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Education

Ph.D. Department of Biology, Indiana University, Bloomington, IN
M.S. Environmental Science, School of Public and Environmental Affairs, Indiana University
B.S. Forestry, School of Forestry and Natural Resources, Purdue University, West Lafayette, IN

Academic appointments and professional positions

Assistant Professor – School of Forest, Fisheries, and Geomatics Sciences, University of Florida, Gainesville, FL 2018-presnt
Postdoctoral Researcher – Utah State University, Logan, UT. 2017-2018
Director's Fellow Postdoctoral Researcher – Los Alamos National Lab, Los Alamos, NM.
Global patterns of tree mortality with Dr. Nate McDowell. 2015-2017
Postdoctoral Researcher – Yale University, New Haven, CT and The Ohio State University, Columbus, OH.
Key determinants in seedling survival in central Panama with Dr. Liza Comita. 2013 -2015
Assistant Instructor – Indiana University, 2006-2012
Graduate Assistant – IU Research and Teaching Preserve
Managed the preserve properties and oversaw field crew. 2005 & 2006
Consultant Forester – Performed Forest Inventory and Analysis (FIA) sampling. 2005 – 2008
Forester – USFS North Central Research Station FIA. 2000 – 2005
Timber Technician – Indiana DNR, Division of Forestry. 1996-1999

Teaching Experience

Data Visualization in the Era of Big Ecological Data – Spring 2020, 2021 & 2022
Lead professor for Natural Resources Sampling FOR3410c – Fall 2019, 2020 & 2021
Professor for Graduate Silviculture FOR 6164 – Spring 2019

Peer Reviewed Publications

Needham, J.F., Johnson, D.J., Anderson-Teixeira, K.J., Bourg, N., Bunyavejchewin, S., Butt, N., *et al.* (2022). Demographic composition, not demographic diversity, predicts biomass and turnover across temperate and tropical forests. *Global Change Biology*.

Kaewsong, K., Johnson, D.J., Bunyavejchewin, S. & Baker, P.J. (2022). Fire Impacts on Recruitment Dynamics in a Seasonal Tropical Forest in Continental Southeast Asia. *Forests*, 13, 116.

Magee, L., Pandit, K., Flory, S.L., Crandall, R.M., Broadbent, E.N., Prata, G.A., *et al.* (2022). Life Stage and Neighborhood-Dependent Survival of Longleaf Pine after Prescribed Fire. *Forests*, 13, 117.

Silva, C.A., Hudak, A.T., Vierling, L.A., Valbuena, R., Cardil, A., Mohan, M., *et al.* (2022). Treetop: A Shiny-based Application and R package for Extracting Forest Information from LiDAR data for Ecologists and Conservationists. *Methods in Ecology and Evolution*.

Xu, Z., Johnson, D.J., Zhu, K., Lin, F., Ye, J., Yuan, Z., *et al.* (2022). Interannual climate variability has predominant effects on seedling survival in a temperate forest. *Ecology*, 103.
Davies, S.J., Abiem, I., Abu Salim, K., Aguilar, S., Allen, D., Alonso, A., *et al.* (2021). ForestGEO: Understanding forest diversity and dynamics through a global observatory network. *Biological Conservation*, 253, 108907.
Frazier, J.E., Sharma, A., Johnson, D.J., Andreu, M.G. & Bohn, K.K. (2021). Group selection silviculture for converting pine plantations to uneven-aged stands. *Forest Ecology and Management*, 481, 118729.
Gonzalez-Akre, E., Piponiot, C., Lepore, M., Herrmann, V., Lutz, J.A., Baltzer, J.L., *et al.* (2021). allodb: An R package for biomass estimation at globally distributed extratropical forest plots. *Methods in Ecology and Evolution*, n/a.
Johnson, D.J., Magee, L., Pandit, K., Bourdon, J., Broadbent, E.N., Glenn, K., *et al.* (2021). Canopy tree density and species influence tree regeneration patterns and woody species diversity in a longleaf pine forest. *Forest Ecology and Management*, 490, 119082.
Liu, H., Johnson, D.J., Yang, Q., Xu, M., Ma, Z., Fang, X., *et al.* (2021). The dynamics of conspecific tree and seedling neighbors on seedling survival in a subtropical forest. *Forest Ecology and Management*, 483, 118924.
Luskin, M.S., Johnson, D.J., Ickes, K., Yao, T.L. & Davies, S.J. (2021). Wildlife disturbances as a source of conspecific negative density-dependent mortality in tropical trees. *Proceedings of the Royal Society B: Biological Sciences*, 288, 20210001.
Mohan, M., Leite, R.V., Broadbent, E.N., Wan Mohd Jaafar, W.S., Srinivasan, S., Bajaj, S., *et al.* (2021). Individual tree detection using UAV-lidar and UAV-SfM data: A tutorial for beginners. *Open Geosciences*, 13, 1028–1039.
McDowell, N.G., Allen, C.D., Anderson-Teixeira, K., Aukema, B.H., Bond-Lamberty, B., Chini, L., *et al.* (2020). Pervasive shifts in forest dynamics in a changing world. *Science*, 368.
Pandit, Karun., Smith, Jason., Quesada, Tania., Villari, Caterina. & Johnson, Daniel.J. (2020). Association of Recent Incidence of Foliar Disease in Pine Species in the Southeastern United States with Tree and Climate Variables. *Forests*, 11.
Song, X., Zhang, W., Johnson, D.J., Yang, J., Asefa, M., Deng, X., *et al.* (2020). Conspecific negative density dependence in rainy season enhanced seedling diversity across habitats in a tropical forest. *Oecologia*, 193, 949–957.
Crawford, K.M., Bauer, J.T., Comita, L.S., Eppinga, M.B., Johnson, D.J., Mangan, S.A., *et al.* (2019). When and where plant-soil feedback may promote plant coexistence: A meta-analysis. *Ecology Letters*.
Massoud, E.C., Xu, C., Fisher, R.A., Knox, R.G., Walker, A.P., Serbin, S.P., *et al.* (2019). Identification of key parameters controlling demographically structured vegetation dynamics in a land surface model: CLM4. 5 (FATES). *Geoscientific Model Development*, 12, 4133–4164.
Menge, D.N.L., Chisholm, R.A., Davies, S.J., Salim, K.A., Allen, D., Alvarez, M., *et al.* (2019). Patterns of nitrogen-fixing tree abundance in forests across Asia and America. *Journal of Ecology*.
Craig, M.E., Turner, B.L., Liang, C., Clay, K., Johnson, D.J. & Phillips, R.P. (2018). Tree mycorrhizal type predicts within-site variability in the storage and distribution of soil organic matter. *Global Change Biology*.
Eppinga, M.B., Baudena, M., Johnson, D.J., Jiang, J., Mack, K.M.L., Strand, A.E., *et al.* (2018). Frequency-dependent feedback constrains plant community coexistence. *Nature Ecology and Ecoloution*.

Hogan, J.A., Zimmerman, J.K., Thompson, J., Uriarte, M., Swenson, N.G., Condit, R., *et al.* (2018). The Frequency of Cyclonic Wind Storms Shapes Tropical Forest Dynamism and Functional Trait Dispersion. *Forests*, 9.

Hu, Y.-H., Johnson, D.J., Mi, X.-C., Wang, X.-G., Ye, W.-H., Li, Y.-D., *et al.* (2018a). The relative importance of space compared to topography increases from rare to common tree species across latitude. *Journal of Biogeography*.

Hu, Z., Michaletz, S.T., Johnson, D.J., McDowell, N.G., Huang, Z., Zhou, X., *et al.* (2018b). Traits drive global wood decomposition rates more than climate. *Global Change Biology*.

Johnson, D.J., Clay, K. & Phillips, R.P. (2018a). Mycorrhizal associations and the spatial structure of an old-growth forest community. *Oecologia*.

Johnson, D.J., Needham, J., Xu, C., Massoud, E.C., Davies, S.J., Anderson-Teixeira, K.J., *et al.* (2018b). Climate sensitive size-dependent survival in tropical trees. *Nature Ecology and Evolution*.

LaManna, J.A., Mangan, S.A., Alonso, A., Bourg, N.A., Brockelman, W.Y., Bunyavejchewin, S., *et al.* (2018). Response to Comment on "Plant diversity increases with the strength of negative density dependence at the global scale." *Science*, 360, eaar5245.

Lutz, J.A., Furniss, T.J., Johnson, D.J. & al., et. (2018). Global importance of large-diameter trees. *Global Ecology and Biogeography*.

McDowell, N., Allen, C.D., Anderson-Teixeira, K., Brando, P., Brienen, R., Chambers, J., *et al.* (2018). Drivers and mechanism of tree mortality in moist tropical forests. *New Phytologist*.

Powell, T.L., Koven, C.D., Johnson, D.J., Faybishenko, B., Fisher, R.A., Knox, R.G., *et al.* (2018). Variation in hydroclimate sustains tropical forest biomass and promotes functional diversity. *New Phytologist*, 219.

Song, X., Johnson, D.J., Cao, M., Umaña, M.N., Deng, X., Yang, X., *et al.* (2018). The strength of density-dependent mortality is contingent on climate and seedling size. *Journal of Vegetation Science*.

Hu, Z., Xu, C., McDowell, N.G., Johnson, D.J., Wang, M., Luo, Y., *et al.* (2017). Linking microbial community composition to C loss rates during wood decomposition. *Soil Biology and Biochemistry*, 104, 108–116.

Johnson, D.J., Condit, R., Hubbell, S., P. & Comita, L.S. (2017). Abiotic niche partitioning and negative density dependence drive tree seedling survival in a tropical forest. *Proceedings of the Royal Society B*, 284.

LaManna, J.A., Mangan, S.A., Alonso, A., Bourg, N.A., Brockelman, W.Y., Bunyavejchewin, S., *et al.* (2017). Plant diversity increases with the strength of negative density dependence at the global scale. *Science*, 356, 1389–1392.

Ramage, B., Johnson, D.J., Bonzalez-Akre, E., McShea, W.J., Anderson-Teixeira, K., Bourg, N.A., *et al.* (2017). Sapling growth rates reveal conspecific negative density dependence in a temperate forest. *Ecology and Evolution*, 7, 7661–7671.

Umaña, M.N., Mi, X., Cao, M., Enquist, B.J., Hao, Z., Howe, R., *et al.* (2017). The role of functional uniqueness and spatial aggregation in explaining rarity in trees. *Global Ecology and Biogeography*, 26, 777–786.

Fisher, J.B., Sweeney, S., Brzostek, E.R., Evans, T.P., Johnson, D.J., Myers, J.A., *et al.* (2016). Tree-mycorrhizal associations detected remotely from canopy spectral properties. *Global change biology*, 22, 2596–2607.

Lin, Y.-C., Comita, L.S., Johnson, D.J., Chen, M.-R. & Wu, S.-H. (2016). Biotic vs. Abiotic Drivers of Seedling Persistence in a Tropical Karst Forest. *Journal of Vegetation Science*, 27.

Anderson-Teixeira, K.J., Davies, S.J., Bennett, A.C., Gonzalez-Akre, E.B., Muller-Landau, H.C., Joseph Wright, S., *et al.* (2015). CTFS-ForestGEO: a worldwide network monitoring forests in an era of global change. *Global change biology*, 21, 528–549.

Johnson, D.J., Flory, S.L., Shelton, A., Huebner, C. & Clay, K. (2015). Interactive effects of a non-native invasive grass Microstegium vimineum and herbivore exclusion on experimental tree regeneration under differing forest management. *Journal of Applied Ecology*, 52, 210–219.

Lu, J., Johnson, D.J., Qiao, X., Lu, Z., Wang, Q. & Jiang, M. (2015). Density dependence and habitat preference shape seedling survival in a subtropical forest in central China. *Journal of Plant Ecology*, 8, 568–577.

Brzostek, E.R., Dragoni, D., Schmid, H.P., Rahman, A.F., Sims, D., Wayson, C.A., *et al.* (2014). Chronic water stress reduces tree growth and the carbon sink of deciduous hardwood forests. *Global change biology*, 20, 2531–2539.

Johnson, D.J., Bourg, N.A., Howe, R., McShea, W.J., Wolf, A. & Clay, K. (2014). Conspecific negative density-dependent mortality and the structure of temperate forests. *Ecology*, 95, 2493–2503.

Réjou-Méchain, M., Muller-Landau, H., Detto, M., Thomas, S., Toan, T.L., Saatchi, S., *et al.* (2014). Local spatial structure of forest biomass and its consequences for remote sensing of carbon stocks. *Biogeosciences Discussions*, 11, 5711.

Hobbs, F.C., Johnson, D.J. & Kearns, K.D. (2013). A Deliberate Practice Approach to Teaching Phylogenetic Analysis. *CBE-Life Sciences Education*, 12, 676–686.

Woodall, C., Westfall, J., Zhu, K. & Johnson, D. (2013). Assessing the effect of snow/water obstructions on the measurement of tree seedlings in a large-scale temperate forest inventory. *Forestry*, 86, 421–427.

Johnson, D.J., Beaulieu, W.T., Bever, J.D. & Clay, K. (2012a). Conspecific negative density dependence and forest diversity. *Science*, 336, 904–907.

Johnson, D.J., Beaulieu, W.T., Bever, J.D. & Clay, K. (2012b). Response to Comment on "Conspecific Negative Density Dependence and Forest Diversity." *Science*, 338, 469.

Reinhart, K.O., Johnson, D. & Clay, K. (2012a). Conspecific plant-soil feedbacks of temperate tree species in the southern Appalachians, USA. *PloS one*, 7, e40680.

Reinhart, K.O., Johnson, D. & Clay, K. (2012b). Effects of trees on their recruits in the southern Appalachians, USA. *Forest Ecology and Management*, 263, 268–274.

Woodall, C., Johnson, D., Gallion, J., Perry, C., Butler, B., Piva, R., *et al.* (2005). Indiana's forests 1999-2003 Part A. *Resource Bulletin-North Central Research Station, USDA Forest Service*.

Fellowships, Grants and Awards

2021-2025	NSF – Macrosystems. Resolving the multi-scale drivers of tree mortality from field and remote sensing data on co-located ForestGEO-NEON sites. $1,005,822
2020-2021	UF IFAS Early Career Award. Investigating the forest regeneration dynamics of the United States. $50,000
2019-2021	USDA. Evaluating the distribution and impact of brown spot needle blight on an atypical host and the increased risk of needle cast on loblolly pine. $94,440
2018-2019	Ordway-Swisher Biological Station Jumpstart grant. $24,523
2015-2017	Director's Fellowship Los Alamos National Laboratory. Earth and Environmental Sciences $348,000
2013	Floyd Final Year Fellowship for Plant & Fungal Biology. Department of Biology, Indiana University $ 12,420

2012-2013	CO-PI The Smithsonian Institution Center for Tropical Forest Studies Award "Establishing the IU Forest Dynamics Plot." $30,759
2011-2013	CO-PI National Science Foundation Doctoral Dissertation Improvement Grant "Assessing geographic patterns of negative density dependence in temperate tree species." $13,386
2009	CO-PI Indiana Academy of Sciences Senior Research Grant "Determining the diversity and spatial associations of trees in an Indiana old-growth forest" $1,483
2007-2010	CO-PI USFS Northern Research Station Research Joint Venture "Dynamics, impacts and predictive modeling of *Microstegium vimineum* (Japanese stiltgrass) invasions in eastern deciduous forests" $75,375
2007, 09, 11 & 12	Floyd Plant Sciences Fellowship, Indiana University ~$2,000/yr
2008-2009	Teagle Fellowship for Scholarship in Teaching and Learning $2,000
2008	Blatchley Nature Study Club Scholarship $500