

MARK GENUNG

University of Louisiana at Lafayette
Department of Biology
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POSITIONS

Assistant Professor, University of Louisiana at Lafayette (2019-)

Postdoctoral Associate, Rutgers University (2014-2018)

Advisor: Rachael Winfree

Postdoctoral Associate, University of Tennessee (2012-2014)

Advisor: Joseph Bailey

EDUCATION

2012 University of Tennessee

PhD, Ecology and Evolutionary Biology (2012)

Advisors: Jennifer Schweitzer and Joseph Bailey

2007 University of Tennessee

BS, Biology (2007)

PUBLICATIONS

Publication impact [Google Scholar](#) (citations 226, h-index 10)

21. **Genung MA**, JW Fox, R Winfree. Dominance predicts the contributions of lost species to ecosystem function in nature, but not biodiversity experiments. In review.
20. MacLeod M, J Reilly, D Cariveau, **MA Genung**, M Roswell, J Gibbs, R Winfree (2019) How much do rare and crop-pollinating bees overlap in identity and flower preferences? In press, *Journal of Applied Ecology*.
19. **Genung MA**, JW Fox, NM Williams, C Kremen, JS Ascher, J Gibbs, R Winfree (2017) Pollinator abundance, rather than species richness, drives the temporal variability of pollination services. *Ecology*, 98:1807-1816.

18. Mueller LO, LC Breza, **MA Genung**, CP Giardina, NE Stone, LC Sidak-Loftis, JD Busch, DM Wagner, JK Bailey, JA Schweitzer (2017) Ecosystem consequences of plant genetic divergence with colonization of new habitat. *Ecosphere*, 8:e01743.
17. MacLeod M* & **MA Genung***, J Ascher, R Winfree (2016) Measuring partner choice in plant-pollinator networks: Using null models to separate rewiring and fidelity from chance. *Ecology*, 97:2925-2931. * - equal contribution [pdf](#)
16. Souza L, K Stuble, **MA Genung**, AT Classen (2016) Plant genotype identity and intra-specific diversity trump soil nutrient availability to shape old-field structure and function. *Functional Ecology*, 31:965-974.
15. **Genung MA**, JK Senior, J O'Reilly-Wapstra, SK Chapman, A Langley, JA Schweitzer, JK Bailey (2014) When ranges collide: Evolutionary history, phylogenetic community interactions, global change factors and range size differentially affect plant productivity. Invited to "Eco-evolutionary Dynamics" (eds. J Moya-Laraño, J Rowntree, G Woodward) Vol. 50, AECR, UK: Academic Press. [pdf](#)
14. **Genung MA**, JA Schweitzer, N Omomo, JK Bailey (2014) The effects of phylogenetic diversity and species richness on ecosystem function are dependent upon evolutionary history. *PeerJ*, 2:e288. [pdf](#)
13. Gorman CE, QD Read, ME Van Nuland, JAM Bryant, JN Welch, JT Altobelli, MJ Douglas, **MA Genung**, EN Haag, DN Jones, HE Long, AD Wilburn, JA Schweitzer, JK Bailey (2014) Below-ground communities: Phylogenetic similarity aboveground leads to community similarity belowground through conservatism of functional traits. *AoB Plants*, 5:plt049. [pdf](#)
12. Burkle LA, L Souza, **MA Genung**, GM Crutsinger (2013) Plant genotype, nutrients, and G x E interactions structure floral visitor communities. *Ecosphere*, 4:art119. [pdf](#)
11. Bailey JK, **MA Genung**, I Ware, CE Gorman, M Van Nuland, H Long, JA Schweitzer (2013) Indirect genetic effects: An evolutionary mechanism linking feedbacks, genotypic diversity, and coadaptation in a climate change context. *Functional Ecology*, 28:87-95. [pdf](#)
10. **Genung MA**, JK Bailey, JA Schweitzer (2013) Belowground interactions shift the relative importance of direct and indirect genetic effects. *Ecology and Evolution*, 3:1692-1701. [pdf](#)
9. Bailey JK, RK Bangert, **MA Genung**, JA Schweitzer, and GM Wimp (2013) Community Ecology. In "Berkshire Encyclopedia of Sustainability: Ecosystem Management and Sustainability". Berkshire Publishing Group, Great Barrington, MA, USA.

8. **Genung MA**, JK Bailey, JA Schweitzer (2013) The afterlife of interspecific indirect genetic effects: Genotype interactions alter litter quality with consequences for decomposition and nutrient dynamics, *PLOS ONE*, 8:e53718. [pdf](#)
7. **Genung MA**, JK Bailey, JA Schweitzer (2012) Welcome to the neighborhood: Interspecific genotype interactions influence above- and belowground biomass and associated communities, *Ecology Letters*, 15:65-73. [pdf](#)
6. Bailey JK, **MA Genung**, J O'Reilly-Wapstra, BM Potts, J Rowntree, JA Schweitzer, TG Whitham (2012) New frontiers in community and ecosystem genetics for theory, conservation, and management. *New Phytologist*, 193:24-26. [pdf](#)
5. Lessard J-P, WN Reynolds, WA Bunn, **MA Genung**, and 11 others (2012) Conservation of effect strength through understory, litter, and soil communities following deer herbivory. *Basic and Applied Ecology*, 13:59-66. [pdf](#)
4. **Genung MA**, GM Crutsinger, JK Bailey, JA Schweitzer, NJ Sanders (2012) Spatial patterns of aphid abundance depend on plant genotype and genotypic diversity, *Oecologia*, 168:167-174. [pdf](#)
3. **Genung MA**, JA Schweitzer, F Ubeda, BM Fitzpatrick, CC Pregitzer, E Felker-Quinn, JK Bailey (2011) Genetic variation and community change – selection, evolution, and feedbacks, *Functional Ecology*, 25:408-419. Invited to “Plant-Herbivore Interactions” Special Feature. [pdf](#)
2. Bailey JK, JA Schweitzer, F Ubeda, M Zinkgraf, BM Fitzpatrick, J O'Reilly-Wapstra, BJ Rehill, CJ LeRoy, BM Potts, TG Whitham, **MA Genung**, DG Fischer, CC Pregitzer, A Keith (2011) From genes to ecosystems: emerging concepts bridging ecological and evolutionary dynamics, invited to “The ecology of plant secondary metabolites: from genes to landscapes” (eds. GR Iason, M Dicke, and SE Hartley), Cambridge University Press, Cambridge, UK.
1. **Genung MA**, JP Lessard, CB Brown, WA Bunn, MA Cregger, WN Reynolds, E Felker-Quinn, ML Stevenson, AS Hartley, GM Crutsinger, JA Schweitzer, JK Bailey (2010) Non-additive effects of genotypic diversity affect pollinator visitation, *PLOS ONE*. [pdf](#)

In preparation

Simpson DT, L Weinman, **MA Genung**, M MacLeod, R Winfree. Complimentary dominance suggests that the number of functionally important pollinators depends on plant diversity.

Genung MA, Williams NM, Gardner J, Winfree R. Many declining and rare bee species contribute to plant seed set.

GRANTS

- Pending Louisiana Board of Regents Comprehensive Enhancement. Advancing to the Next-Generation: Establishing a Shared Genomics Facility at UL Lafayette. PI: E Sigel, co-PIs: 18 including M Genung. \$700,000
- Pending University of Louisiana Student Technology Enhancement Program. Modernization of Plant and Ecology Lab Courses with Contemporary Equipment. Submitted by: E Sigel, S Duke-Sylvester, M Genung, P Griffard, N Kooyers, J Nelson, S Plouviez, B Stauffer. \$38,076
- Pending USDA NRCS Conservation Innovation Grants. Evaluation of Gulf Coast Prairie Grazing Lands Enhancement with Native Pollinator Seed Mix. PI: P Klerks, co-PI: M Genung. \$617,601 (50% federal, 50% intramural cost match)
- 2019-2020 NSF, Population and Community Ecology. SG: Synthetic analysis of the importance of species richness to ecosystem services in real-world systems. PI: M Genung, Co-PI: R Winfree. \$149,998
- 2017-2018 NSF, Population and Community Ecology. REU: The role of species dominance in mediating biodiversity-ecosystem function relationships across spatial scales. PI: R Winfree, Sr. Personnel: M Genung. Two awards totaling \$18,750.
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INVITED TALKS

University of Louisiana at Lafayette, Biodiversity and ecosystem function in natural communities (Feb 2018)

Fordham University, Evenness predicts the importance of species loss for ecosystem services, Department of Biological Sciences (Mar 2017)

International Congress of Entomology (Orlando), Measuring partner choice in plant - pollinator networks, Biology of Wild and Native Bees symposium (Oct 2016)

Princeton University, Pollinator abundance, not species richness, drives the temporal variability of pollination function, Kocher Lab (Aug 2016)

Princeton University, Biodiversity and ecosystem function at large scales, Wilcove Lab (Apr 2016)

Rutgers University, Improving realism in biodiversity-ecosystem function research, Department of Ecology, Evolution, and Natural Resources (Sep 2015)

Doñana Biological Station (Seville, Spain), Using the Price equation to understand the temporal dynamics of pollination function (Dec 2014)

BES-SFE Annual Meeting (Lille, France), The Price equation and ecosystem functioning: Dominant pollinators determine the temporal stability of ecosystem services (Dec 2014)

Villanova University, From genotypes to landscapes: Plant-pollinator interactions at multiple scales, Department of Biology (Nov 2014)

University of Pennsylvania, From genotypes to landscapes: Plant-pollinator interactions at multiple scales, EcoLunch Speaker Series (Oct 2014)

Rutgers University, The hierarchy of biodiversity and ecosystem function, Winfree Lab (Feb 2014)

Oak Ridge National Laboratory, The hierarchy of biodiversity and ecosystem function, Environmental Sciences Division (Oct 2013)

International Botanical Conference (Melbourne, Australia), Ecological and evolutionary consequences of genotype-based plant-neighbor interactions (Jul 2011)

OUTREACH TALKS

Acadiana Native Plant Society, Native pollinators of the Cajun Prairie (Oct 2019)

RELEVANT SKILLS

Field Ecology: pollination methods (advanced), Eastern US bee identification (intermediate)
Programming: R (advanced), simulation models (advanced), SAS (intermediate), Git (basic)
Database Management: SQL (intermediate)
Mathematical ecology: Price equation (expert), null models (expert), numerical ecology (advanced), linear and matrix algebra (advanced), network analysis (intermediate)

TEACHING AND MENTORING

PhD Students

Andrew Buder, started Fall 2019
Blaine Pilch, started Fall 2019

Courses Taught

Current

Community Ecology
Entomology
Experimental Design and Data Analysis

Previous

General Ecology
Graduate Seminar in Community Ecology
Graduate Seminar in Evolutionary Ecology

Guest Lectures

Community Ecology, Core Ecology for Graduate Students, 2016
Herbivory and Plant-Soil Feedbacks, Core Ecology for Graduate Students, 2016
Hardy-Weinberg and Types of Selection, Biodiversity, 2013
Conservation Biology, General Ecology, 2010, 2011, 2012
Biogeography, General Ecology, 2011
Indirect Interactions, General Ecology, 2011
Genetic Variation and Carbon Cycling, Ecosystem Ecology, 2010
Range-Expanding Species and Ecosystems, Ecosystem Ecology, 2010
Conservation Biology, General Ecology, 2010
Community and Ecosystem Genetics, Community Ecology, 2009
Multivariate Analysis of Community Data, Community Ecology, 2009

Mentoring (as Postdoc)

Graduate students

Michael Roswell (2014-2018)	PhD student at Rutgers University
Colleen Smith (2014-2018)	PhD student at Rutgers University
Molly MacLeod (2014-2015)	Senior Manager in Science Content at Pfizer
Liam Mueller (2013-2014)	PhD student at the University of Tennessee
Ian Ware (2013-2014)	PhD student at the University of Tennessee

Research technicians

Andrew Buder (2018)	PhD student at the University of Louisiana
Mary Linabury (2018)	PhD student at Colorado State University

Lucia Weinman (2016-2018)	PhD student at Rutgers University
Erin Lowe (2016-2017)	MS student at the University of Wisconsin
Tiffany Bennett (2016-2017)	Forester at Gracie and Harrigan

Undergraduate students

Ryan Fontenot (2019-)	Summer Intern 2019, presented at UL REU Symposium
Emma Weiser (2018-)	Campus pollinators project at UL
Casey Hamilton (2018-2019)	REU student 2018, poster at ESA Annual Meeting (2019)
Alexandra Matthews (2016-2019)	REU student 2017, poster at ESA Annual Meeting (2019)
Hannah Long (2012-2013)	Poster at ESA Annual Meeting (2013)
Nicole Hergott (2008-2010)	Ph.D. student at U. of Tennessee

SERVICE AND OUTREACH

- Scientific advisor for NJ Senate (2016 - 2018)
- NSF-funded Biology Curriculum Reform Committee, Univ. of Tenn. (2013-2014)
- STEM careers for rural East Tennessee Girls' Science Clubs (Sunbright TN, 2013)
- Graduate Student Member, Graduate Affairs Committee, University of Tennessee Department of Ecology and Evolutionary Biology (2011-2012)

Peer Review

In the past three years, I have reviewed papers for *Nature*, *Ecology Letters*, *American Naturalist*, *Ecology*, *Global Ecology and Biogeography*, among others.