
DANIEL J. MCGLINN

Assistant Professor
Biology Department, College of Charleston
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EDUCATION

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

PROFESSIONAL EXPERIENCE

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

FUNDING & ACADEMIC AWARDS

Internal Funding

<i>SSM summer undergraduate research award</i> (6 successful proposals) College of Charleston, \$4,000	2018-2019
<i>Distinguished Graduate Fellowship</i> Oklahoma State University, \$1,000	2005-2008
<i>LeClair Award, Academic Excellence in Plant Science</i> University of North Carolina Biology Department	2004
<i>Undergraduate Research Fellowship</i> The Smallwood Foundation, \$2,000	2003

External Funding

<i>Below Ground Processes Proposal</i> DOE proposal, \$150,000; PI: A. Strand, Co-PI: S. Pritchard	2015-2018
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Greater Research Opportunities Fellowship	2005-2008
Environmental Protection Agency, \$100,000	
Enhancing Linkages between Mathematics & Ecology Scholarship	2007
Michigan State University, \$500	
Research Experience for Undergraduate Fellowship	2003
National Science Foundation	

PUBLICATIONS (* student author)

- 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. *accepted*. Mediterranean marine protected areas have higher biodiversity via increased evenness, not abundance. *Journal of Applied Ecology*.
- McGlinn, D.J.** and M.W. Palmer. 2019. Examining the foundations of heterogeneity-based management for promoting plant diversity in a disturbance-prone ecosystem. *PeerJ*. e6738. <https://peerj.com/articles/6738/>
- Julien, A.R. *, A.W. Tweel, **D.J. McGlinn**, G.W. Sundin, N.H. Hadley, and P.R. Kingsley-Smith. 2019. Characterization of Ribbed Mussel *Geukensia demissa* (Dillwyn, 1817) Habitat in Relation to Tidal Elevation and Salinity in a South Carolina Estuary. *Journal of Shellfish Research*. 38:53-61.
- McGlinn, D.J.** and M.W. Palmer. 2019. Spatial Scale and Biodiversity. In *Oxford Bibliographies*. Ed. David Gibson. New York: Oxford University Press. <https://doi.org/10.1093/OBO/9780199830060-0210>
- McGlinn, D.J.** X. Xiao, F. May, N. Gotelli, T. Engel*, S. Blowes, T. Knight, O. Purschke, J. Chase, and B. McGill. 2019. 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*. 10:258-269. <https://doi.org/10.1111/2041-210X.13102>
- 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>
- 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>

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- 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 Computer Science*. 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. Dehalococcoides 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>

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- 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**, L. Westerberg, P. Milberg. 2008. Indices for detecting differences in species composition: some simplifications of RDA and CCA. *Ecology*. 89:1769-1771.
- 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 (* student author)

- Mirza, B.S., **D.J. McGlinn**, J.M. Bohannon, K. Nüsslein, J.M. Tiedje, J.L.M. Rodrigues. *in review*. Free-living diazotrophs in Amazon rainforest soils respond to land use change. *Applied and Environmental Microbiology*.
- 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?

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.

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. rdataretriever: R interface to the EcoData Retriever. <https://github.com/ropensci/rdataretriever>

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). Workshop. **Organizer and Lecturer**.
German Centre for Integrative Biodiversity yDiv, Leipzig, Germany.

2018

<i>The Empiricists' Guide to the Analysis of Biodiversity Data Across Scales.</i>	2017
Workshop. Organizer and Lecturer. Ecological Society of America. 101 st Annual meeting. Portland, OR.	
<i>Applied Quantitative Methods.</i> Full semester course. Lecturer. College of Charleston. Charleston, SC.	2015-
<i>Biodiversity, Ecology, and Conservation Biology.</i> Full semester course. Lecturer. College of Charleston. Charleston, SC.	2014-
<i>Community Assembly.</i> Full semester course. Lecturer. Utah State University. Logan UT.	2013
<i>Software Carpentry Bootcamp.</i> Workshop. Organizer and Lecturer. Utah State University. Logan, UT.	2013
<i>Macroecology.</i> Full semester course. Guest Lecturer. Utah State University. Logan, UT.	2012
<i>Advanced Programming for Biologists.</i> Full semester course. Guest Lecturer. Utah State University. Logan, UT.	2012
<i>Introduction to Programming for Biologists.</i> Full semester course. Guest Lecturer. Utah State University. Logan, UT.	2012
<i>Advanced Modeling for Biologists using R.</i> Full semester course. Lecturer. University of North Carolina. Chapel Hill, NC.	2011
<i>Avian Biology.</i> Full semester course. Guest Natural Historian. University of North Carolina. Chapel Hill, NC.	2009-2010
<i>Plant Biology Lab.</i> Full semester course. Teaching Assistant. Oklahoma State University. Stillwater, OK.	2008-2009
<i>Multivariate Methods for Community Ecology.</i> Full semester course. Guest Lecturer. Oklahoma State University. Stillwater, OK.	2007
<i>Introductory Biology Lecture and Lab.</i> Full semester course. Guest Lecturer. Northern Oklahoma College. Tonkawa, OK.	2007-2009
<i>General Ecology Lab.</i> Full semester course. Teaching Assistant. Oklahoma State University. Stillwater, OK.	2004-2005
<i>General Ecology.</i> Full semester course. Guest Lecturer. Oklahoma State University. Stillwater, OK.	2004-2009

WORKING GROUP PARTICIPATION

<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

Primary Advisor Undergraduate

Kaitlyn Roberts, Biology Undergraduate Research Program. How planting density affects the growth and yield of <i>Salicornia</i> spp. <i>SSM summer research award recipient.</i>	2019-
Ashley Woods, Biology Undergraduate Research Program. SOAR: species occurrence aggregation in R. <i>SSM summer research award recipient.</i> repo: https://github.com/mcglinnlab/soar	2018-
Nicole Strauss, Biology Undergraduate Research Program. Response of herpetofauna to prescribed fire in the Francis Marion National Forest. <i>SSM summer research award recipient, 1st gen. undergraduate student.</i> repo: https://github.com/mcglinnlab/fire_herps	2018-
Savannah Spencer, Biology Undergraduate Research Program. Response of herpetofauna to prescribed fire in the Francis Marion National Forest. 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>SSM 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. <i>Joanna Deep Water Summer fellow.</i> repo: https://github.com/mcglinnlab/fish_stability	2018-
Samuel Norton, Masters in Environmental Science. Environmental restoration using <i>Salicornia virginica</i> an emerging economically important native plant. <i>SC Dept. of Ag. ACRE fellow.</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>1st gen. graduate student.</i> repo: https://github.com/mcglinnlab/fishdiv	2015-2018

Graduate Committee member

Christopher Pickens, Masters of Marine Biology Program.	2017-2019
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 link)	2018
Oklahoma State University. (slides link)	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

NATIONAL AND INTERNATIONAL CONFERENCE PRESENTATIONS

McGlinn, D.J. et al. Ecological Society of America. Portland, OR (poster link)	2017
McGlinn, D.J. et al. Ecological Society of America. Ft. Lauderdale, FL (slides link)	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. 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. Charleston, SC. 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. <i>Effects of a tornado on a Cross Timbers bird community.</i>	2007

CAMPUS AND DEPARTMENTAL SERVICE

Campus-wide Committees

<i>Science and Math IT Advisory Board</i>	2018-
<i>Faculty Senate</i>	2018-2019
<i>Student Research Colloquium Organizer – Graduate Program in Marine Biology</i>	2018-
<i>SURF Grant Reviewer</i>	2018
<i>Graduate School Application Reviewer – Masters in Environmental Studies</i>	2017

Department Committees

Library liaison	2015-2018
Research and Development	2015-2016, 2018-2019
Awards committee	2017-2018
Chair's advisory committee	2018-2019
Safety committee	2018-2019

Broader Scientific Community

NOAA proposal ad hoc reviewer	2019
NSF proposal ad hoc reviewer	2017
Reviewed 14 manuscripts: <i>Global Ecology and Biogeography</i> (6), <i>Ecology</i> (2), <i>Ecography</i> (2), <i>Ecology Letters</i> (1), <i>Methods in Ecology and Evolution</i> (1), <i>Oecologia</i> (1), <i>Natural Areas Journal</i> (1) – top 84% of all reviewers (https://publons.com/author/1295921/d-j-mcglinn#stats)	2014-2019