

DANIEL J. MCGLINN

Assistant Professor
Biology Department, College of Charleston
Charleston, SC 29401
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EDUCATION

- Doctor of Philosophy**, Plant Sciences 2004-2009
Oklahoma State University, advisor: Michael W. Palmer Stillwater, OK
Spatial and Temporal Scaling of Species Composition at the
Tallgrass Prairie Preserve, Oklahoma: Implications for Theory and
Conservation
- Bachelor of Science**, Biology with Honors 2000-2004
University of North Carolina, advisor: Robert K. Peet Chapel Hill, NC

PROFESSIONAL EXPERIENCE

- Assistant Professor*, College of Charleston 2014-
- Postdoctoral Researcher*, Utah State University with Ethan White 2011-2014
- Postdoctoral Researcher*, University of North Carolina with Allen Hurlbert 2009-2011
- Teaching Assistant*, Oklahoma State University, Plant Biology L 2008-2009
- EPA GRO Research Fellow*, Oklahoma State University 2005-2008
- Teaching Assistant*, Oklahoma State University, General Ecology L 2004-2005

FUNDING & ACADEMIC AWARDS

- Below Ground Processes Proposal*** 2015-2018
Co-PI on DOE proposal, \$300,000
- Distinguished Graduate Fellowship*** 2005-2008
Oklahoma State University, \$1,000
- Greater Research Opportunities Fellowship*** 2005-2008
Environmental Protection Agency, \$100,000
- Enhancing Linkages between Mathematics & Ecology Scholarship*** 2007
Michigan State University, \$500
- LeClair Award, Academic Excellence in Plant Science*** 2004
University of North Carolina Biology Department
- Undergraduate Research Fellowship*** 2003
The Smallwood Foundation, \$2,000
- Research Experience for Undergraduate Fellowship*** 2003
National Science Foundation

PUBLICATIONS (* graduate student coauthor)

- McGlinn, D.J.** and M.W. Palmer. *in press*. Spatial Scale and Biodiversity. In *Oxford Bibliographies in Ecology*. Ed. David Gibson. New York: Oxford University Press.
- Chase, J.M., B. McGill, **D.J. McGlinn**, F. May, S.A. Blowes, X. Xiao, T. Knight, O. Purschke, and N. Gotelli. 2018. Embracing scale-dependence to achieve a deeper understanding of biodiversity and its change across communities. *Ecology Letters*. 21:1737-1751. <https://doi.org/10.1111/ele.13151>
- McGlinn, D.J.** X. Xiao, F. May, N. Gotelli, S. Blowes, T. Knight, O. Purschke, J. Chase, and B. McGill. *in press*. MoB (Measurement of Biodiversity): a method to separate the scale-dependent effects of species abundance distribution, density, and aggregation on diversity change. *Methods in Ecology and Evolution*. <https://doi.org/10.1111/2041-210X.13102>
- Zanne, A. E., W.D. Pearse, W.K. Cornwell, **D.J. McGlinn**, I.J., Wright. and J.C., Uyeda. 2018. Functional biogeography of angiosperms: life at the extremes. *New Phytologist*. 218:1697-1709. <https://doi.org/10.1111/nph.15114>
- May, F., K. Gerstner, **D.J. McGlinn**, X. Xiao, J.M. Chase. 2018. mobsim: An R package for the simulation and measurement of biodiversity across spatial scales. *Methods in Ecology and Evolution*. 9:1401-1408. <https://doi.org/10.1111/2041-210X.12986>
- Archibald, S., C. Lehmann, 10 other authors, **D.J. McGlinn**, and 11 more authors. 2018. Biological and geophysical feedbacks with fire in the Earth System. *Environmental Research Letters*. 13:033003. <https://doi.org/10.1088/1748-9326/aa9ead>
- Morris, H., M.A.F Gillingham, L. Plavcová, S.M. Gleason, M.E Olson, D.A. Coomes, E. Fichtler, M.M. Klepsch, H.I. Martínez-Cabrera, **D.J. McGlinn**, E.A. Wheeler, J. Zheng, K. Ziemińska, and S. Jansen. 2018. Vessel diameter is related to amount and spatial arrangement of axial parenchyma in woody angiosperms. *Plant, cell & environment*. 41:245-260. <https://doi.org/10.1111/pce.13091>
- Rougier, N.P., 24 other authors, **D.J. McGlinn**, and 19 more authors. 2017. Sustainable computational science: the ReScience initiative. *PeerJ*. 3:e142. <https://doi.org/10.7717/peerj-cs.142>
- Mirza, B.S., D.L. Sorensen, **D.J. McGlinn**, R.R. Dupont, J.E. McLean. 2017. Dehalococoides and general bacterial ecology of differentially trichloroethene dechlorinating flow-through columns. *Applied microbiology and biotechnology*. 101:4799-4813. <https://doi.org/10.1007/s00253-017-8180-1>
- Palmer, M. W. and **D.J. McGlinn**. 2017. Scale detection using semivariograms and autocorrelograms. in S. E. Gergel and M. G. Turner, editors. *Learning Landscape Ecology: A Practical Guide to Concepts and Techniques*. 2nd edition. Springer-Verlag New York. <https://doi.org/10.1007/978-1-4939-6374-4>
- Maherali, H., B. Oberle, P.F. Stevens, W.K. Cornwell, and **D.J. McGlinn**. 2016. Mutualism Persistence and Abandonment during the Evolution of the Mycorrhizal Symbiosis. *American Naturalist*. 188:E113-E125. <https://doi.org/10.1086/688675>

- Morris, H., L. Plavcová, P. Cvecko, E. Fichtler, M.A.F. Gillingham, H.I. Martínez-Cabrera, **D.J. McGlinn**, E. Wheeler, J. Zheng, K. Ziemińska, S. Jansen. 2016. A global analysis of parenchyma tissue fractions in secondary xylem of seed plants. *New Phytologist*. 209:1553-1565. <https://doi.org/10.1111/nph.13737>
- McGlinn, D.J.**, X. Xiao*, J. Kitzes, E.P. White. 2015. Exploring the spatially explicit predictions of the Maximum Entropy Theory of Ecology. *Global Ecology and Biogeography*. 24:675-684. <https://doi.org/10.1111/geb.12295>
- Thapa, V.T. *, **D.J. McGlinn**, P.W. Palmer, and U. Melcher. 2015. Determinants of composition of plant viruses at the Nature Conservancy's Tallgrass Prairie Preserve, Oklahoma. *Virus Evolution*. 1:vev007. <https://doi.org/10.1093/ve/vev007>
- Xiao, X.* **D.J. McGlinn**, and E.P. White. 2015. A strong test of the Maximum Entropy Theory of Ecology. *American Naturalist*. 185:E70-E80. <https://doi.org/10.1086/679576>
- Cornwell, W.K., M. Westoby, D.S. Falster, R.G. FitzJohn, B.C. O'Meara, **D.J. McGlinn**, and 21 other authors. 2014. Functional distinctiveness of major plant lineages. *Journal of Ecology*. 102: 345-356. <https://doi.org/10.1111/1365-2745.12208>
- Zanne, A. D.C. Tank, W.K. Cornwell, **D.J. McGlinn**, and 23 other authors. 2014. Three keys to the radiation of angiosperms into freezing environments. *Nature*. 506: 89-92. <https://doi.org/10.1038/nature12872>
- McGlinn, D.J.**, X. Xiao*, and E.P. White. 2013. An empirical evaluation of four variants of a universal species-area relationship. *PeerJ*. 1: e212. <https://doi.org/10.7717/peerj.212>
- White, E.P., E. Baldrige*, Z.T. Brym*, K.J. Locey*, **D.J. McGlinn**, and S.R. Supp*. 2013. Nine simple ways to make it easier to (re)use your data. *Ideas in Ecology and Evolution*. 6: 1-10. <https://doi.org/10.4033/iee.2013.6b.6.f>
- McGlinn, D.J.** and A.H. Hurlbert. 2012. Scale dependence in species turnover reflects variance in species occupancy. *Ecology*. 93: 294-302. <https://doi.org/10.1890/11-0229.1>
- Scheiner, S.M., A. Chiarucci, G.A. Fox, M.R. Helmus, **D.J. McGlinn**, and M.R. Willig. 2011. The underpinnings of the relationship between space, time, and species richness. *Ecological Monographs*. 81: 195-213. <https://doi.org/10.1890/10-1426.1>
- Rocchini, D., **D.J. McGlinn**, C. Ricotta, M. Neteler, T. Wohlgemuth. 2011. Landscape complexity and spatial scale influence the relationship between remotely sensed spectral diversity and survey-based plant species richness. *Journal of Vegetation Science*. 22: 688-698. <https://doi.org/10.1111/j.1654-1103.2010.01250.x>
- McGlinn, D.J.** and M.W. Palmer. 2011. Quantifying the influence of environmental texture on the rate of species turnover – evidence from two habitats. *Plant Ecology*. 212: 495-506. <https://doi.org/10.1007/s11258-010-9840-8>
- McGlinn, D.J.** and M.W. Palmer. 2010. Spatial structure alters the shape of the unimodal species richness-biomass relationship in a neutral model. *Diversity*. 2:550-560.

<https://doi.org/10.3390/d2040550>

McGlinn, D.J., P.G. Earls, and M.W. Palmer. 2010. A twelve-year study on the scaling of vascular plant composition in an Oklahoma Tallgrass Prairie. *Ecology*. 91: 1872.

<https://doi.org/10.1890/09-2017.1>

McGlinn, D.J., R.J. Churchill, and M.W. Palmer. 2010. Effects of a tornado on a Cross Timbers bird community. *The Southwestern Naturalist*. 55: 460-466. <https://doi.org/10.1894/KF-09.1>

McGlinn, D.J. and M.W. Palmer. 2009. Modeling the sampling effect in the species-time-area relationship. *Ecology*. 90:836-846. <https://doi.org/10.1890/08-0377.1>

Palmer, M.W., **D.J. McGlinn**, and J.F. Fridley. 2008. Artifacts and artificions in biodiversity research. *Folia Geobotanica*. 43:245-257. <https://doi.org/10.1007/s12224-008-9012-y>

Applequist, W.L., **D.J. McGlinn**, M. Miller, Q.G. Long, and J.S. Miller. 2007. How well do herbarium data predict the location of present populations? A test using *Echinacea* species in Missouri. *Biodiversity and Conservation*. 16:1397-1407. <https://doi.org/10.1007/s10531-006-6737-x>

MANUSCRIPTS (* graduate student, † undergraduate student)

McGlinn, D.J. and M.W. Palmer. *in review*. Examining the foundations of heterogeneity-based management for promoting plant diversity in a disturbance-prone ecosystem. *PeerJ*.

<https://doi.org/10.7287/peerj.preprints.200v1>

Blowes, S.A., J.M. Chase, A. Di Franco, O. Frid, N.J. Gotelli, P. Guidetti, T.M. Knight, F. May, **D.J. McGlinn**, F. Micheli, E. Sala, J. Belmaker. *in review*. Mediterranean marine protected areas have higher biodiversity via increased evenness, not abundance. *Journal of Applied Ecology*.

Baker, N.J.* and D.J. McGlinn. *in prep*. Temporal change in fish biodiversity reflects increasing dominance and patchiness.

Sheahan, E.†, G. Naylor, **D.J. McGlinn**. *in prep*. Does niche conservatism or resources explain global patterns of shark species richness along temperature gradients?

McGlinn, D.J., J.M. Chase, X. Xiao, F. May, N. Gotelli, B. McGill, and T. Knight *in prep*. A multiscale comparison of ant biodiversity reveals hidden changes in community structure due to restoration. <https://doi.org/10.6084/m9.figshare.5311144.v1>

Strauss, N.† and **D.J. McGlinn**. *in prep*. Importance of fire and water chemistry in explaining twenty years of change in the herpetofauna communities of the Francis Marion National Forest.

Mirza, B.S., **D.J. McGlinn**, J.M., Bohannon, K. Nüsslein, J.M. Tiedje, J.L.M. Rodrigues. *in prep*. Free-living diazotrophs influenced by the change in land use of the Amazon rain forests and showed signs of recovery in the 12 to 17 year old secondary forests.

McGlinn, D.J. and E.P. White. *in prep*. Multi-Scale modeling to predict commonness and rarity

across continents. <https://doi.org/10.6084/m9.figshare.1112448.v1>

NON-PEER REVIEWED PUBLICATIONS

McGlinn, D.J. 2012. Dictionaries are a scientist's friend. Software Carpentry Blog.

Gilmore, M.J. and **D.J. McGlinn**. 2008. General Biology Lab Manual. Northern Oklahoma College.

McGlinn, D.J. 2007. New species discovered. The Docent News of the Tallgrass Prairie Preserve. The Nature Conservancy. July edition.

SOFTWARE PRODUCTS

Oksanen J., F.G. Blanchet, M. Friendly, R. Kindt, P. Legendre, **D.J. McGlinn**, P.R. Minchin, R. B. O'Hara, G.L. Simpson, P. Solymos, M.H.H. Stevens, E. Szoecs, H. Wagner. vegan: community ecology package. <https://CRAN.R-project.org/package=vegan>

McGlinn, D.J., X. Xiao, F. May, T. Engel, C. Oliver. mobr: partition diversity patterns into their components across scales. <https://github.com/MoBiodiv/mobr>

McGlinn, D.J. and C. Oliver. mobr_app: R shiny app for the R package mobr. https://github.com/MoBiodiv/mobr_app

McGlinn, D.J. and E.P. White. rdaretriever: R interface to the EcoData Retriever. <https://github.com/ropensci/rdaretriever>

McGlinn, D.J. vario: community variograms and associated null models. <https://github.com/mcglinnlab/vario>

Locey, K. and **D.J. McGlinn**. rpartitions: code for integer partitioning. <https://github.com/klocey/partitions/tree/master/rpartitions>

Chamberlain, S., C. Boettiger, K. Ram, V. Barve, **D.J. McGlinn**. rGBIF: Interface to the Global Biodiversity Information Facility API methods. <https://github.com/ropensci/rgbif/tree/newapi>

E.P. White, **D.J. McGlinn**, X. Xiao, S. Supp, K. Thibaut. Software for Analyzing Harte et al.'s Maximum Entropy Theory of Ecology. <http://dx.doi.org/10.6084/m9.figshare.815905>

TEACHING EXPERIENCE

Measurements of Biodiversity (MoB). German Centre for Integrative Biodiversity yDiv course. **Organizer and Lecturer.** 2018

The Empiricists' Guide to the Analysis of Biodiversity Data Across Scales. Ecological Society of America. 101st Annual meeting. **Organizer and Lecturer.** 2017

Applied Quantitative Methods. College of Charleston. **Lecturer.** 2015-

<i>Biodiversity, Ecology, and Conservation Biology</i> . College of Charleston. Lecturer .	2014-
<i>Community Assembly</i> . Utah State University. Lecturer .	2013
<i>Software Carpentry Bootcamp</i> . Utah State University. Organizer and Lecturer .	2013
<i>Macroecology</i> . Utah State University. Guest Lecturer .	2012
<i>Advanced Programming for Biologists</i> . Utah State University. Guest Lecturer .	2012
<i>Introduction to Programming for Biologists</i> . Utah State University. Guest Lecturer .	2012
<i>Advanced Modeling for Biologists using R</i> . University of North Carolina. Lecturer .	2011
Avian Biology, University of North Carolina. Guest Natural Historian .	2009-2010
Teaching Assistant. <i>Plant Biology Lab</i> . Oklahoma State University.	2008-2009
<i>Multivariate Methods for Community Ecology</i> . Oklahoma State University. Guest Lecturer .	2007
<i>Introductory Biology Lecture and Lab</i> . Northern Oklahoma College. Guest Lecturer .	2007-2009
<i>General Ecology Lab</i> . Oklahoma State University. Teaching Assistant .	2004-2005
<i>General Ecology</i> . Oklahoma State University. Guest Lecturer .	2004-2009

WORKSHOPS

<i>Symposium on the Mobilization of Structured Biodiversity Data</i> . German Centre for Integrative Biodiversity Research. Participant .	2017
<i>Measurement of Biodiversity (MoB)</i> . German Centre for Integrative Biodiversity Research. Organizer .	2015-2016
<i>Scaling UP: Population and Community Ecology. A Workshop for Early Career Scientists</i> . Ecological Society of America. Participant .	2013
<i>Tempo and mode of plant trait evolution: synthesizing data from extant and extinct taxa</i> . National Evolutionary Synthesis Center. Participant .	2011-2013

RESEARCH MENTORSHIP AT THE COLLEGE OF CHARLESTON

Primary Advisor Undergraduate

Ashley Woods, Biology Undergraduate Research Program. SOAR: species occurrence aggregation in R. <i>summer research award recipient</i> . repo: https://github.com/mcglinnlab/soar	2018-
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Savannah Spencer, Biology Undergraduate Research Program. Response of herpetofauna to prescribed fire in the Francis Marion National Forest. <i>underrepresented minority student</i> . repo: https://github.com/mcglinnlab/fire_herps	2018
Nicole Strauss, Biology Undergraduate Research Program. Response of herpetofauna to prescribed fire in the Francis Marion National Forest. <i>summer research award recipient, 1st gen. undergraduate</i> . repo: https://github.com/mcglinnlab/fire_herps	2018-
Emmaline Sheahan, Biology Honors Undergraduate Program. Suitability of ecological and evolutionary processes as explanations of the global temperature-diversity gradient in sharks. <i>summer research award recipient</i> . repo: https://github.com/mcglinnlab/shark-ray-div	2017-
Samuel McCauley, Biology Honors Undergraduate Program. Twenty years of vegetation change in the longleaf forests of the Francis Marion National Forest. <i>Currently: PhD program at University of Idaho. 1st gen. undergraduate</i> . repo: https://github.com/smccau/santee_fire	2016
Primary Advisor Graduate	
Juliane Caughron, Graduate Program in Marine Biology. Scaling-up the diversity-stability relationship in fisheries.	2018-
Samuel Norton, Masters in Environmental Science. Environmental restoration using an emerging economically important native plant <i>Salicornia virginica</i> .	2018-
Nathan Baker, Graduate Program in Marine Biology. Temporal and spatial changes in fish biodiversity along the southeastern Atlantic coast of the United States. <i>Currently: US Coast Guard. 1st gen. graduate student</i> . repo: https://github.com/mcglinnlab/fishdiv	2015-2018
Graduate Committee member	
Christopher Pickens, Masters of Marine Biology Program.	2017-
Alejandra Enriquez, Masters of Marine Biology Program.	2017-
Chelsea Acres, Masters of Environmental Science.	2017-2018
Asa Julien, Masters of Marine Biology Program.	2016-2018
Jordon Taylor, Masters of Marine Biology Program.	2016-2017
Margaret Walker, Masters of Marine Biology Program.	2015-2017
INVITED SEMINARS	
University of Vermont. slides: https://doi.org/10.6084/m9.figshare.6002609.v1	2018

Oklahoma State University. slides: https://doi.org/10.6084/m9.figshare.4679023.v1	2017
Clemson University. Biology Department.	2015
University of North Carolina. Curriculum for the Environment and Ecology.	2010
East Carolina University. Biology Department	2010
Appalachian State University. Biology Department	2009
University of New Mexico. James H Brown's Macroecology Lab	2005

PRESENTATIONS

McGlinn, D.J. et al. Ecological Society of America. Portland, OR	2017
McGlinn, D.J. et al. Ecological Society of America. Ft. Lauderdale, FL	2016
McGlinn, D.J. and E.P. White. Gordon Research Conference. Biddeford, ME	2014
McGlinn, D.J. and E.P. White. Ecological Society of America. Minneapolis, MN.	2013
McGlinn, D.J. and E.P. White. Gordon Research Conference. Biddeford, ME.	2012
McGlinn, D.J. and A.H. Hurlbert. Ecological Society of America. Austin, TX.	2011
McGlinn, D.J. and A.H. Hurlbert. Ecological Society of America. Pittsburgh, PA.	2010
McGlinn, D.J. Lunch Bunch Seminar Series. University of North Carolina.	2010
McGlinn, D.J. Botany Department Seminar Series. Oklahoma State University.	2009
McGlinn, D.J. and M.W. Palmer. Ecological Society of America. Milwaukee, WI	2008
McGlinn, D.J. and M.W. Palmer. Ecological Society of America. San Jose, CA.	2007
McGlinn, D.J. and M.W. Palmer. Ecological Society of America. Memphis, TN.	2006
McGlinn, D.J. Southwestern Association of Naturalists. Huntsville, TX.	2005

COMMUNITY OUTREACH AND NEWS COVERAGE

James Simons School. Pre-K-8 th grade Title I. <i>Reading coach, Gardener, and Naturalist</i>	2017-
Logan Nerd Night. <i>Deciphering Universal Patterns of Biodiversity.</i>	2013
Utah Public Radio. Zesty Garden. <i>How Flowering Plants Adapted to Cold.</i>	2013
Utah Public Radio. Access Utah. <i>'Plants Evolve For Colder Temperatures: Evolution.</i>	2013
Utah State Today. <i>'How Do Plants Survive in a Winter Wonderland?' asks USU Ecologist.</i>	2013
Standard-Examiner. <i>How Did Plants Live When Earth Went Cold?</i>	2013

Payne County Audubon. *Effects of a tornado on a Cross Timbers bird community.* 2007

PROFESSIONAL AND COMMUNITY SERVICE

Reviewer for

PLoS ONE

Journal of Vegetation Science

Bioscience

Journal of Biogeography

Ecology Letters

Proceedings of the Royal Society B

Ecography

Global Ecology and Biogeography

Reviewer Statistics: <https://publons.com/author/1295921/d-j-mcglinn#stats>

Science and Math IT Advisory Board – College of Charleston 2018

Faculty Senate – College of Charleston 2018

Student Research Colloquium Organizer – Graduate Program in Marine Biology, College of Charleston 2018

SURF Grant Reviewer – College of Charleston 2018

Graduate School Application Reviewer – Masters in Environmental Studies, College of Charleston 2017

President & Treasurer – Oklahoma State University Botanical Society 2005-2008

Bioblitz Group Leader – Oklahoma's Rapid Biodiversity Inventory 2006-2008

Floristics Trip Leader – Oklahoma Academy of Sciences Field Meetings 2005-2008