC, 8/93.5

Cavender, J. Investigations of signal peptide cleavage in bovine growth hormone, East Coast Science Conference, Ithaca NY, 4/88.

Conferences/Workshops attended for career development or training purposes:
American Geophysical Union, San Francisco, December 2014
Smith Foray, Fungal sporocarp survey and taxonomy, Cedar Creek, Minnesota, September 2014
Smith Foray, Fungal sporocarp survey and taxonomy, Eau Clair, Wisconsin, September 2013

TEACHING AND ADVISING

Core Teaching:

Ecology, **EEB 3408W, writing intensive, quantitative** (4 credits, 150 students), **EEB 3408W, writing intensive, Spring 2015** (140 students, 3 credits)**, Spring 2013** (125 students, 3 credits)**, Spring 2010,** 3 credits; **BIOL 3408W, Spring 2008**, 3 credits, co-taught with D. Alstad, **BIOL 3407**, **Spring 2006,** 3 credits, co-taught with D. Alstad; 120 upper level undergraduate students; includes 5 or 6 laboratory sections in which students design experiments to test hypotheses; the course is writing intensive. The course emphasizes ecological theory and application. 1 yr of Calculus is required.

***Plant Physiological Ecology*, lecture+lab**, **EEB 4068/5068**, **Spring 2016** (30 students)**, Spring 2014,** 3 credits, **EEB 4068/5068**, **Spring 2009**; 4 credits, **EEB 4068/5068**, **Spring 2007**; 4 credits ; **BIOL 4950, Spring 2005,** 3 credits, **BIOL 4950, Spring 2004**; The course includes seven graduate level labs and a field trip to Cedar Creek, **Spring 2006**.

Sustainability Science Distributed Graduate Seminar, **EEB 8200, 2010-2016,** 3 credits; **Spring 2015** with ASU, Universidad Nacional Autonoma de Mexico (UNAM) and Universidade Sao Paulo (USP), **Spring 2016** with ASU, UNAM. **Spring 2013** with ASU, UNAM and Technical University of Costa Rica. Over the three semesters, over 170 students, post docs and faculty have participated from eight institutions. **Fall 2010**, sponsored by the National Center for Ecological Analysis and Synthesis, UM Institute on Environment and Harvard Kennedy School of Government with CIEco-UNAM, Mexico, Arizona State University, Princeton University, FIU Miami FL. with S. Polasky; **Fall 2011**: with Harvard, ASU, Columbia University;

Additional Teaching:

Ecology, Evolution and Behavior – **EEB 3500**, **Fall 2017**, 1 credit seminar for undergraduates

Integrative Plant Biology – Connecting Molecules to Ecosystems, **BIOL 8081**, **Fall 2008**, 3 credits, co-taught with Min Ni and Cindy Tong

Graduate Seminar on Plant Functional traits, **EEB 8990**, **Fall 2007**, 1 credit, with Helene Muller-Landau, Rebecca Montgomery, Jennifer Powers, and Peter Reich

The Earth's Great Temperature Cycles:What is known and what needs to be known about them and their relation to the short and long-term carbon cycles; **EEB 8990**, **Fall 2006**, 1 credit, co-taught with Clarence Lehman, Shinya Sugita, Richard McGeehee, and Eville Gorham

Seminar on Phylogeography and Paleoecology, **EEB 8010, Spring 2005**, 1 credit, co-taught with Shinya Sugita and Sharon Jansa

***Ecology Journal Club*, EEB 8080, Fall 2005**, 1 credit, with R. Sterner, H. Muller-Landau, S. Jones, J. McFadden,

***Environmental Science*, STIA 102, Spring 2001**, 4 credits, Georgetown University

Learning to Teach Early Career Teaching Program, Fall 2006 – Spring 2007, sponsored by the Center for Teaching and Learning Services at UM; involved monthly meetings in large and small groups to explore important aspects of teaching theory and practice

Postdoctoral Advisees:

Jesus Pinto-Ledezma, August 2017 – present, Macroecological and evolutionary processes (UMN Grand Challlenges Post doc awardee)

Josep Padulles, May 2017 – present, Urban biodiversity (NSF)

Anna Schweiger, May 2015- present, Remote sensing of biodiversity (NSF-NASA)

Nicholas Deacon, Oct. 2014-present, Assessing Genetic Diversity, Ecological Niches, and Climate Change Vulnerability of Niobrara NSR Aspens (NPS)

Jose Eduardo Meireles, Sept. 2014-present. Linking spectra to the plant tree of life (NSF, NIMBioS)

Past Postdoctoral Advisees:

Xiaojing Wei, Community assembly in willows and poplars. September 2016-May 2017.

Jose Ramirez-Valiente, April 2013 – May 2015. Adaptive differentiation in water use among populations of tropical live oak.

Mathew Kaproth, Dec. 2012 – Dec. 2015. Evolution of drought tolerance in the Oaks of the Americas

William Pearse, Jan. 2013 – Aug. 2015. Ecological homogenization of Urban America.

Jessica Savage, June 2010 – Feb. 2011. Testing growth-defense trade-offs in hyper-diverse willow communities.

Sonja Knapp, Feb.-April, 2009 Visiting Post Doc from Halle, Germany; comparative study on phylogenetic and functional diversity across rural to urban land-use gradients in Germany and Minnesota. Currently a post doc at the Helmholz Institute in Halle.

Antonio Gonzales-Rodriguez, May 2006 – Dec. 2006
Conducted a study on hybridization of live oak species (section *Virentes*) in Mexico
Antonio now is a tenured professor at the Centro de Investigaciones en Ecosistemas (CIEco), Universidad Nacional Autónoma de México (UNAM)

Jeffrey Klemens, Sept. 2004 – Aug. 2006. Awarded NSF Postdoctoral Fellowship Grant, *Limitations to regeneration of* Q. oleoides *in the Guanacaste region of Costa Rica*. Jeff is now teaching as a lecturer at the University of Pennsylvania and working through the Organization of Tropical Studies in Costa Rica.

Current PhD Graduate Advisees:

Shan Kothari, Fall 2014 – present (PBS)

Jen Teshera-Levye, Fall 2013 – present (EEB)

Jacob Grossman, Fall 2012 – present (EEB) (defends Jan. 2018)

Laura Williams, Fall 2011 – present (EEB), Co-advising with Peter Reich (defends Dec. 2017)

Elizabeth Fallon, Fall 2011 – present (PBS) (defends Oct. 2017)

Past PhD Students:

Xiaojing Wei, Fall 2009 – 2015 (EEB) PhD Thesis: *The consequences of drought, flooding and insect herbivory on the distributions of closely related Salicaceae species across hydrologic gradients in Minnesota wetlands*; Current position: postdoctoral associate, University of Alberta, CA

Alyson Center, Fall 2009 – 2015 (PBS) PhD Thesis: *Physiological and fitness consequences of seasonal rainfall variation in neotropical live oak seedlings (Quercus oleoides): implications for global change*

Gina Quiram, Fall 2007 – 2013, Co-advised with Ruth Shaw
PhD Thesis: *The ecology and evolution of an invasive perennial plant (Lythrum salicaria) in the context of biological control by specialist herbivores (Galerucella spp.)*
Current position: Lecturer College of Continuing Education (CCE) Graduate Programs, Univ of Minnesota

Nicholas Deacon, Fall 2003 - 2010
PhD Thesis: *Population genetic structure, pollen dispersal, and local adaptation in Quercus oleoides forests of Costa Rica*
Current Position: Postdoctoral Research associate, Univ of Minnesota; US National Park Service

Jessica Savage, Fall 2004 - 2010
PhD Thesis: *An ecological and evolutionary perspective on functional diversity in the genus* Salix
Current position: Assistant Professor at University of Minnesota Duluth

Paul Gugger, May 2005 – 2010, Co-advised with Shinya Sugita
PhD Thesis: *Phylogeography of Douglas-fir: testing hypotheses from the fossil record*
Best Dissertation Award in Biological & Medical Sciences, UMN, 2011
Current position: Assistant Professor at University of Maryland, Appalachian Lab

International Visiting Scholars:

Teja Kattenborn, Institute of Geography and Geoecology, Karlsruhe Institute of Technology (KIT), Germany, Sept-Oct. 2016.

Wei Wang, Associate Professor, Peking University, Selected by UMN China Center as the visiting scholar award recipient, Sept. 2015-2016.

Vinisius Marcilio Da Silva, Universidade Federal do Paraná. Brazil, Jan. 2015-2016.

Ane Kirstine Brunjberg, Aarhus University in Denmark, Aug – Dec. 2011, Community phylogenetics of dune communities (PhD student)

Martin Volf , Institute of Entomology, Czech Republic, , June-July 2011 (Master's student)

Selene Ramos-Ortiz, CIEco-UNAM, Morelia, Mexico, Nov.-Dec. 2010 (PhD student)

Sonja Knapp, Helmholz Institute in Halle, Germany, urbanization impacts on phylogenetic and functional structure of yard plant communities, Jan-March 2009 (PhD student)

Jose Ramirez-Valiente, INIA, Spain, Feb-May 2008, population level variation in leaf anthocyanin content in live oaks across a latitudinal gradient (PhD student)

Ph.D. Thesis Committees:

Shan Kothari (PBS) 2014 - present
Jen Teshera-Levye (EEB) 2013 - present
Daniel Ackerman (EEB) 2015 - present
Traciso Leao (Conservation Biology) 2013 - present
Patrick Ewing (Applied Plant Genetics) 2012 - present
Jake Grossman (EEB) 2012 - present
Clare Kazanski, (EEB) 2011 - present
Stephanie Erlandson (PBS) 2011 - present
Laura Williams (EEB) 2011 - present
Elizabeth Fallon (PBS) 2011- present
Hernando Rodriguez (CIEco-UNAM) 2011-2015 (completed)
John Vincent (EEB, University of Minnesota) 2009 – 2011 (completed)
Matt Dufort (EEB, University of Minnesota) 2009 – 2015 (completed)
Xiaojing Wei (EEB, University of Minnesota) 2009 – 2015 (completed)

Alyson Center (EEB, University of Minnesota) 2009 – 2015 (completed)
Emily Mohl (EEB) 2008 – 2014 (completed)
Peter Wragg (EEB, University of Minnesota) 2008 – 2015 (completed)
Tricia Markle (Conservation Biology) 2008- 2015 (completed)
Rachel Putnam (EEB, Univ. Minnesota) 2007 – 2015 (completed)
Gina Quiram (EEB, Univ. Minnesota) 2006 – 2013 (completed)
Jennifer Boldt (Horticulture) 2008-2013 (completed)
Marcus Warwell (EEB, University of Minnesota), Spring 2006 – 2015 (completed)
Kala Peebles (Dept. of Forest Resources, Univ. Minnesota), Fall 2005 – 2014 (completed)
Justin Becknell (EEB, Univ. Minnesota) 2008 – 2012 (completed)
Jeremy Beaulieu (Dept of Ecology and Evolution, Yale University), Spring 2009 – 2012 (completed)
JiHyun Park (Dept. of Plant Pathology, Univ. Minnesota) 2007 – 2011 (completed)
Timothy Whitfield, Chair (Plant Biology, Univ. Minnesota), Fall 2006 – 2011 (completed)
Jessica Savage (Plant Biology, University of Minnesota), Fall 2004 – 2010 (completed)
Paul Gugger (EEB, University of Minnesota), Fall 2004 – 2010 (completed)
Nicholas Deacon (Plant Biology, University of Minnesota), Fall 2003 – 2010 (completed)

Master's Thesis Committees:
Marta Vargas (EEB, U Minnesota), Fall 2007 – 2012 (completed)
Basil Iannone (Conservation Biology, U Minnesota), Fall 2004 – Spring 2007 (completed).
Brianna Miles (Department of Forestry, University of Florida), Spring 2006 –2008 (completed).

Undergraduate Research

2017

Isabella Armour, Drought sensitivity of Niobrara aspen hybrids, College of Biological Sciences Undergraduate Research Symposium, April 2017.

Kali Hall, Oak wilt detection and management, Cedar Creek Research Symposium

2015

Calcaterra, Christina, B. Fallon, & J. Cavender-Bares. *Freezing Tolerance in* Quercus alba *and* Q. macrocarpa. Spring 2015. Univ. of Minnesota, College of Biological Sciences Undergraduate Research Symposium

Brett Fredericksen, Directed Research, *Relating HPLC concentrations of Leaf Chemical Components to Spectroradiometric Data,* Fall 2015.

Hanna Dort, UROP, College of Biological Sciences, *Leaf functional traits, chemistry, biodiversity and ecosystem processes.*

Ada Breitenbucher, Directed Research, *Effects of leaf chemistry and biodiversity on litter decomposition*, Fall 2015, College of Biological Sciences.

2014

McMann, N, MA Kaproth and J Cavender-Bares, 2014. Investigation of leaf traits in Quercus (oak) species and the role of leaf plasticity in local acclimation. Poster Presentation. UofM Summer Undergraduate Research Symposium (Minneapolis, MN)

Perez, G, MA Kaproth and J Cavender-Bares, 2014. Drought tolerance and winter temperatures in Quercus (oaks). Poster Presentation. UofM Summer Undergraduate Research Symposium (Minneapolis, MN)

Perez, G, MA Kaproth, WD Pearse and J Cavender-Bares, 2014. Variation in leaf functional traits across climatic gradients in oaks of the Americas. Poster Presentation. UofM Undergraduate Research Symposium (Minneapolis, MN)

Fredericksen, B, MA Kaproth and J Cavender-Bares, 2014. Drought tolerance trait conservation in Oaks of the Americas. Poster Presentation. UofM Summer Undergraduate Research Symposium (Minneapolis, MN)

Sally Ratliff, Beth Fallon, J Cavender-Bares, Summer CBS Undergraduate Symposium: "Mating to Get Ahead? Investigating Oak Species Hybridization in the Chiricahua Mountains."

Natalie McMann – Directed Research, 4 credits. Evolution of xylem anatomy in the Oaks of the Americas

Austin Pieper, NSF Summer REU. 2014. Supplement to Dimensions of Biodiversity; co-advised with Amy Verhoeven on "How do diverse prairie species vary in water use efficiency and photoprotective responses to seasonal drought over the course of the growing season?"

Christina Calcaterra, UROP awardee, Fall 2014: "Role of Freezing Tolerance in High Elevation and Upper Latitude White Oak Distributions"

Natalie McMann, Directed Research, 4 credits, Fall 2014. *Evolution of xylem and stomatal anatomy of the oaks of the Americas*. Presented a poster at the UofM Summer Undergraduate Research Symposium.

Brett Fredericksen, Summer UROP; fall Directed Research, 4 credits, fall 2014. Presented a poster at the UofM Summer Undergraduate Research Symposium. His work focused on chlorophyll fluorescence, leaf water potential, gas exchange over a soil moisture gradient. His Fall semester was directed research on leaf osmolarity variation to estimate turgor loss points.

Sally Ratliff, UROP Summer 2014. Worked with Beth Fallon on southeastern Arizona oak leaf morphological data, leaf turgor loss point quantification. Presented a poster at the UofM Summer Undergraduate Research Symposium. Trichome characterization of oak species.

Sydney Schniffer, Fall UROP – growth allometry on *Q. oleoides* populations across water treatments

Gloria Perez, Spring and Summer 2014. HHMI/Directed Research. Worked Will Pearse, Matt Kaproth and in my lab on a study of plant trait variation across environmental conditions. She worked on Oaks of the Americas and Urban Homogenization of American projects. Presented a poster at the UofM Spring and Summer Undergraduate Research Symposiums.

Heather Goff, Summer, 2014. Evolution of xylem anatomy in the Oaks of the Americas

Ian Carriere, Spring 2014, worked with Beth Fallon on common gardens for water and freezing tolerance experiments of oaks. Ian also will measure stem and stomatal trait data of the Arizona oaks (NSF Oaks of the Americas project).

2013

Sydney Schiffner,started Fall 2013, worked with Xiaojing Wei, Jose Ramirez Valiente and Matt Kaproth on greenhouse plant common garden care, leaf sample preparation for HPLC and plant measurements (Willow LTER, LOARDS and Oaks of the Americas). She also has assisted with allometry harvests and measuring. Sydney has also volunteered to collect the weather data for Will on the Urabn Homogenization of American project.

Jesse Nowicki, 2013 -2014, worked with Matt Kaproth on the herbarium trait measurements and oak common garden measurements for the Oaks of the Americas project and acorn harvests for FAB.

SERVICE AND OUTREACH ACTIVITIES

National and International Service Activities

Intergovernmental Platform on Biodiversity and Ecosystem Services (IPBES), Americas Regional Assessment (Coordinating Lead Author): *Status, trends and Dynamics of Biodiversity and Ecosystems Underpinning Nature's Benefits to People*, 2015-present, 2015-present

Vice-Chair, Gordon Research Conference on Multiscale Plant Vascular Biology, 2017-2018

Advisory boards and review panels:

Advisory Board, *New Phytologist*, 2017-present
Scientific Advisory Board, BioDISCOVERY, University of Zürich
Scientific Steering Committee, Center for Tree Science, Morton Arboretum (2015-present)
Advisory Board, National Evolutionary Synthesis Center, 2012-2015
Review panel for NESCent grant proposals, Feb. 2013, Sept. 2013, Jan. 2014

Professional Accomplishments Evaluation Committee (PAEC), for the Smithsonian Tropical Research Institute [STRI] to evaluate the progress, accomplishment and international standing of its scientists, fall 2012, fall 2013, fall 2014.

NSF Grant Review Panel, Integrative and Organismal Systems, October 2014

NSF Grant Review Panel, Dimensions of Biodiversity, July 2012.

NSF Long Term Ecological Research Network, Science Council Meeting, Served as Cedar Creek Representative, Peabody, MA, May 2010

National Science Foundation: *Towards a Science of Sustainability,* Rapporteur for Working Group 3: "Measuring and Monitoring Progress Toward Sustainability," Wash. D.C. Dec. 2009.

Organization for Tropical Studies, and UMN delegate, 2008-2010

Science Advisory Committee, Organization for Tropical Studies, 2008-2010

Interviewed with NSF review team during the site review of the National Center for Ecological Analysis and Synthesis, Feb. 2009

NSF Long-Term Ecological Research Network, Planning Committee for the 2009 All Scientists Meeting (2008-2009)

NSF Grant Review Panel, Integrative and Organismal Systems: Organisms-Environment Interactions, April 2007.

NSF Doctoral Dissertation Improvement Grant Review Panel, Feb. 23-25, 2005

Public Policy Committee of the American Institute of Biological Sciences (1/2001 – 8/2005); involved in selection process for the AIBS Emerging Public Policy Leader Award, an opportunity for graduate students in biology to receive first-hand experience in the policy arena; contribute to decision making for AIBS positions on government policies and AIBS lobbying efforts for public support of funding in the biological sciences.

Elected Office in National Societies
President, Physiological Ecology Section, Ecological Society of America (2012-2014)
Governing Council of the Ecological Society of America (2012-2014)

Tenure and Promotion Evaluations:
Michigan Technical University (2015)
George Mason University (2013)

University of California Berkeley (2013)
Texas Tech University (2012)
Michigan Technical University (2011)
Smithsonian Tropical Resources Institute (2011)

Editing:
Associate Editor for *Ecology*, 2009-present
Chief Guest Editor for special issue in Ecology and Society on *Ecosystem service trade-offs across global contexts and scales*
Chief Editor for special/supplement issue of *Ecology* on *Integrating Ecology and Phylogenetics 2012*
Associate Editor for Physiological Ecology, *Journal of the Torrey Botanical Society*, 2005 - 2008.
Served as a guest editor for *Plant Ecology*, (Spring 2003)

Manuscript reviews:

Frequent journal reviewer in the area of ecology and evolution in general, society and specialized journals, including *Science, Nature, Proceedings of the Royal Society B, Proceedings of the US National Academy of Science, Bioscience, Ecology Letters, American Naturalist, Ecology, Evolution*, *Trends in Ecology and Evolution*, *Molecular Ecology, Photosynthesis Research, Journal of Vegetation Science, Plant and Soil*, *Biotropica*, *Functional Ecology, Oikos, Grant proposals, Plant Biology, Plant, Cell & Environment, Tree Physiology, Ecography*, *New Phytologist*, *Canadian Journal of Forest Research*, *TREES*, *Plant Biology*, *Tree Physiology, Journal of Forest Ecology and Management, Journal of the Torrey Botanical Society*, *Conservation Biology, Frontiers in Ecology and Evolution, Journal of Ecology, Tree Structure and Function, Plant Physiology, Acta Oecologia, Environmental and Experimental Botany, Journal of Applied Ecology, Canadian Journal of Forest Research, Oecologia, Journal of Forest Ecology and Management, Ecological Monographs*

Professional Societies:

Fulbright Association, Ecological Society of America (Physiological Ecology section); Society of American Naturalists, Mycological Society of America, Botanical Society of America (Ecology and Physiology sections); American Association for the Advancement of Science; American Institute of Biological Sciences; International Oak Society

UMN University, College and Departmental Committees and Service:

Directed of Undergraduate Studies (2017 – present). Responsible for connecting undergraduates to research, advising undergraduates going abroad, assigning transfer credits, approving directed research contracts between students and faculty mentors, and developing and managing undergraduate curriculum in the College of Biological Sciences.

Chair, Women's Faculty Cabinet, Senior Chair (2016-2017), Co-Chair (2015-2017).

Negotiated an annual budget for the WFC. Developed a university-wide policy, agreed to by the Provost's office, for teaching release for tenure track faculty of any gender when a new child arrives. Collected survey data on faculty satisfaction, salary information, policies at peer institutions, and estimated costs of policy to support policy development. Hosted a series of women faculty conversations on topics related to work and equity. Established a series of Lean In Circles at the UMN.
Hosted and organized the annual women's faculty retreats:

2017: *Creating a work environment where all women thrive*. Featuring *LeanIn* CEO Rachel Thomas, Minnesota former Speaker of the House Margaret Anderson-Kelliher and Panel of Deans across UMN, moderated by Provost Karen Hansen

2016: *Well-Being in Academic - Cultivating Balance.* Featuring Theresa Glomb on Wellness in the workplace and Merra Young on Mindfulness and well-being; University panel of diverse scholars

2015: *Effective leadership,* featuring local business leaders and politicians as well as workship discussions with UMN faculty.

EEB Merit Review Procedures Committee (2016-17)

PBS Admissions Committee (2014-2016); two year term

PBS Botanist Search Committee, assistant professor level (2015-2016)

EEB Advisory Committee (2015-2016)

EEB Mentoring – mentoring for junior faculty – with Keith Barker

EEB Annual Review Procedures Committee (2015-2016) – reviewed and recrafted annual review procedures used for merit-based salary increases in EEB

EEB Salary Committee (2013-2015); Chair 2015 – reviewed EEB faculty accomplishments for EEB merit-based salary increases

CBS Awards Committee (2015-2017)

UMN International Collaborative Research Forum, Fulbright Symposium Speaker, Northrop Memorial Auditorium, Oct. 31, 2014
Interview and review committee for undergraduate Fulbright Scholarship Program, University-wide (Sept. 2012, Sept. 2013)
Minnesota Supercomputing Institute (MSI) search committee for Senior Analyst position (Spring 2013).
EEB Advisory Committee to the Dept. Head (2011 - present)
EEB Graduate Admissions Committee (2012- 2013)
EEB Grad Faculty Membership Selection Committee (2010 - present)
Cedar Creek Proposal Review Committee (2008 - present)
Sigerfoos Fellowship (for tropical studies) Committee co-chair (2007 - present)
Ecology Search Committee (fall 2008-spring 2009)
EEB Seminar Committee Co-chair (2009)
University delegate for OTS (Organization of Tropical Studies, (2007-2009)
Curriculum Committee (2006-2008).
Community Genetics, Steering Committee; Evaluation of student research and fellowship proposals, 2004-2005
Organizing Committee (May 2004-present) for the Community Genetics and Phylogenetics Symposium held at the University of Minnesota, April 8-10, 2005
EEB Seminar Committee (2003-2005), co-chair spring and fall 2005

Faculty speaker for UMN EEB Club, Nov. 7, 2014; met with undergraduates for dinner to talk about science and career paths.

Cedar Creek lecture and discussion with REU students, July 2014; 2015, 2016

Outreach in Minnesota:

Cedar Creek Ecosystem Science Reserve 75th anniversary open house, Sept 2017. Gave public lecture and tours of experiments and natural areas in Cedar Creek Long-Term Ecological Research site.

K-12 Outreach:

Annually host ~100 Murray Middle School students (St. Paul) at the U Minnesota Plant Growth Facility to learn about how plants benefit humans, how plants photosynthesize, doing scientific experiments with plants, March 2015, March 2016, March 2017.
http://cbs.umn.edu/blogs/cbs-connect/planting-seeds

Science Fair Judge, Murray Middle School, January 2015.

"Element Cycles and Plants" for elementary students. Gave presentation in science class and developed four hands-on modules (plant water transport, plant anatomy/structure, plant pigments and photosynthesis, light capture) for 6th graders at the LNFI Saint Paul Public School, Dec. 2012

Biodiversity Conservation:

Smith Mycological Foray – Speaker and 2 day participant in the annual mushroom collection and identification event; presented the Forest and Biodiversity experiment at Cedar Creek and led a sporocarp survey, August 2014 (organized by P. Kennedy and UMN mycology club).

Keynote speaker on Urbanization and Plant Diversity for 2013 meeting: Conservation in the Anthropocene: Emerging Approaches for Effective Conservation in Minnesota, Minnesota Chapter for the Society of Conservation Biology, March, 2013.
https://sites.google.com/site/minnesotascb/annual-meeting

Outreach to students in developing countries:

Honduras:

2009-present *Aprender haciendo*: Our team engaged over 200 Latin American students at the panamerican University of Zamorano in Honduras through the "Learning by Doing" program and the NSF funded LOARD project I direct. (http://www.zamorano.edu/conozca-zamorano/enfoque/aprender-haciendo-waz/)

May 2012: Through this program, I gave multiple hands-on lectures (in Spanish) to undergraduates at the University of Zamorano about climate change impacts on plants and the biosphere, the methods involved in the scientific project they were participating in, and an in-depth tour of the physiological equipment used.

Costa Rica:

Through NSF LOARD, our research team engaged undergraduates from UNED (Universidad Estatal a Distancia, http://www.uned.ac.cr/) in Liberia Costa Rica in scientific education and direct participation in our common garden experiments in Guanacaste.

Mexico:

Proyecto Encinos: With collaborator A. Gonzalez-Rodriguez, we have been conducting a student exchange between the University of Minnesota and the Centro de Investigaciones en Ecosistemas at UNAM in Morelia over the past seven years. The program has received institutional funding from both universities and through the NSF New World Oak project.

Together with Patricia Balvanera at CIECO-UNAM and several other institutions, we co-teach a graduate level, cross-cultural sustainability science seminar.

Efforts to promote international exchange and abroad experiences for US students:

Board Member, Fulbright Alumni Association, MN chapter (May 2012 – 2013).

Review panel for Fulbright Scholarship applicants at the University of Minnesota for Spanish and French speaking countries (Sept. 2011, Sept. 2012). Involves reviewing and interviewing 15 candidates, mostly graduate students. Part of the interview is conducted in Spanish or French.

Reviewer for undergraduate study abroad scholarship applications through the Global Programs and Strategy Alliance, Learning Abroad Center, University of Minnesota, April 2012. Evaluated 50 proposals.

See Biology Abroad: http://www.cbs.umn.edu/cbs-highlights/field/biology-abroad
interview with Stephanie Xenos, College of Biological Science, for article on international research

Reviewer for undergraduate study abroad scholarship applications through the Global Programs and Strategy Alliance, Learning Abroad Center, University of Minnesota, April 2012. Evaluated 50 proposals.

President's Council of Cornell Women, Mentoring Committee, March 2013- present. We mentor young female alumns and provide advice to the President on improving conditions for women at Cornell.

Foreign languages (speak and read): German, French, Spanish

Sustainability Science outreach:

Developed a full course public Moodle site with readings and recordings of discussions for each topic, unveiled at the American Association for Sustainability in Higher Education (AASHE) meeting, Minneapolis, October 2015.
https://ay15.moodle.umn.edu/course/view.php?id=7833

http://environment.umn.edu/ione-resident-fellow/a-course-of-a-different-color/

Developed a public website for the Sustainability Science course, 2013:
https://sites.google.com/site/sustainabilitysciencedgs/

Presented a talk on "Innovations and lessons learned in distributed graduate education on sustainability science" at NSF February 2012 at the 7th annual LTER mini-symposium http://www.lternet.edu/NSFminisym/ webcast live. "The purpose of the annual mini-symposium is to showcase to Washington the relevance and broader impacts of the scientific research undertaken by the LTER network. The symposium has earned a reputation in D.C. as a 'must attend' event for people from federal agencies, non-governmental organizations, professional

societies, private organizations, and others who are interested in learning what LTER scientists and educators are doing and planning."

Blog interview for the Sustainability Education website at UMN on our Distributed Graduate Seminar in Sustainability Science
http://www.cbs.umn.edu/cbs-highlights/extraordinary-education/qa-jeannine-cavender-bares

Media/Internet Coverage:

2017
In Defense of Plants Blog and Podcast
http://www.indefenseofplants.com/podcast/2017/10/29/ep-132-the-oak-origin-story-and-what-it-means-for-conservation

One of the world's most popular trees arose near the Arctic Circle
http://www.sciencemag.org/news/2017/09/one-world-s-most-popular-trees-arose-near-arctic-circle

American oaks share a common northern ancestor
https://phys.org/news/2017-09-american-oaks-common-northern-ancestor.html
https://twin-cities.umn.edu/news-events/american-oaks-share-common-northern-ancestor

University research preserve celebrates 75 years of biodiversity studies
http://www.mndaily.com/article/2017/09/university-research-preserve-celebrates-75-years-of-biodiversity-studies

NSF awards CCNY-led team inaugural convergence research grant
https://www.ccny.cuny.edu/news/nsf-awards-ccny-led-team-inaugural-convergence-research-grant

UMN gets $4.5 million to fight invasive species
http://www.mndaily.com/article/2017/04/u-gets-4-5-million-to-fight-invasive-species

Study finds secret to diverse forests' super success
https://phys.org/news/2017-02-secret-diverse-forests-super-success.html

2016
Globalization hasn't affected what we grow and eat as much as you might think, study finds
https://twin-cities.umn.edu/news-events/globalization-hasn%E2%80%99t-affected-what-we-grow-and-eat-much-you-think
http://phys.org/news/2016-10-globalization-hasnt-affected.html
https://scifeeds.com/journal-article/commercial-plant-production-and-consumption-still-follow-the-latitudinal-gradient-in-species-diversity-despite-economic-globalization/

101st Annual Meeting of the Ecological Society of America comes to southern Florida; New Phytologist Lecture: Jeannine Cavender-Bares, professor at the University of Minnesota links evolutionary history to current ecological processes, exploring stress tolerance in plant species in our present time of global change.
http://www.eurekalert.org/pub_releases/2016-04/eso a-1am042016.php

Researchers propose satellite mission to improve understanding of global vegetation change; NASA-sponsored group looks to space to fill key gaps in our knowledge of how rapid global change is affecting Earth's life-support systems.
http://discover.umn.edu/news/researchers-propose-satellite-mission-improve-understanding-global-vegetation-change

Up in the Air; As results from aerial analyses of biodiversity roll in, Cedar Creek researchers set their sights even higher, participating in a lofty proposal to launch a satellite that can do the job on a global scale.
https://cbs.umn.edu/blogs/cbs-connect/air

2015
9 U.S. Experts and 1 U.S. Young Fellow Chosen for Deliverables
http://esa.org/ipbes/9-u-s-experts-and-1-u-s-young-fellow-chosen-for-deliverables/
http://esa.org/ipbes/u-s-engagement/

Biodiversity's Big Picture: CBS researchers participate in collaborative international effort to bring together science and policy around biodiversity and ecosystem services.
http://cbs.umn.edu/blogs/cbs-connect/biodiversitys-big-picture

Experts for regional assessment of biodiversity and ecosystem services for Americas
http://www.ipbes.net/index.php/about-ipbes/national-focal-points/46-work-programme/deliverable-2-b-scoping-for-a-regional-assessment-of-biodiversity-and-ecosystem-services-and-functions-for-the-americas/520-americas-experts

Institute on the Environment, Featured Fellow: Ecologist Jeannine Cavender-Bares
http://environment.umn.edu/ione-resident-fellow/featured-fellow-ecologist-jeannine-cavender-bares/

Planting seeds: A group of local junior high school students gained a deeper understanding of photosynthesis earlier this month at the invitation of EEB's Jeannine Cavender-Bares. 2015
http://cbs.umn.edu/blogs/cbs-connect/planting-seeds

A course of a different color
http://environment.umn.edu/ione-resident-fellow/a-course-of-a-different-color/

Childhood in rural Athens helped shape sisters' success
http://www.athensnews.com/news/campus/childhood-in-rural-athens-helped-shape-sisters-success/article_44fc1c14-acc3-11e5-bfc6-4b1252295d84.html

2014
Seed dormancy, a property that prevents germination, already existed 360 million years ago, Nov 19, 2014
http://phys.org/news/2014-11-seed-dormancy-property-germination-million.html
Plants with dormant seeds give rise to more , Public Release: 18-Apr-2014 species
http://www.eurekalert.org/pub_releases/2014-04/nesc-pwd041814.php

2013
U of M experts to speak at Ecological Society of America's Annual Meeting, July 26, 2013
http://www1.umn.edu/news/expert-alerts/2013/UR_CONTENT_451117.html

Press Release, In race against time, NSF grants fund research on Earth's threatened biodiversity, NSF Dimensions of Biodiversity program announces 13 new awards, Sept. 2013

http://www.nsf.gov/news/news_summ.jsp?cntn_id=129242

News Release, U of M researchers launching effort to get a bird's-eye view of changing ecosystems

http://www1.umn.edu/news/news-releases/2013/UR_CONTENT_459410.html, 10/16/2013

Eco Eye in the sky, Cedar Creek embarks on plans to use remote sensing for large-scale monitoring of biodiversity.
https://www.cbs.umn.edu/blogs/cbs-connect/eye-sky

BioGenesis/Diversitas (bioGENESIS is a scientific project of DIVERSITAS, the international program on biodiversity science, aiming at providing an evolutionary framework for biodiversity science.)
http://www.biogenesis-diversitas.org/stories
Story 2.10: Evolutionary perspectives on the assembly of local communities
(Box S6 in bioGENESIS Science Plan and Implementation Strategy)

2012

New York Times— Bloom Town: The Wild Life of American Cities (from the NSF Macrosystems project: "Homogenization of Urban America", article highlights our study of plant diversity and function in the Twin Cities)
http://www.nytimes.com/2012/12/02/magazine/the-wild-life-of-american-cities.html?ref=magazine

Tale of Two Scientific Fields--Ecology and Phylogenetics--Offers New Views of Earth's Biodiversity
http://www.nsf.gov/news/news_summ.jsp?cntn_id=125048
Story was featured on NSF's home page, Aug. 2012.
http://phys.org/news/2012-08-tale-scientific-fields-ecology.html#jCp

Ecology branches into the tree of life
http://www.esa.org/esablog/research/ecology-branches-into-the-tree-of-life/

Backyard Biodiversity
https://www.cbs.umn.edu/cbs-highlights/field/backyard-biodiversity

A look at backyard biodiversity, *Nature* 484, 144 (12 April 2012)
http://www.nature.com/nature/journal/v484/n7393/full/484144b.html?WT.ec_id=NATURE-20120412

Live Fast, Die Young: Urban Plants Are More Closely Related and Live Shorter Lives Than Plants in the Countryside
http://www.sciencedaily.com/releases/2012/04/120418095311.htm

News From the Field: Live Fast, Die Young
http://www.nsf.gov/news/news_summ.jsp?cntn_id=123978&org=EF&from=news

Live fast, die young
http://www1.umn.edu/news/news-releases/2012/UR_CONTENT_382621.html
http://www.peer.eu/news-events/detail/?tx_list_pi1[uid]=242
http://www.biotechmashup.com/beta/Biology/Live_fast_die_young/related_links
http://www.handsnet.org/live-fast-die-young/
https://groups.google.com/forum/?fromgroups=#!topic/fisica_teorica/WmaGYMVY6pk
http://english.scienceweek.cz/live-fast-die-young-iid-394128
http://www.agrotimes.com/Tags/plants_April_2012.asp
http://www.agrotimes.com/research/Live_fast_die_young.asp

http://www.agrotimes.com/Archives/April_2012.asp
http://environment.umn.edu/news_events/index.html

Live Fast, Die Young: Plant Species Living in Urban Backyards Are Closer Related to Each Other And Live Shorter Than Plant Species in the Countryside
http://www.sciencenewsline.com/summary/20120418153300015.html

Access Minnesota Television interview: Differences Between Rural and Urban Plant Life
http://www.youtube.com/watch?v=J-2FruAq66w

2010

Online interview for Science Watch: "Jeannine Cavender-Bares on Ecology & Phylogenetic Biology", New Hot Paper Commentary, September 2010
http://www.sciencewatch.com/dr/nhp/2010/10sepnhp/10sepnhpCave/

2009

Press Release for article on "Merging community ecology and phylogenetic biology" Cavender-Bares et al 2009; Science Direct, Cedar Creek website, National Center for Ecological Analysis and Synthesis website, Ecology Letters website
http://www.sciencedaily.com/releases/2009/05/090519075422.htm

Life in Transition: National Science Foundation Awards Grants to Study Connections Among Living Systems and Earth's History, 2009
https://www.nsf.gov/news/news_summ.jsp?cntn_id=115676

Interview (Jul., 2009) Stephanie Xenos, College of Biological Science, for article on community ecology and phylogenetic biology

Minnesota Daily, plants and climate change article based on NSF LOARD grant, April, 2009.

Interview (Jan., 2007) for the College of Biological Sciences' BIO magazine

Driven to Discover Campaign (Jan. 2007), University of Minnesota "How is the deforestation of the Amazonian rain forest affecting the climatic changes of the rest of our world?"

Interviewed by the *Minnesota Daily* about the 2004 *Nature* article. See: "U Profs study rules of plant evolution" by Emily Ayshford, April 29, 2004.

Reflections on Earth Day, or, Why We Need Native Plants Now
http://www.npsnj.org/blog/2012/04/22/reflections-on-earth-day-or-why-we-need-native-plants-now/

Earth Day 2013: U of M experts available to discuss environmental responsibility
http://www1.umn.edu/news/expert-alerts/2013/UR_CONTENT_440013.html