

# JENNY L. MCGUIRE

<http://www.mcguire.gatech.edu>

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## Assistant Professor

School of Biological Sciences  
School of Earth & Atmospheric Sciences  
Georgia Institute of Technology

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Atlanta GA 30313

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## *Professional Preparation*

- August 2017 **Assistant Professor**  
School of Biological Sciences, School of Earth and Atmospheric Sciences  
Georgia Institute of Technology
- 2014-2017 **Independent Research Scientist II**  
School of Biological Sciences, Georgia Institute of Technology
- 2012-2014 **Postdoctoral Research Associate**  
Landscape Ecology and Conservation Lab  
School of Environmental and Forest Sciences, University of Washington  
Advisor: Joshua Lawler  
Projects: Tracing climate connectivity on a fragmented landscape; Using landscape diversity as a way to conserve biodiversity
- 2010-2012 **Postdoctoral Research Fellow**  
National Evolutionary Synthesis Center (NESCent), Durham, NC  
Mentors: V. Louise Roth & Todd Vision  
Projects: Improving the performance of distribution models using the paleontological record
- 2010 **PhD in Integrative Biology**  
University of California-Berkeley  
Advisor: Anthony Barnosky  
Dissertation: The effects of Quaternary environmental changes on *Microtus* distribution and morphology
- 2002 **Bachelor of Sciences in Earth & Ocean Sciences, Highest Distinctions**  
Duke University, Advisor: Bruce Corliss  
Thesis: The distribution of marsh foraminifera in Beaufort, NC: implications for sea level studies  
**Bachelor of Sciences in Biological Anthropology & Anatomy**  
Duke University, Mentor: Steve Churchill

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### Fellowships & Grants

2017-2018	Elizabeth Smithgall Watts Grant, Georgia Tech School of Biological Sciences: The effects of environmental change on gorilla carrying capacity in the Virunga Mountains. (Role: PI; co-PI: Tara Stoinski, President and CEO and Chief Scientific Officer for the Dian Fossey Gorilla Fund, Zoo Atlanta)	\$7,000
2017-2020	NSF DEB: Characterizing climate-resilient landscapes (Role: PI)	\$368, 260
2010-2012	National Evolution Synthesis Center Postdoctoral Fellowship (1-yr/~\$47,350 declined)	\$94,700
2010	Junea W. Kelly Museum of Vert. Zoology Research Fellowship	~\$10,000
2006-2009	National Science Foundation GK-12 Graduate Fellow (06-07 & 08-09)	\$60,000
2008	Gray Endowment Summer Research Fellowship	\$2,600
2008	National Sigma Xi Grant	\$2,050
2007	Berkeley Sigma Xi Grant.	\$3,725
2007	UC Museum of Paleontology Welles Fund Grad. Student Research Award	\$4,500

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### Original Peer-Reviewed Articles (See [Google Scholar](#) or [ResearchGate](#) for metrics)

- 2017 Badgley, C. Smiley, T.M., Davis, E.B., DeSantis, L.R.G., Fox, D.L., Hopkins, S.B., Jezkova, T., Matocq, M.D., Matzke, N., **McGuire, J.L.**, *et al.* Biodiversity and topographic complexity: Modern and geohistorical perspectives. *Trends in Ecology and Evolution*. 32(3): 211-226. doi:[10.1016/j.tree.2016.12.010](https://doi.org/10.1016/j.tree.2016.12.010)
- 2016 **McGuire, J.L.**, Lawler, J., McRae, B., Nuñez, T., and Theobald, D. Achieving climate connectivity in a fragmented landscape. *Proceedings of the National Academy of Sciences*. 113(26): 7195-7200. doi:[10.1073/pnas.1602817113](https://doi.org/10.1073/pnas.1602817113)
- 2015 Orzechowski, E.A., Lockwood, R., Byrnes, J.E., Anderson, S.C., Finnegan, S., Finkel, Z.V., Harnik, P.G., Lindberg, D.R., Liow, L.H., Lotze, H.K., McClain, C.M., **McGuire, J.L.**, O’Dea, A., Pandolfi, J.M., Simpson, C., Tittensor, D.P. Marine extinction risk shaped by trait–environment interactions over 500 million years. *Global Change Biology*. 21(10): 3595-3607. doi:[10.1111/gcb.12963](https://doi.org/10.1111/gcb.12963)
- 2015 Krosby, M., Wilsey, C.B., **McGuire, J.L.**, Duggan, J.M., Noguire, T.M., Heinrichs, J.A., Tewksbury, J.J., Lawler, J.J. Climate-induced range overlap among closely-related species. *Nature Climate Change*. 5:883-886. doi:[10.1038/nclimate2699](https://doi.org/10.1038/nclimate2699)
- 2015 Finnegan, S., Anderson, S.C., Harnik, P.G., Simpson, C., Tittensor, D.P., Byrnes, J.E., Finkel, Z.V., Lindberg, D.R., Liow, L.H., Lockwood, R., Lotze, H.K., McClain, C.M.,

- McGuire, J.L., O’Dea, A., Pandolfi, J.M.** Paleontological baselines for evaluating extinction risk in the modern oceans. *Science*. 348(6234): 567-570. [doi:10.1126/science.aaa6635](https://doi.org/10.1126/science.aaa6635)
- 2015 Gill, J., Benito, B., Dobrowski, S., Hunter, M., Goring, S., Blois, J., and **McGuire, J.L.** A 2.5-million-year perspective on coarse-filter strategies for conserving nature’s stage. *Conservation Biology*. 29(3): 640-648. [doi: 10.1111/cobi.12504](https://doi.org/10.1111/cobi.12504)
- 2014 **McGuire, J.L.** & Davis, E.B. Conservation Paleobiogeography: the past, present, and future of species distributions. *Ecography*. 37(11): 1092-1092. [doi:10.1111/ecog.01337](https://doi.org/10.1111/ecog.01337).
- 2014 Davis, E.B., **McGuire, J.L.**, Orcutt, J. Ecological niche models of mammalian glacial refugia show consistent bias. *Ecography*. 37(11): 1133-1138. [doi:10.1111/ecog.01294](https://doi.org/10.1111/ecog.01294).
- 2013 Dawson, M. N., Algar, A. C., Antonelli, A., Dávalos, L., Davis, E., Early, R., Guisan, A., Jansson, R., Lessard, J-P., Marske, K.A., **McGuire, J.L.**, *et al.* An horizontal scan of biogeography. *Frontiers of Biogeography*. 5(2): 130-157. [fb 18854](https://doi.org/10.18854/fb.18854)
- 2013 **McGuire, J. L.** and Davis, E.B. Using the paleontological record of *Microtus* to tests species distribution models and reveals responses to climate change. *Journal of Biogeography*. 40: 1490-1500. [doi:10.1111/jbi.12106](https://doi.org/10.1111/jbi.12106)
- 2012 Harnik, P.G., Lotze, H.K., Anderson, S.C., Byrnes, J.E., Finkel, Z.V., Finnegan, S., Lindberg, D.R., Liow, L.H., Lockwood, R., McClain, C.M., **McGuire, J.L.**, *et al.* Extinctions in ancient and modern seas. *Trends in Ecology and Evolution*. 27(11): 608-617. [doi: 10.1016/j.tree.2012.07.010](https://doi.org/10.1016/j.tree.2012.07.010)
- 2011 **McGuire, J.L.** Identifying California *Microtus* species using geometric morphometrics documents Quaternary geographic range contractions. *Journal of Mammalogy* 92(6):1383-1394. [doi:10.1644/10-MAMM-A-280.1](https://doi.org/10.1644/10-MAMM-A-280.1)
- 2011 Tomiya, S., **McGuire, J. L.**, *et al.* A report on late Quaternary vertebrate fossil assemblages from the eastern San Francisco Bay region, California. *PaleoBios* 30(2): 50-71. [ucmp\\_paleobios 21791](https://doi.org/10.1080/10963719.2011.61791)
- 2011 Barnosky, A.D., Matzke, N., Wogan, G., Tomiya, S. Swartz, B. Quental, T., Marshall, C., **McGuire, J.L.**, *et al.* Has the Earth's sixth mass extinction already arrived? *Nature* 471: 51-57. [doi:10.1038/nature09678](https://doi.org/10.1038/nature09678)
- 2010 Blois, J., **McGuire, J.L.**, and E. Hadly. Small mammal diversity loss in response to late-Pleistocene climate change. *Nature* 465: 771-774. [doi:10.1038/nature09077](https://doi.org/10.1038/nature09077)

- 2010 **McGuire, J. L.** Geometric morphometrics of vole (*Microtus californicus*) dentition as a new paleoclimate proxy: shape change along geographic and climatic clines. Quaternary changes of mammalian communities across and between continents. *Quaternary International* 212(2): 198-205. [doi:10.1016/j.quaint.2009.09.004](https://doi.org/10.1016/j.quaint.2009.09.004)
- 2006 DeBlieux, D.D., Kirkland, J.I., Smith, J.A., **McGuire, J.L.**, and Santucci, V.L. An overview of the paleontology of Upper Triassic and Lower Jurassic rocks in Zion National Park, Utah. *The Triassic-Jurassic Terrestrial Transition. NMMNH and Science Bulletin* 37: 490-501.
- 2006 Mickelson, D. L., A. Milner, D. D. Deblieux, and **McGuire, J.L.** The oldest known Early Triassic fossil vertebrate footprints in North America, from Zion National Park, Utah. *Fossils from Federal Lands. New Mexico Museum of Natural History and Sciences Bulletin* 34: 141-144.
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### *Other Articles & Reports*

- 2016 **McGuire, J.L.** [Can 'climate corridors' help species adapt to warming world?](#) *The Conversation*.
- 2013 **McGuire, J.L.** [Extinction and the fossil record](#). *McGraw-Hill Yearbook of Science and Technology & AccessScience*. McGraw-Hill.
- 2012 Schloss, C., **McGuire, J.L.**, and Lawler, J. [Land facets for conservation planning](#). Prepared as a funding report for *Yale Mapping Framework: Integrating Climate Adaptation and Landscape Conservation Planning*.
- 2005 DeBlieux, D.D, Smith, J.A., **McGuire, J.L.**, Kirkland, J.I., and Santucci, V.L. Zion National Park Paleontological Survey. NPS Technical Report TIC# D-177, 75 p.
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### *Select Media Coverage*

- 2016 *The Nature Conservancy*. "[Migrations in motion](#)." By Dan Majka
- 2016 *Climate Central*. June 13. "[A simple idea could help wildlife survive climate change](#)." By Brian Kahn.
- 2016 *WABE NPR Atlanta*. June 13. "[Habitat corridors could help animals adapt to climate change](#)." By Molly Samuel.
- 2016 *Inside the Black Box*. February 10. "Are we in the Sixth Mass Extinction?" on WREK radio.
- 2015 *Live Science*. September 2. "[#JunkOff: Why Animal Genitals Are Important to Science](#)." By Stephanie Pappas.
- 2015 *Science 2.0*. July 9. "[Previous claims of interbreeding due to climate change exaggerated](#)."

- 2014 *The Daily Telegraph* (and many others) August 11. "[Hundreds of Ice Age fossils found in ancient sinkhole in Wyoming.](#)" By Rosa Prince.
- 2012 *Huffington Post*. October 12. "[Earth's Oceans 'Facing A Man-Made Major Extinction Event.'](#)" By Ted Thornhill.
- 2012 *US News & World Report*. February 2. "[Bringing Evolutionary Science to the Community.](#)" By Marlene Cmons, *NSF*.
- 2011 *Miller-McCune*. May 15. "[Scientists take Charles Darwin on the road.](#)" By Craig McClain
- 2011 *Radio In Vivo*. May 4. "[Dr. Jenny McGuire discusses conservation paleontology, the sixth mass extinction, and organisms' responses to climate change.](#)" By Ernie Hood
- 2011 *NY Times*. February 14. "[A nationwide day for honoring Charles Darwin, but handled with caution.](#)" By Amy Harmon.
- 2010 *Science News*. October 15. "[Climate changes, and there goes the neighborhood.](#)" By Susan Milius.
- 2007 *Berkeley Science Review*. Spring. "[Metropolitan Mammoth.](#)" By Nicholas Pyenson.
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### *Invited Presentations*

- 2017 **McGuire, J.L.** Collections data as an historical experiment. NSF Advancing Digitization of Biodiversity Collections (ADBC) Summit. Invited to present in the Workshop on Collections Data in Ecological and Conservation Research. University of Florida, Gainesville, FL.
- 2017 **McGuire, J.L.** Spatial and climatic drivers of species variation and distributions through time. Earth and Environmental Science seminar series. Vanderbilt University, Nashville, TN.
- 2017 **McGuire, J.L.**, Lawler, J., McRae, B., Nuñez, T., and Theobald, D. Achieving climate connectivity in a fragmented landscape. The Wildlife Society Conference, Albuquerque, NM. Presented in invited symposium: *Conserving Nature's Stages and Helping Wildlife Move Between Them*.
- 2017 **McGuire, J.L.** Spatial and climatic drivers of species variation and distributions through time. Biological Sciences seminar series. Clemson University, Clemson, SC.
- 2017 **McGuire, J.L.** Spatial and climatic drivers of species variation and distributions through time. Population Biology, Ecology, and Evolution (PBEE) seminar series. Emory University, Atlanta, GA.
- 2017 **McGuire, J.L.** Using the Quaternary record to determine how species will respond to global change. Florida Museum of Natural History Speaker Series, Gainesville, FL.
- 2016 **McGuire, J.L.** Spatial and climatic drivers of species variation, connectivity, and distributions through time. School of Earth & Atmospheric Sciences, Georgia Institute of Technology, Atlanta, GA.
- 2016 **McGuire, J.L.** Using the fossil record to examine species responses to climate change. School of Geography, Earth, and Environmental Sciences, University of Birmingham, United Kingdom.
- 2016 **McGuire, J.L.** Climate-linked morphotypes identify populations vulnerable to changing climate. 96<sup>th</sup> Annual Meeting of the American Society of Mammalogists,

- Minneapolis, MN. Presented in invited symposium: Morphometric approaches to studying mammalian evolution and ecology.
- 2016 **McGuire, J.L.** Evolution and epigenetics: unraveling error in niche models. The Evolution Conference, Austin, TX. Presented in invited symposium: Putting evolution into ecological niche modeling: *Building the connection between phylogenies, paleobiology, and species distribution models.*
- 2015 **McGuire, J.L.** How far can they go? Species responses to climate change through time. Department Seminar, Department of Geosciences, Georgia State University, Atlanta, GA.
- 2015 **McGuire, J.L.** How far can they go? Species responses to climate change through time. Department Seminar, Department of Ecology & Evolutionary Biology, University of Tennessee, Knoxville, TN.
- 2015 **McGuire, J.L.** Poster: Using a conservation framework to examine landscape diversity, climate, and vertebrate richness. 75<sup>th</sup> Annual meeting, Society of Vertebrate Paleontology, Dallas, TX. Presented in invited symposium: *Conservation paleobiology: insights into modern ecosystems from vertebrate records.*
- 2014 **McGuire, J.L.** Testing conservation hypotheses using the Quaternary record. Department Seminar, Department of Geosciences, Eastern Tennessee State University, Johnson City, TN.
- 2013 **McGuire, J.L.** Movement, change, and extinction in the face of climate change: a paleoecological perspective. Department Seminar, Department of Biology, Georgia Institute of Technology, Atlanta, Georgia.
- 2011 **McGuire, J.L.** How Quaternary climate change patterns morphological variation in *Microtus californicus*. 71<sup>st</sup> Annual Meeting, Society of Vertebrate Paleontology, Las Vegas, NV. Presented in invited symposium: *Symposium II- Climate Change and Vertebrate Response in the Evolving Arid West of Plio-Pleistocene North America.*
- 2011 **McGuire, J. L.** Mammalian responses to climate change: a paleontological perspective. Lunch Bunch Seminar, Department of Biology, University of North Carolina, Chapel Hill.
- 2011 **McGuire, J. L.** Mammalian responses to climate change: a paleontological perspective. Department Seminar, Department of Earth and Atmospheric Sciences, University of Nebraska at Lincoln.
- 2010 **McGuire, J.L.** Interpreting recent small-mammal range shifts in Yosemite in light of the Quaternary fossil record. 70<sup>th</sup> Annual Meeting, Society of Vertebrate Paleontology, Pittsburgh, PA. *Romer Student Prize Session.*
- 2010 **McGuire, J.L.** Small mammal reactions to climate change: a paleontological perspective. Department of Integrative Biology Department Seminar, University of California, Berkeley.
- 2010 **McGuire, J.L.** Small mammal reactions to climate change: a paleontological perspective. Department of Geology Department Seminar, University of Oregon, Eugene, OR.
- 2010 **McGuire, J.L.** Small mammal reactions to climate change: a paleontological perspective. Paleontology Seminar, Burke Museum, Department of Biology, University of Washington, Seattle, WA.

- 2007 **McGuire, J.L.**, Barnosky, A.D., and Carrasco, M. Species-area curves & morphoclimate models as tools in forecasting effects of climate change on vertebrate communities. 17<sup>th</sup> Quadrennial Congress, International Union for Quaternary Research, Cairns, Queensland, AU.

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### *Contributed Abstracts*

- 2017 **McGuire, J.L.**, Woodruff, A., Iacono, J., Meadows, A., Redman, C., Meachen, J. Microfauna of Natural Trap Cave: Taphonomic analyses indicate a mixed predator assemblage likely resulting from *Neotoma* (woodrat) gathering. Society of Vertebrate Paleontology, Calgary, Alberta, Canada.
- 2017 Woodruff, A., **McGuire, J.L.**, Iacono, J., Meadows, A., Redman, C., Meachen, J. Microfauna of Natural Trap Cave: Taphonomic analyses indicate a mixed predator assemblage likely resulting from *Neotoma* (woodrat) gathering. Southeastern Association of Vertebrate Paleontology, Johnson City, TN.
- 2017 **McGuire, J.L.**, Davis, E.B., & Koo, M. Changing climates, extirpations, and niche models. International Biogeography Society, Tucson, AZ.
- 2016 **McGuire, J.L.** Making the most of the late Quaternary paleoecology to the Southeast. 65<sup>th</sup> Annual Meeting of the Geological Society of America Southeastern Section, Columbia, SC. Session co-organizer: Fossil vertebrates of the southeastern United States.
- 2016 **McGuire, J.L.**, Davis, E.B., & Koo, M.S. Last Glacial Maximum mammal fossils show strong mismatch with ecological niche model hindcasts: ways to improve transferability to novel climates. International Association of Landscape Ecology, Asheville, NC.
- 2015 **McGuire, J.L.**, Lawler, J., McRae, B., & Nuñez, T. How far can they go?: Fragmentation and warming limit populations' ability to track climate across the landscape. International Association of Landscape Ecology, Portland, OR.
- 2015 **McGuire, J.L.**, Yu, T.C., Ganues, M., Cooper, A., Meachen, J. The microfauna of Natural Trap Cave. Southeast Association of Vertebrate Paleontology, Birmingham, AL.
- 2015 **McGuire, J.L.**, Lawler, J., McRae, B., & Nuñez, T. How far can they go?: Tracking climate across a fragmented landscape using climate corridors. International Biogeography Society, Bayreuth, Germany.
- 2014 **McGuire, J.L.** Landscape diversity, habitat diversity, & rodent richness: cascading effects. Geological Society of America, Vancouver, BC, Canada.
- 2013 **McGuire, J.L.**, McRae, B., Kavanagh, D.M., Theobald, D.M., Nuñez, T., Lawler, J. Poster: How far can they go?: A climate corridor model of the United States identifies regional potential for tracking climate change. Ecological Society of America, Minneapolis, MN.
- 2013 **McGuire, J.L.**, Schloss, C., Lawler, J. Are we already conserving the stage? A land facet gap analysis for 14 ecoregions in the western United States. International Congress for Conservation Biology, Baltimore, MD.

- 2013 **McGuire, J.L.**, Schloss, C., Michalak, J., Lawler, J. Poster: Testing a land-facet approach for capturing biodiversity in a changing world. 6<sup>th</sup> International Conference of the International Biogeography Society, Miami, FL.
- 2012 Schloss, C., **McGuire, J.L.**, Lawler, J., and Michalak, J. Poster: Protecting the ecological stage: Testing a land-facet-based approach to conservation planning in a changing climate. Pacific Northwest Climate Conference, Boise, ID.
- 2012 Li, C., Kraatz, B., **McGuire, J.L.**, Zhou, Z., Millar, C. Solari, K, and Hadly, E. Poster: Environment and American pika morphology. 4<sup>th</sup> World Lagomorph Conference, Vienna. Student Poster Award.
- 2012 **McGuire, J.L.** and Davis, E.B. Using the mammal fossil record to test species distribution models. Society of Conservation Biology North America Congress for Conservation Biology, Oakland, CA.
- 2012 Schloss, C., Lawler, J., **McGuire, J.L.**, and Michalak, J. Protecting the ecological stage: applying and testing a land-facet-based approach to conservation planning in a changing climate. Society of Conservation Biology North America Congress for Conservation Biology, Oakland, CA. Presented in invited symposium: *Towards Conservation Assessments for Climate Adaptation: Presentation and Evaluation of a Framework*.
- 2011 **McGuire, J.L.** and Davis, E.B. Using the paleontological record of *Microtus* to test species distribution models and reveal responses to climate change. Geological Society of America Annual Meeting, Minneapolis, MN.
- 2011 **McGuire, J.L.** Past climate set the stage for future responses to climate change: morphological evolution in *Microtus californicus*. Evolution Annual Meeting, Norman, OK.
- 2010 **McGuire, J.L.**, Davis, E.B., and Orcutt, J. Using the fossil record to test phylogeographic and ecological niche model hypotheses about the locations of glacial refugia. Society of Integrative and Comparative Biology Annual Meeting, Seattle, WA.
- 2009 Davis, E. B., **McGuire, J. L.**, and Orcutt, J. Testing phylogeographic and niche model reconstructions of glacial refugia using the fossil record of North American small mammals. Geological Society of America Annual Meeting, Portland, OR.
- 2009 **McGuire, J. L.** Quaternary range and population variation shifts in Pacific-coast *Microtus* species in response to environmental pressures. Geological Society of America Annual Meeting, Portland, OR.
- 2009 **McGuire, J.L.** *Microtus californicus* tooth shape as a potential paleoclimatic indicator. 69<sup>th</sup> Annual Meeting, Society of Vertebrate Paleontology, Bristol, UK.
- 2009 **McGuire, J.L.** Discrimination of five *Microtus* species using geometric morphometrics informs the paleoecology of Pacific-coast Quaternary fossil localities. 9th North American Paleontological Convention, Cincinnati, Ohio.
- 2009 **McGuire, J.L.** Poster: Examining the role of climate in *Microtus* tooth-shape distribution using geometric morphometrics. 4<sup>th</sup> International Conference of the International Biogeography Society, Mérida, Yucatan, Mexico.
- 2008 **McGuire, J.L.** Poster: Examining the role of climate in *Microtus* tooth-shape distribution using geometric morphometrics. Arthur M. Sackler Colloquium of the National



- Academy of Sciences on Biogeography, Changing Climates and Niche Evolution, Irvine, California.
- 2008 **McGuire, J.L. et al.** Quantifying the extent of time-averaging introduced by rodent bioturbation in mammal-bearing Cenozoic sediments. 68<sup>th</sup> Annual Meeting, Society of Vertebrate Paleontology, Cleveland, Ohio.
- 2008 Blois, J., Hadly, E., **McGuire, J.**, and A. D. Barnosky. Small mammal response to the Pleistocene-Holocene transition in northern California. 68<sup>th</sup> Annual Meeting, Society of Vertebrate Paleontology, Cleveland, Ohio.
- 2007 **McGuire, J.L.** Geometric morphometrics enables species discrimination amongst five microtines and allows reassessment of California's Quaternary paleoecology. 67<sup>th</sup> Annual Meeting, Society of Vertebrate Paleontology, Austin, Texas.
- 2007 **McGuire, J.L.** Using geometric morphometrics to distinguish between five Pacific-coast microtine species in the fossil record. 87<sup>th</sup> Annual Meeting, American Society of Mammalogists, Albuquerque, New Mexico.
- 2006 Barnosky, A.D. and **McGuire, J.L.** The Role of Vertebrate Paleontology in Forecasting Future Ecological Change. 66<sup>th</sup> Annual Meeting, Society of Vertebrate Paleontology, Ottawa, Ontario, Canada.
- 2005 DeBlieux, D.D., Kirkland, J.I., Smith, J.A., **McGuire, J.L. et al.** An overview of the vertebrate paleontology of late Triassic and early Jurassic rocks in Zion National Park, Utah. Tracking Dinosaur Origins: The Triassic/Jurassic Terrestrial Transition, St. George, UT.
- 2003 DeBlieux, D.D., Smith, J.A., **McGuire, J.L. et al.** Poster: A paleontological inventory of Zion National Park, Utah, and the use of GIS technology of create paleontological sensitivity maps for use in resource management. 63<sup>rd</sup> Annual Meeting, Society of Vertebrate Paleontology, St. Paul, MN.

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### *Professional Service*

- 2017 Leadership committee of Integrating Climate Change Biology (iCCB) program.
- 2016 Guest editor for *Proceedings of the National Academy of Sciences*.
- 2016 Consulting for Eastern Wildways Project, organized by the Wildlands Network
- 2016-present Associate Editor at *Journal of Biogeography*.
- 2016 Co-organizer of Geological Society of America 65<sup>th</sup> Annual Meeting of the Southeastern 2016 session "Fossil vertebrates of the southeastern United States"
- 2015 International Biogeography Society Symposium Selection Committee (for 2017)
- 2014 Guest editor of invited special issue of *Ecography*
- 2010-2013 Co-organizer of International Biogeography 2013 symposium "The convergence of conservation paleontology and biogeography"
- 2008 Integrative Biology University of California Museum of Paleontology Director Search Committee, Student Member
- 2006-2007 Integrative Biology Graduate Student Association Co-President
- 2004-2005 Graduate Assembly Delegate, served on Academic Affairs Committee.

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### *Working Groups, Catalysis Meetings, and Workshops*

- 2017 Workshop: Collections Data in Ecological and Conservation Research. NSF Advancing Digitization of Biodiversity Collections (ADBC) Summit. University of Florida, Gainesville, FL.
- 2017 Workshop: Paleoecology & Community Ecology (PACE) to link temporal scales in community dynamics. Population & Community Ecology (PCE) NSF-funded workshop. Schoodic Institute, Schoodic Peninsula, ME.
- 2017 Workshop: Traits past, present, and future: quantitative approaches to paleontology, conservation, and climate change biology in Africa. Integrating Climate Change Biology, National Museum of Kenya, Nairobi, Kenya.
- 2017- Working Group: Integrating Collections & Ecological Research (ICER). Integrated Digitized Biocollections (iDigBio), Gainesville, FL.
- 2013 Catalysis Meeting: [Integrating historical biogeography and phylogeography with the fossil record and landscape history](#). Organizers: Catherine Badgley & Brett Riddle National Evolutionary Synthesis Center (NESCent), Durham, NC.
- 2010-2 Working Group: [Determinants of extinction in ancient and modern seas](#). Organizers: Paul Harnik, Rowan Lockwood, & Seth Finnegan. National Evolutionary Research Synthesis Center (NESCent), Durham, NC.
- 2012 Doris Duke Foundation Steering Committee Meeting. Organizer: Steve Buttrick. The Nature Conservancy in Oregon, Portland, OR
- 2012 Western Governors Association Technical Modeling Workshop. Organizers: John Pierce, David Theobald, & Pat Comer. Colorado State, Fort Collins, CO.
- 2010 Catalysis Meeting: [Earth surface processes in the evolution of mammalian tooth shape](#). Organizers: Richard Madden, Caroline Stromberg, & Matthew Kohn. National Evolutionary Research Synthesis Center (NESCent), Durham, NC.

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### *Awards & Honors*

- 2009 George D. Lauderback Award for outstanding graduate research and fieldwork.
- 2007 Teaching Effectiveness Award. UC Berkeley.
- 2007 Outstanding Graduate Student Instructor Award. UC Berkeley.
- 2002 Graduation with Highest Distinctions in Earth and Ocean Sciences.
- 2002 Estwing Award for outstanding achievement in earth and ocean sciences.

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### *Undergraduate Mentoring*

- 2016-2017 Daniel Do, College of Computing; Riannon Colton, EAS; Amanda Meadows & Tyler Vernon, SoBS

- 2015-2016 Renee Bach, College of Computing; Amanda Meadows, Molly Guthrie, Victoria Contreras, School of Biology, Georgia Tech; Simone Siriani & Matthew Torres, Department of Geosciences, Georgia State University
- 2014-2015 Morgan Ganues, Tong Yu, & Alissa Schlossberg, School of Biology, Georgia Tech
- 2009-2011 Sue Kim, UC-Berkeley (School of Dentistry, UCLA)
- 2007-2009 Cheng Lily Li, UC-Berkeley; entered PhD program at Stanford
- 2007-2008 Yamile Colque, UC-Berkeley
- 2006-2007 Nathan Shih, UC-Berkeley; achieved PhD, Amacher lab, Dept. of Molecular & Cell Biology, UC-Berkeley

### *Teaching Experience*

- 2008 **NSF GK-12 Exploring California Biodiversity Program** Graduate Fellow  
& *A program in which I performed curriculum development, inquiry-based lessons, and field trips for underprivileged middle school students*
- 2006
- 2009 **Marine Mammals:** GSI (Grad. Student Instructor) for Int. Biol. 41 at UC-Berkeley  
*A non-majors course that emphasizing scientific principles and understanding*
- 2008 **Wildlife Ecology:** GSI for Environmental Sci., Policy, & Management 114 at UC-Berkeley  
*An upper division course with discussion sections focusing on basic population modeling, GIS skills, wildlife survey techniques, and case study analysis*
- 2007 **General Human Anatomy:** GSI for Integrative Biology 131L at UC-Berkeley  
*An upper division gross anatomy course with prepared human dissections, models, and microscopic slides*
- 2006 **Evolutionary Biogeography:** GSI for Integrative Biology 166 at UC-Berkeley  
*An upper division course emphasizing biogeographic techniques and case studies*
- 2005 **Introductory Biology:** GSI for Integrative Biology 1B at UC-Berkeley  
*Introductory biology course with lab and discussion sections.*
- **Guest Lectures:** "Climate Connectivity" for Vertebrate Morphology (GT;2017) ; "Climate Connectivity" for Climate Physiology (GT;2016); "Conservation paleontology" for Conservation Biology (GT; 2016); "Vertebrate Morphology Lab" for Paleontology (GSU; 2015), "Tooth and Jaw Evolution" for Vertebrate Morphology (GT; 2015), "Marine Mammal Conservation" for Marine Mammals (UC-B; 2009), "Climate Change and Wildlife Ecology" for Wildlife Ecology (UC-B; 2008), & "History of Biogeography" for Evolutionary Biogeography (UC-B; 2006)

### *Research Appointments*

- 2007 Graduate Student Researcher, Anthony Barnosky- integration of FAUNMAP & MIOMAP paleontological research databases
- 2005 Graduate Student Curator, University of California Museum of Paleontology- fossil curation, organization, and inventorying
- 2004 Graduate Student Researcher, Anthony Barnosky- research assistant

### *Scientific Outreach*

- 2017 Lectures at Alabama Paleontological Society, Atlanta Geologic Society, Dogwood City Grotto (Speleological Group)
- 2016-present Fossil Wednesdays- open labs every Wednesday
- 2012 Highlighted scientist for Sally Ride Science textbook on climate change
- 2012 Speaker for NESCent's Darwin Day Road Show- Takoma, WA and Banks, OR
- 2011 Speaker for NESCent's Darwin Day Road Show to Ringgold, VA
- 2005-2010 Museum Docent, University of California Museum of Paleontology, 2005-2010.
- 2005-2010 Cal Day Graduate Student Participant
- 2009 Expert interview for *Animal Planet* show about end-Pleistocene extinctions
- 2005 Designed material used in expert testimony for *Tammy Kitzmiller, et al. v. Dover Area School District, et al.* trial
- 2005 Publicly [excavated](#) "Lupé," the San Jose Mammoth, with public Q&A sessions and local news station interviews

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### *Scientific Reviewer*

External reviewer for NSF	<i>Frontiers of Biogeography</i>
<i>Axios</i>	<i>Functional Ecology</i>
<i>Biological J. of the Linnaean Society</i>	<i>Global Ecology &amp; Biogeography</i>
<i>BMC Evolutionary Biology</i>	<i>Journal of Biogeography</i>
<i>Conservation Biology</i>	<i>Journal of Paleontology</i>
<i>Diversity &amp; Distributions</i>	<i>Open Quaternary</i>
<i>Ecography</i>	<i>Palaeo-3</i>
<i>Ecology Letters</i>	<i>PALAIOS</i>
<i>Evolution</i>	<i>PLoS One</i>
<i>Evolutionary Ecology Research</i>	<i>Proceedings of the Royal Society B</i>

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### *Professional Affiliations*

American Society of Mammalogists	International Quaternary Research Association
Geological Society of America	Society for the Study of Evolution
International Association of Landscape Ecology	Society of Vertebrate Paleontology
International Biogeography Society	UT Friends of Paleontology-Honorary Member
Society of Conservation Biology	

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### *Field Experience*

- 2014-7 Excavations at Natural Trap Cave, Wyoming.
- 2015 Paleontological survey of Georgia caves
- 2009 Survey of Oregon Fossil Localities. UC Museum of Paleontology, Paleontology Field Course.

- 2008 Survey of Southern California Fossil Localities. UC Museum of Paleontology, Paleontology Field Course.
- 2006 Excavated Quaternary micromammals, Sandhills Coulee, Sagebrush Trench, Washington.
- 2006 Grinnell Resurvey Project mammal trapping line, Lassen National Park, California.
- 2005 Excavated late Pleistocene mammoth skeleton, San Jose, California.
- 2005 Sampled Miocene (Barstovian) Round Mountain Silt, Sharktooth Hill, California.
- 2005 Prospected Holocene cave deposits, Samwell Cave, California.
- 2003 Paleontology Internship, National Park Service. Triassic Virgin Limestone through Jurassic Kayenta, Zion National Park, UT.
- 2002 Yellowstone-Bighorn Research Association Geology Field School. U. of Pennsylvania.
- 2001-2 Independent Research Project on modern salt marsh foraminifera, Beaufort, North Carolina. Department of Earth and Ocean Sciences, Duke University.
- 2001 Excavated Pleistocene cave deposits, Cooper's Cave, South Africa. Prospected Pleistocene deposits, Virginia South Africa. Paleoanthropology Field School in South Africa, Duke University.

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### *Graduate Advisors*

Anthony Barnosky (UC Berkeley), Craig Moritz (UC Berkeley), Kevin Padian (UC Berkeley), Steve Beissinger (UC Berkeley), Tom Guilderson (Lawrence Livermore National Laboratory)

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*Professional References*

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