

CURRICULUM VITAE
Updated 30 September 2020

Matthew P. Rowe
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Fields of Specialization: behavioral ecology, emphasizing integrative approaches for understanding predator-prey interactions; conservation biology; scientific literacy - enhancing the core education science experience.

Academic Positions: Professor of Biology, University of Oklahoma, January 2018 – present.
Professor of Integrative Biology, Michigan State University (MSU), August 2013 – December 2017.
Professor of Biological Sciences, Sam Houston State University (SHSU), September 2005 - August 2013.
Chair of the Department of Biological Sciences, Sam Houston State University, September 2005 - January 2008.
Professor of Biology, Appalachian State University (ASU). July 1994 - June 2005.
Associate Professor of Biology, Appalachian State University. July 1989 - June 1994.
Assistant Professor of Biology, Appalachian State University. August 1984 - June 1989.

Education:

Ph.D. in Ecology. University of California at Davis, CA. 1984.
M.S. in Ecology. University of California at Davis, CA. 1979.
B.S. in Psychology. University of California at Davis, CA. 1976.
A.S. in Biology. Sierra Junior College, Rocklin, CA. 1974.

Teaching/Mentoring Awards:

Lorena V. Blinn Endowed Teaching Award, MSU, Fall 2015.
KAT (“Kudos and Thanks”) Award from the Division of Student Services for outstanding service to SHSU students. Spring 2012.
Project CONNECT outstanding faculty mentor award, SHSU. Spring 2012.
Alpha Chi National Honors Society nominee for exemplary teaching and mentoring, SHSU. Spring 2012.
Outstanding Teaching Award nominee, SHSU. Spring 2009, Spring 2010, Spring 2011
Piper Outstanding Professor nominee, SHSU. Fall 2008
Graduate Student Association Senate Award for Outstanding Advising & Mentoring (of graduate students and their research), ASU. April 2002.
NC Board of Governors Excellence in Teaching Award. Spring 1999.
Elected to the College of Arts & Sciences Academy of Outstanding Teachers, ASU. Spring 1997.
College of Arts & Sciences Outstanding Teacher Award nominee: 1996-97; 1994-95; 1992-93; 1989-90.
Student Government Association, Outstanding Teacher Award nominee, ASU. 1989-90.

Professional Honors & Awards:

- Scientific consulting, along with my wife (Ashlee Rowe), on media products for the public (e.g., Netflix's *Night on Earth* series, BBC's *Hidden Kingdom* series, KQED Science, *Short Attention Span Science*, etc.). Ongoing. For a recent example, see: <https://www.facebook.com/NetflixANZ/videos/556751591717669/>.
- Professional shout-outs in *Science* (<http://science.sciencemag.org/content/351/6274/twil>) and *HigherEdJobs* (<https://www.higheredjobs.com/Articles/articleDisplay.cfm?ID=1057>) for the effectiveness of a novel gen-ed science course I helped develop, teach, and assess. The course focuses on science as a process, and emphasizes sharpening the critical thinking skills of non-STEM students. February-October 2016.
- Public media (including *Science*, *Science News*, ABC News, NBC News, BBC, CBC, *National Geographic*, *Smithsonian*, etc.) coverage of the research Ashlee Rowe, Yucheng Xiao, Ted Cummins, Harold Zakon and I published on how grasshopper mice use scorpion toxins to mitigate the pain induced by scorpion stings. October-December 2013.
- Birder's World* (2011, Vol. 25:18-23) cover story by Neil Losin highlighting my past research on acoustic Batesian mimicry in burrowing owls.
- Public media (including: NPR, Discovery News, Christian Science Monitor, UPI, Yahoo News, MSNBC, National Geographic News, Reuters, AAAS Science Shots, NY Times) coverage of the research Barbara Clucas, Don Owings, Pat Arrowood and I conducted exploring the functional significance of snake-scent anointing by ground squirrels. December 2007-January 2008. This research was also the focus of NPR's "Moment of Science" which aired nationally on 18 March, 2008.
- Partner's-In-Flight International Bird Conservation Award for the research my students and I conducted on bird conservation in the southern Appalachians. September 2001.
- Cover story; ground squirrel exploitation of rattlesnake rattling (with collaborators Don Owings and Ron Swaisgood), *Science News* 156: 237-239 (October 1999). See also news summaries of this research in *NewScientist* 164: 34-37 (December 1999) and *Natural History* 108: 75-76 (December 1999).
- Appointed member, State of North Carolina's Scientific Council on Birds. 1998-2004.
- Appointed member, NC Audubon Society's Important Bird Area's Committee. 1998-2004.
- College of Arts & Sciences Outstanding Scholar Award nominee, 1996-97.
- Interviewed by BBC Natural History Radio; my research on how ground squirrels exploit cues in rattlesnake rattling was highlighted in a BBC program that aired in November 1996.
- Wachovia Award for Achievement in Environmental Research. 1995.
- Scientific Program Co-chair, 38th national meeting of the Society for the Study of Amphibians and Reptiles, Appalachian State University, Boone, NC, 8-13 August 1995.
- Visiting Scientist, National Museum of Natural History and Smithsonian Institution. Summer 1994.
- Interviewed and provided audio tapes for Television New Zealand's TV special entitled "Marvels of Animal Communication." 1992.
- Visiting Research Fellow. Program in Animal Behavior. Univ. California at Davis. January - December 1991; June-September 1988 and 1989.
- Interviewed by American Museum of Natural History for their radio series "Sounds of Natural History." My research on acoustic mimicry of rattlesnakes by burrowing owls was highlighted in one of their programs that aired on NPR in January 1990.
- Appointed member of the Scientific Advisory Board for the Blue Ridge Parkway, National Park Service. 1985-1990.
- Animal Behavior Society: Young Scholar Travel Grant. Stipend awarded to present a paper at the 19th International Ethological Conference, Toulouse, France, 1985.
- W.C. Allee Award in Animal Behavior. Presented for the best student paper at the 1983 national meeting of the Animal Behavior Society, June 19-24, Bucknell University, Lewisburg, Pennsylvania.

Public Health Service, National Research Service Award: NIMH Dissertation Research Fellowship. 1981-84.
Wenner-Gren Foundation. Doctoral Dissertation Research Award. 1981.
University of California Regent's Fellow in Ecology. UC Davis. 1979-81.
Jastro-Shield Research Scholarship. UC Davis. 1980-81.
University of California William W. Stout Memorial Scholarship. UC Davis. 1977-78.
California State Fellowship in Science. UC Davis. 1976-79.
University of California Regents' Undergraduate Scholar. UC Davis. 1974-79.
Phi Kappa Phi Honor Society. 1976.
Graduation with Honors. UC Davis. 1976
Departmental Citation for Excellence in Psychology. UC Davis. 1976.
California State Undergraduate Scholarship. UC Davis. 1974-76.
Graduation with Highest Honors. Sierra College. 1974.
Bank of America Community College Award Winner in Science. Sierra College. 1974.
Raymond Underhill Award in Zoology. Sierra College. 1974.

Honors & Awards received by my students:

Thesis Director for Mr. Jason Bulluck, who received first place in Appalachian State University's "Thesis of the Year" awards in 2004 for his project examining the importance of high-elevation wetlands to neotropical migratory birds. Jason's research was supported by a Dover Foundation Scholarship and by grants from the Explorers' Club, the AOU, and AFO.

Thesis Director for Mr. John Sealy, who was awarded "Best Student Paper in Herpetology" at the 2002 meeting of the Association of Southeastern Biologists for his research on scent trailing by neonatal timber rattlesnakes.

Thesis Director for Mr. Mr. Jason Riddle, who won the prestigious Eugene Odom Award (presented by the southeastern chapter of the Ecological Society of America for the best paper in ecology) at the 2002 meeting of the Association of Southeastern Biologists for his research on the impact of fire on breeding birds in the southern Appalachians. Mr. Riddle also received a Dover Foundation Scholarship and grants from the U.S. Forest Service.

Thesis Director for Ms. Dana Tamashiro, who received first place in Appalachian State University's "Thesis of the Year" awards in 1997 for her project examining the conservation genetics of saw-whet owls. Ms. Tamashiro was also the first student in ASU's history to receive an NSF graduate fellowship, bringing Dana and the University \$65700 in support. Dana's thesis work was also supported by a Frank M. Chapman Award from the American Museum of Natural History.

Thesis Director for Mr. Pat Cook, who received second place in Appalachian State University's "Thesis of the Year" awards in 1993, and was awarded "Best Student Paper in Herpetology" at the 1991 meeting of the Association of Southeastern Biologists for his research on allometric scaling in the rattling sounds of rattlesnakes.

Thesis Director for Mr. Ted Wesemann, who received third place in Appalachian State University's "Thesis of the Year" awards in 1987, and who also received the singular honor of "Best Thesis in Math & Science in the southeastern U.S., 1985-89" (presented in 1990) by University Microfilms International and the Southeastern Congress of Graduate Schools, for his research on the conservation biology of burrowing owls.

Grants:

BEACON GIAR, "MSU Museum Evolution in Action Exhibition 2.0." Julie Fick, (co-PI), Louise Mead (co-PI), Laura Crothers (co-PI), Ashlee Rowe (co-PI), Matthew Rowe (co-PI), Terence Soule (co-PI), 2015 - 2016. \$90,381

NSF IOS Neural Systems, "Evolution of resistance to pain-inducing toxins: the bark scorpion – grasshopper mouse system." Harold Zakon (PI), Ashlee Rowe (co-PI), Matthew Rowe (collaborator), 2011 - 2014. \$485,649.

NSF IOS Supplement, Research Experience for Undergraduates (REU) – “Evolution of resistance to pain-inducing toxins: the bark scorpion – grasshopper mouse system”, \$6,000. Ashlee Rowe (PI), Matthew Rowe (collaborator), 2012.

Faculty Research Summer Grant, Sam Houston State University, 2012, \$5000.

National Geographic Society, “Coevolution between bark scorpions and grasshopper mice: a geographical approach.” Matthew Rowe (PI); Ashlee Rowe (co-PI). 2001-2002. \$13,308.

National Park Service/Blue Ridge Parkway, “Dens and rookeries; critical habitats of threatened timber rattlesnakes (*Crotalus horridus*).” 2001-2002. \$9,200.

US Fish & Wildlife Service, “Endangered avian endemics of the southern Blue Ridge: a case study of the northern saw-whet owl (*Aegolius acadicus*).” 1999-2001. \$26,487.

North Carolina Wildlife Resources Commission, “Conservation biology of the northern saw-whet owl in the southern Appalachians.” 1992-94. \$6,500.

North Carolina Wildlife Resources Commission, “Ecology of the pigmy rattlesnake (*Sistrurus miliarius*) in North Carolina” with R.W. van Devender. 1990-91. \$2,700.

North Carolina Board of Science & Technology -- Science and Engineering Development Award, “Building a sound-analysis laboratory for undergraduate research in animal behavior.” 1988-89. \$18,000.

University Research Council grants, Appalachian State Univ. 2002-2003, \$4167; 2001-2002, \$3,000; 2000-2001, \$4,000; 1999-2000, \$2449; 1998-99, \$1853; 1997-98, \$2330; 1996-97, \$885; 1995-96, \$1537; 1994-95, \$972; 1993-94, \$1876; 1992-93, \$1060; 1991-92, \$500; 1990-91, \$952; 1989-90, \$3989; 1988-89, \$2400; 1986-87, \$865; 1985-86, \$1,490.

Publications (*undergraduate student coauthor; #graduate student coauthor):

Niermann*, C.N., T.G. Tate*, A.L. Suto*, R. Barajas*, H.A. White*, O.D. Guswiler*, S.M. Secor, A.H. Rowe, and M.P. Rowe. 2020. Defensive venoms: is pain sufficient for predator deterrence? *Toxins* 12(4): 260; <https://doi.org/10.3390/toxins12040260>

Miller*, D.W., A.D. Jones, J.S. Goldston, M.P. Rowe, and A.H. Rowe. 2016. Sex differences in defensive behavior and venom of the striped bark scorpion *Centruroides vittatus* (Scorpiones: Buthidae). *Integrative & Comparative Biology* 56: 1022-1031.

Rowe, A.H. and M.P. Rowe. 2015. Quick guide: predatory grasshopper mice. *Current Biology* 25: R1-R3.

Rowe, A.H. and M.P. Rowe. 2015. A tail of two scorpions. *Data Nugget* <http://datanuggets.org/2015/08/a-tail-of-two-scorpions/>

Rowe, M.P., B.M. Gillespie, K.R. Harris, S.D. Koether, L.Y. Shannon, and L.A. Rose. 2015. Redesigning a general education science course to promote critical thinking. *CBE – Life Sciences Education* 14(3): 1-12. doi: 10.1187/cbe.15-02-0032.

Rowe, M.P. 2015. Crazy about cryptids: an ecological hunt for Nessie and other legendary creatures. *Journal of College Science Teaching* 45 (2): 54-58. A longer version of this case was also published by the National Center for Case Study Teaching in Science, University at Buffalo. See: http://sciencecases.lib.buffalo.edu/cs/collection/detail.asp?case_id=779&id=779.

Carlson#, B.E., S. McGinley*, and M.P. Rowe. 2014. Meek males and fighting females: sexually-dimorphic antipredator behavior and locomotor performance is explained by morphology in bark scorpions (*Centruroides vittatus*). *PLoS ONE* 9(5): e97648. doi:10.1371/journal.pone.0097648.

Rowe, A.H., Y.C. Xiao, M.P. Rowe, T.R. Cummins, and H.H. Zakon. 2013. Voltage-gated sodium channel in grasshopper mice defends against bark scorpion toxin. *Science* 342: 441-446; published online EpubOct (10.1126/science.1236451).

- Rowe, M.P. 2011. Tragic choices: autism, measles, and the MMR vaccine. Pp. 237-245 in: *Science Stories: Using Case Studies to Teach Critical Thinking*. Herreid, C.F., N.A. Schiller, and K.F Herreid, eds. NSTA Press, Arlington, Virginia. A longer version of this case study, complete with teaching notes and answer key, is available at the National Center for Case Study Teaching in Science, University at Buffalo. See: http://sciencecases.lib.buffalo.edu/cs/collection/detail.asp?case_id=576&id=576
- Rowe, A.H., Y.C. Xiao, J. Scales, K.D. Linse, M.P. Rowe, T.R. Cummins, and H.H. Zakon. 2011. Isolation and characterization of CvIV4: a pain inducing α -scorpion toxin. *PLoS ONE* 6(8): e23520. doi:10.1371/journal.pone.0023520.
- Gillespie, M., J. Hill, L. Rose, and M. Rowe. 2011. *Foundations of Science*. Hayden-McNeil Publishing, Plymouth, MI.
- Carlson*, B.E. & M.P. Rowe. 2009. Temperature and desiccation effects on the antipredator behavior of *Centruroides vittatus* (Scorpiones: Buthidae). *Journal of Arachnology* 37:321-330.
- Rowe, A.H., & M.P. Rowe. 2008. Physiological resistance of grasshopper mice (*Onychomys* spp.) to Arizona bark scorpion (*Centruroides exilicauda*) venom. *Toxicon* 52:597-605.
- Clucas#, B., D.H. Owings & M.P. Rowe. 2008. Donning your enemy's cloak: ground squirrels exploit rattlesnake scent to reduce predation risk. *Proceedings of the Royal Society of London, B* 275:847-852.
- Clucas#, B., M.P. Rowe, D.H. Owings & P.C. Arrowood. 2008. Snake scent application in ground squirrels (*Spermophilus* spp.): a novel form of antipredator behavior? *Animal Behaviour* 75:299-307.
- Bulluck#, J.F. & M.P. Rowe. 2006. The use of southern Appalachian wetlands by breeding birds, with a focus on neotropical migrant species. *The Wilson Journal of Ornithology* 118:399-410.
- Rowe, A.H. & M.P. Rowe. 2006. Risk assessment by grasshopper mice (*Onychomys* spp.) feeding on neurotoxic prey (*Centruroides* spp.). *Animal Behaviour* 71:725-734.
- Rowe, M.P. 2004. Mimicry. Pp. 767-772 in: *Encyclopedia of Animal Behavior*. M. Bekoff, ed. Greenwood Press, Westport, CT.
- Swaigood#, R.R., M.P. Rowe, & D.H. Owings. 2003. Antipredator responses of California ground squirrels to rattlesnakes and rattling sounds: the roles of sex, reproductive parity, and offspring age in assessment and decision-making rules. *Behavioral Ecology and Sociobiology* 55:22-31.
- Rowe, M.P., T.M. Farrell, & P.G. May. 2002. Rattle loss in pygmy rattlesnakes (*Sistrurus miliaris*); causes, consequences, and implications for rattle function and evolution. Pp. 385-404 in *Biology of the Vipers*. G. W. Schuett, M. Höggren, M.E. Douglas, and H. W. Greene, eds. Eagle Mountain Publishing, Eagle Mountain, Utah.
- Owings, D.H., M.P. Rowe, & A.S. Rundus#. 2002. The rattling sound of rattlesnakes (*Crotalus viridis*) as a communicative resource for ground squirrels (*Spermophilus beecheyi*) and burrowing owls (*Athene cunicularia*). *Journal of Comparative Psychology* 116:197-205.
- R.G. Coss, D. H.Owings, D. McKernon#, M.P. Rowe, & P.C. Arrowood. 2001. Snake-directed antipredator behavior of rock squirrels (*Spermophilus variegatus*): population differences and snake-species discrimination. *Behaviour* 138:575-595.
- Rowe, M.P. 1999. Book review of *Rattlesnake: Portrait of a Predator* by Manny Rubio, 1998, Smithsonian Institution Press. *Quarterly Review of Biology* 74:477.
- Swaigood#, R.R., M.P. Rowe, & D.H. Owings. 1999. Assessment of rattlesnake dangerousness by California ground squirrels: information extraction from rattling sounds. *Animal Behaviour* 57:1301-1310.
- Swaigood#, R.R., D.H. Owings, & M.P. Rowe. 1999. Conflict and assessment in a predator-prey system: ground squirrels versus rattlesnakes. *Animal Behaviour* 57:1033-1044.

- Milling[#], T.C., M.P. Rowe, B.L. Cockerel[#], T.A. Dellinger^{*}, J.B. Gales^{*}, & C.E. Hill[#]. 1997. Population densities of northern saw-whet owls in degraded boreal forests of the southern Appalachians. Pp. 272-285 in: *Biology and Conservation of Owls of the Northern Hemisphere*. J.R. Duncan, D.H. Johnson, and T.H. Nicholls, eds. USDA Forest Service, General Technical Report NC-190, St. Paul, MN.
- Rowe, M.P. & D.H. Owings. 1996. Probing, assessment, and management during interactions between ground squirrels and rattlesnakes. Part 2: Cues afforded by rattlesnake rattling. *Ethology* 102:856-874.
- Cook[#], P.M., M.P. Rowe, & R.W. Van Devender. 1994. Allometric scaling and interspecific differences in the rattling sounds of rattlesnakes. *Herpetologica*. 50(3): 358-368.
- Rowe, M.P. & D.H. Owings. 1990. Probing, assessment, and management during interactions between ground squirrels and rattlesnakes. Part 1: Risks related to rattlesnake size and body temperature. *Ethology* 86:237-249.
- Rowe, M.P. 1989. The owl that traded a hoot for a hiss. *Natural History* 5:32-33.
- Wesemann[#], T. & M.P. Rowe. 1987. Factors influencing the distribution and abundance of burrowing owls in Cape Coral, Florida. Pp. 129-137 in: *Integrating Man and Nature in the Metropolitan Environment*. Proc. Natl. Symp. Urban Wildlife, Columbia, MD.
- Rowe, M.P., T. Wesemann[#], & A. Sisson. 1987. Burrowing owls in Florida's urban underground. *Bird Watcher's Digest* 10:17-21.
- Rowe, M.P., R.G. Coss, & D.H. Owings. 1986. Rattlesnake rattles and burrowing owl hisses: a case of acoustic Batesian mimicry. *Ethology* 72:53-71.
- Rowe, M.P., R.W. Dehaven, & R.L. Hothem. 1982. Effectiveness of various kite-balloon components and their combinations for reducing bird damage in grape vineyards. Denver Wildlife Research Center, Bird Damage Research Report No. 207.
- Hennessy, D.F., D.H. Owings, M.P. Rowe, R.G. Coss, & D.W. Leger. 1981. The information afforded by a variable signal: constraints on snake-elicited tail flagging by California ground squirrels. *Behaviour* 78:188-226.
- Rowe, M.P. & D.H. Owings. 1978. The meaning of the sound of rattling by rattlesnakes to California ground squirrels. *Behaviour* 66:242-267.

Professional Presentations and Published Abstracts (@high school student coauthor;

*undergraduate student coauthor; #graduate student coauthor):

- Rowe, M.P. "Science and society in a post-truth world: using case studies to teach critical thinking." Invited teacher-education workshop presented at the National Center for Case Study Teaching in Science Annual Meeting, 27-28 September 2019, University at Buffalo.
- Rowe, M.P. "Allogenic scorpion venoms: can pain alone deter predation?" Biology of Scorpions Mini-Symposium, Rodeo, NM, 9-10 August 2019.
- Rowe, A.H., and M.P. Rowe. "Scorpion neurotoxins and their ion channel targets: diversity through coevolution?" Presented by A.H. Rowe at the Symposium for Venom Diversity and Evolution, Annual Meeting of the Society for Integrative and Comparative Biology. Portland, OR, 3-7 January 2016.
- Rowe, A.H., and M.P. Rowe. "The influence of venom-induced pain on predatory behavior in the southern grasshopper mouse, *Onychomys torridus*". Presented by A.H. Rowe at the Symposium for Neuroecology: Neural Mechanisms of Sensory and Motor Processes that Mediate Ecologically Relevant Behaviors, Annual Meeting of the Society for Integrative and Comparative Biology. Portland, OR, 3-7 January 2016.
- Miller^{*}, D.W., A.H. Rowe, and M.P. Rowe. "Gender differences in stinging behavior, venom composition, and venom function in the striped bark scorpion (*Centruroides vittatus*)." Presented by Miller at the Annual Meeting of the Society for Integrative and Comparative Biology. Portland, OR, 3-7 January 2016
- Rowe, M.P. E. Schultheis, and A.H. Rowe. "Data Nugget workshop: a tail of two scorpions." Invited teaching workshop presented by all three authors at the National Association of Biology Teachers Professional Development Conference, 11-14 November 2015,

Providence, RI.

- Rowe, M.P. "Why are so many college graduates 'anti-vaxxers'? Improving gen-ed science courses by focusing on the process of science." Invited teacher-education workshop presented at the National Center for Case Study Teaching in Science Annual Meeting, 18-19 September 2015, University at Buffalo.
- Rowe, M.P. "Using cases to engage the science-phobic student while correcting their pseudoscientific thinking." Invited teacher-education workshop presented at the National Center for Case Study Teaching in Science Annual Meeting, 18-19 September 2015, University at Buffalo.
- Miller*, D.W., M.P. Rowe, and A.H. Rowe. "To sting or not to sting? Analysis of cross-species and cross-sex defensive behavior in scorpions." Poster presented by D. Miller at the Annual Meeting of the Michigan Chapter of the Society for Neuroscience, Mt. Pleasant, MI, 11 May 2015. (Note – Dylan was awarded top prize for a student poster presentation at the meeting).
- Rowe, M.P., B.M. Gillespie, L.Y. Shannon, S.D. Koether, and L.A. Rose. "Forest vs. trees: does it matter if the MATE measures student understanding rather than acceptance of evolutionary theory?" Presented by Rowe at the annual meeting of the Society for the Study of Evolution, Raleigh, NC, 20-24 June 2014.
- Brumlow*, C., V. Rose®, A.H. Rowe, and M.P. Rowe. "Topographical variability of pain sensitivity in grasshopper mice: a preliminary analysis." Presented by Brumlow and Rose at the annual meeting of the Society for Integrative and Comparative Biology, 3-7 January 2013, San Francisco, CA.
- Carlson, B.E., S. McGinley, and M.P. Rowe. "Morphological and behavioral sexual dimorphism in scorpions as compensation for locomotor costs of reproduction." Presented by Carlson at the annual meeting of the Society for Integrative and Comparative Biology, 3-7 January 2013, San Francisco, CA.
- Daskalantonakis* , D., R. Cassidy*, C. Brumlow*, A.H. Rowe, and M.P. Rowe. "RNA-Seq analysis of sensory neurons from grasshopper mice: exploring the genetic basis for differential sensitivity to bark scorpion pain-inducing toxins in a scorpion predator." Presented by Daskalantonakis and Cassidy at the annual meeting of the Society for Integrative and Comparative Biology, 3-7 January 2013, San Francisco, CA.
- Niermann*, C., T. Tate*, A.H. Rowe, and M.P. Rowe. "Why do grasshopper mice prefer stripe-tailed scorpions over bark scorpions? Testing the 'ouch' vs. 'super-size me' hypotheses." Presented by Niermann at the annual meeting of the Society for Integrative and Comparative Biology, 3-7 January 2013, San Francisco, CA.
- Tate*, T., J. Jaroszewski*, A.H. Rowe, and M.P. Rowe. "Do grasshopper mice actually eat noxious bark scorpions in the field? Presented by Tate at the annual meeting of the Society for Integrative and Comparative Biology, 3-7 January 2013, San Francisco, CA.
- Rowe, M.P., G. Gillespie, L.A. Rose, L. Shannon, T. Primm, and R. Caso. "Surprise, surprise: teaching critical thinking improves students' acceptance of evolution." Presented by M.P. Rowe at the annual meeting of the Society for the Study of Evolution, University of Oklahoma, 17-22 June 2011.
- Rowe, A.H., M.P. Rowe, and H.H. Zakon. "Evolution of resistance to bark scorpion pain-inducing toxins in predatory grasshopper mice." Presented by A.H. Rowe at the annual meeting of the Society for the Study of Evolution, University of Oklahoma, 17-22 June 2011.
- Rowe, A.H., M.P. Rowe, and H.H. Zakon. "Coevolution between bark scorpion pain-inducing toxins and grasshopper mice pain receptors" Presented by A.H. Rowe at the annual meeting of the Society for Integrative and Comparative Biology, 3-7 January 2011, Salt Lake City, UT.
- Rowe, M.P., M.B. Gillespie, and L.A. Rose. "Rethinking college general education science courses." Presented by M.P. Rowe at the annual meeting of the Society for Integrative and Comparative Biology, 3-7 January 2011, Salt Lake City, UT.

- Rowe, A.H. and M.P. Rowe. "An integrative approach to studying coevolution between bark scorpions and grasshopper mice." Invited presentation by both authors at the 7th annual Research Insights in Semiarid Ecosystems (RISE) Symposium, University of Arizona, Tucson, 2 October 2010.
- Rowe, A.H., M.P. Rowe, and H.H. Zakon. "No pain, no gain: coevolution between bark scorpion pain-inducing toxins and grasshopper mice pain receptors." Presented by A.H. Rowe at the annual meeting of the Society for the Study of Evolution, Portland State University, 25-29 June 2010.
- Rowe, A.H. and M.P. Rowe. "Arms races between bark scorpions and grasshopper mice - the Santa Ritas as a hot spot." Presented by both authors at the 6th annual Research Insights in Semiarid Ecosystems (RISE) Symposium, University of Arizona, Tucson, 3 October 2009.
- Rowe, M.P., A.H. Rowe, and M. Young*. "What difference does a sting make?" Presented by M.P. Rowe at the 46th annual meeting of the Animal Behavior Society, Pirenópolis, Brazil, 22-26 June 2009.
- Carlson*, B. Evan and M.P. Rowe. "Antipredator behaviors and thermal relations in *Centruroides vittatus* (Scorpiones: Buthidae)." Presented by Carlson at the national Sigma Xi Annual Meeting and Student Research Conference, Washington, DC, Michigan, 21-22 November 2008
- Rowe, M.P., B. Evan Carlson*, P. Medrano*, E. Pendley*, and A.H. Rowe. "Bark scorpion activity patterns: the anti-predator advantages of being warm." Presented by M.P. Rowe at the 45th annual meeting of the Animal Behavior Society, Snowbird, Utah, 16-20 August 2008.
- Rowe, A.H. and M.P. Rowe. "Physiological resistance of grasshopper mice to bark scorpion venom: have the scorpions countered back?" Presented by both authors at the annual meeting of the Society for the Study of Evolution, University of Minnesota, 20-24 June 2008
- Pendley*, E. and M.P. Rowe. "Why do bark scorpions prefer rock?" Presented by Pendley at the southcentral regional meeting of the TriBeta Honors Society, University of Oklahoma Biological Field Station, Lake Texoma, 4-6 April 2008.
- Medrano*, P. and M.P. Rowe. "Thermal preferences of bark scorpions (*Centruroides vittatus*): the influences of gender and reproductive status." Presented by Medrano at the national Sigma Xi Annual Meeting and Student Research Conference, Washington, DC, 3-4 November 2006
- Owings, D.H., A.S. Rundus[#], M.P. Rowe, and P.C. Arrowood. "The role of immediate feedback in communication: rock squirrels versus western diamondback rattlesnakes." Presented by Owings at the 43rd annual meeting of the Animal Behavior Society, Snowbird, Utah, 12-16 August 2006.
- Clucas[#], B., M.P. Rowe, and D.H. Owings. "Putting on Satan's cloak: snake scent application in ground squirrels" Presented by Clucas at the International Society of Behavioral Ecology meeting in Tours, France, 23-29 July 2006. Also presented by Clucas at the 43rd annual meeting of the Animal Behavior Society, Snowbird, Utah, 12-16 August 2006.
- Rowe, M.P. and J.B. Sealy[#]. "Hibernaculum or bust: species preferences in the scent-trailing behavior of neonatal timber rattlesnakes (*Crotalus horridus*)." Presented by Rowe at the Biology of the Rattlesnakes Symposium, Loma Linda University, 15-18 January 2005.
- Clucas[#], B., M.P. Rowe, and D.H. Owings. "Sheep in wolves' clothing: snake scent application in ground squirrels." Presented by Clucas at the Biology of the Rattlesnakes Symposium, Loma Linda University, 15-18 January 2005.
- Rowe, M.P. and A.H. Rowe. "Risk assessment by grasshopper mice feeding on potentially lethal prey." Presented by M.P. Rowe at the annual meeting of the Society for Integrative and Comparative Biology, 4-8 January 2005, San Diego, CA.

- Rowe, M.P. and A.H. Rowe. "Coevolution between grasshopper mice (*Onychomys* spp.) and bark scorpions (*Centruroides* spp.)." Presented by A.H. Rowe at the annual meeting of the Society for Integrative and Comparative Biology, 4-8 January 2005, San Diego, CA.
- Clucas[#], B., M.P. Rowe, and D.H. Owings. "Snake scent application in ground squirrels: prey in a predator's clothing?" Poster presented by Clucas at the 41st annual meeting of the Animal Behavior Society, Oaxaca, Mexico, 12-16 June 2004. This poster was awarded an honorable mention in the Society's Founder's Award competition.
- Rowe, M.P., T.M. Farrell, and P.G. May. "Rattle loss in pigmy rattlesnakes (*Sistrurus miliarius*): a textbook example of regressive evolution?" Poster presented by Rowe at the national meeting of the Society for the Study of Evolution, California State University at Chico, California, 20-24 June 2003.
- Rowe, A.H., M.P. Rowe, and T. Ray*. "Geographic variability in venom resistance and venom toxicity: a coevolutionary arms race between southern grasshopper mice (*Onychomys torridus*) and bark scorpions (*Centruroides exilicauda*)?" Poster presented by A.H. Rowe at the national meeting of the Society for the Study of Evolution, California State University at Chico, California, 20-24 June 2003.
- Riddle[#], J.D. and M.P. Rowe. "Short-term effects of wildfire on breeding bird guilds in southern Appalachian old-growth/pre-settlement forests." Presented by Riddle at the 29th annual Natural Areas Conference, Asheville, NC, 2-5 October 2002. Also presented by Riddle at the 63rd annual meeting of the Association of Southeastern Biologists, Appalachian State University, Boone, NC, 10-13 April 2002.
- Sealy[#], J.B. and M.P. Rowe. "Species preferences in scent-trailing by neonatal timber rattlesnakes (*Crotalus horridus*)." Presented by Sealy at the 2002 national meeting of the Society for the Study of Amphibians and Reptiles, Kansas City, MO, 3-8 July 2002. Also presented by Sealy at the 63rd annual meeting of the Association of Southeastern Biologists, Appalachian State University, Boone, NC, 10-13 April 2002.
- Bulluck[#], J. and M.P. Rowe. "The importance of southern Appalachian wetlands to breeding birds; the role of beaver." (Was to be) presented by Bulluck at the 120th annual meeting of the American Ornithologists' Union, New Orleans, LA, 25-28 September 2002 (flight cancelled due to hurricane Isidore). Also presented by Bulluck at the 83rd annual meeting of the Wilson Ornithological Society, Florida Gulf Coast University, Fort Myers, FL, 11-14 April 2002.
- Mayrhofer*, M., M.P. Rowe, and J.K. Shull. "Sexual selection in certain mutant stocks of *Drosophila melanogaster*." Presented by Mayrhofer at the 62nd annual meeting of the Association of Southeastern Biologists, Tulane and Loyola Universities, New Orleans, LA, 4-7 April 2001.
- Rowe, M.P. "Rattle loss in pigmy rattlesnakes (*Sistrurus miliarius*): allometric artifact or relaxed selection?" Poster presentation at the International Symposium on Biology of the Vipers, Uppsala, Sweden, 17-19 May 2000.
- Beck*, M.L., M.P. Rowe, and R.W. Van Devender. "Defensive escalation in pitvipers: the effects of ecdysis and feeding." Presented by Beck at the 61st annual meeting of the Association of Southeastern Biologists, University of Tennessee at Chattanooga, Chattanooga, TN, 5-7 April 2000.
- Lindfors*, H., S. Westmoreland*, M.P. Rowe, and J. K. Shull. "Alteration of female mating preference in *Drosophila meloanogaster*." Presented by Lindfors at the 61st annual meeting of the Association of Southeastern Biologists, University of Tennessee at Chattanooga, Chattanooga, TN, 5-7 April 2000.
- Rowe, M.P. "The extinction crisis: should humanity care?" Keynote address presented at the 17th annual National Wildlife Rehabilitators' Association meeting, Greensboro Hilton, Greensboro, NC, 9-13 March 1999.
- Rowe, M.P. "Conservation of North Carolina's endemic birds: a case study of the northern saw-whet owl." Invited presentation at the 17th annual National Wildlife Rehabilitators' Association meeting, Greensboro Hilton, Greensboro, NC, 9-13 March 1999.

- Rundus[#], A., D.H. Owings, M.P. Rowe, and P. Arrowood. "Tail flagging: differences between rock and California ground squirrels." Presented by Owings at the 35th national meeting of the Animal Behavior Society, Southern Illinois University, Carbondale, IL, 18-22 July 1998.
- Rowe, M.P., T.C. Milling[#], B.L. Cockerel[#], P.C. Cooper[#], T.A. Dellinger*, and J.B. Gales*. "Yankee owls in Dixie: conservation biology of northern saw-whet owls in the southern Appalachians." Presented by Rowe at the Second International Symposium on Biology & Conservation of Owls of the Northern Hemisphere, Winnipeg, Canada, 5-9 February 1997.
- Brinker, D.F., K.M. Dodge, & M.P. Rowe. "A boreal relict: implications of first-order habitat selection to the conservation of saw-whet owls in the southern Appalachians." Presented by Dodge at the Second International Symposium on Biology & Conservation of Owls of the Northern Hemisphere, Winnipeg, Canada, 5-9 February 1997.
- Cockerel[#], B.L., T.C. Milling[#], & M.P. Rowe. "Prey preferences of northern saw-whet owls (*Aegolius acadicus*) from the Mt. Mitchell, NC area." Presented by Cockerel at the joint national meeting of the American Ornithologists' Union and the Raptor Research Foundation, Boise State University, Boise, ID, 13-17 August 1996.
- Tamashiro[#], D.A., M.P. Rowe, & G.L. Walker. "Population genetics of a southern Appalachian disjunct: the northern saw-whet owl in the southeastern United States." Presented by Tamashiro at the 57th annual meeting of the Association of Southeastern Biologists, Georgia Southern University, Statesboro, GA, 10-13 April 1996. Also delivered by Tamashiro as a poster at the joint national meeting of the Ecological Society of America and the Society for Conservation Biology, Providence, RI, 11-14 August 1996.
- Rowe, M.P., P.M. Cook[#], & R.W. Van Devender. "Relaxed selection and rattle loss in pigmy rattlesnakes (*Sistrurus miliarius*)." Presented by Rowe at the 38th national meeting of the Society for the Study of Amphibians and Reptiles, Appalachian State University, Boone, NC, 8-13 August 1995.
- Owings, D.H., R.R. Swaisgood[#], & M.P. Rowe. "Risk assessment by California ground squirrels based on the size and location of rattlesnakes: mothers are more concerned and more discriminating." Presented by Owings at the 32nd national meeting of the Animal Behavior Society, University of Nebraska, Lincoln, NE, 9-13 July 1995.
- Dodge, K.M., D.F. Brinker, & M.P. Rowe. "A boreal relict: implications of first-order habitat selection to the conservation of saw-whet owls in the southern Appalachians." Presented by Brinker at the Appalachian Biogeography Symposium, Virginia Polytechnic Institute & State University, Blacksburg, VA, 25-29 June 1995.
- Milling[#], T.C., B.L. Cockerel[#], & M.P. Rowe. "A boreal relict: second and third order habitat selection by saw-whet owls in the southern Appalachians." Presented by Milling at the Appalachian Biogeography Symposium, Virginia Polytechnic Institute & State University, Blacksburg, VA, 25-29 June 1995.
- Brinker, D.F., K.M. Dodge & M.P. Rowe. "Conservation biology of saw-whet owls in the Eastern United States." Presented by Dodge at the national meeting of the Association of Field Ornithologists, Rosendale, NY, 23-25 September 1994.
- DeLay, S., W.K. Hayes, & M.P. Rowe. "Predatory versus defensive strikes by crotaline snakes: fang contact, risk assessment, and venom metering." Presented by DeLay at the Tennessee Academy of Science annual meeting, Nashville, TN, April 15-16, 1994.
- Rowe, M.P., D.H. Owings, & R.R. Swaisgood. "Exploitation of an aposematic signal: information 'leakage' in rattlesnake rattling." Invited presentation by Rowe at the Second World Congress of Herpetology, University of Adelaide, Australia, 29 December 1993 to 6 January 1994.
- Hayes, W.K., M.P. Rowe, & D. Duvall. "Predatory versus defensive strikes by North American crotaline snakes: risk assessment and venom metering." Invited presentation by Rowe at the Second World Congress of Herpetology, University of Adelaide, Australia, 29 December 1993 to 6 January 1994.

- Cockerel[#], B.L., T.C. Milling[#], & M.P. Rowe. "Ecology of the northern saw-whet owl (*Aegolius acadicus*) in the southern Appalachian Mountains." Poster presented by Cockerel at the national meeting of the Raptor Research Foundation, hosted by the Carolina Raptor Center, Raleigh, NC, 3-7 November 1993.
- Milling[#], T.C., B.L. Cockerel[#], & M.P. Rowe. "Habitat and prey preferences of the northern saw-whet owl (*Aegolius acadicus*) in the southern Appalachian Mountains." Presented by Milling at the Inland Bird Banders Association, Whitefish Point Bird Observatory, Paradise, MI, 1-3 October 1993.
- Owren, M.J., M.P. Rowe, & C.D. Linker. "Acoustical features of tonal 'grunt' calls in baboons." Presented by Owren at the Acoustical Society of America biannual meeting, University of Colorado at Denver, 4-8 October 1993.
- Owings, D.H., M.P. Rowe, & R.R. Swaisgood[#]. "Risk assessment by California ground squirrels based on unritualized variation in the structure of the rattling sounds of northern Pacific rattlesnakes." Presented by Owings at the 30th national meeting of the Animal Behavior Society, University of California at Davis, 24-30 July 1993.
- Rowe, M.P. "The information afforded by rattlesnake rattles: a study of risk assessment by ground squirrels." 50th annual meeting of the Association of Southeastern Biologists, UNC Charlotte, NC, 5-7 April 1989. This paper was also presented by Rowe as: (1) an invited poster at the 5th International Conference on Event Perception and Action, Miami Univ., Oxford, Ohio, 24-28 July 1989, and; (2) as a poster at the Biology of Pitvipers Symposium, University of Texas at Arlington, 17-18 November 1989.
- Rowe, M.P., & J.K. Shull, Jr. "Mark-recapture using fruit flies: a lab exercise for ecology." Presented by Rowe at the 49th annual meeting of the Association of Southeastern Biologists, University of Southern Mississippi, Biloxi, MS, 13-15 April 1988.
- Wesemann[#], T., & M.P. Rowe. "Conservation of burrowing owls in Cape Coral, Florida: a multivariate approach." Presented by Wesemann at the National Symposium on Urban Wildlife, Chevy Chase, MD, 4-7 November 1986.
- Rowe, M.P. "Evolutionary origins of a mimetic signal." 19th International Ethological Conference, Toulouse, France, 24 August - 3 September 1985.
- Rowe, M.P. "The burrowing owl's mimetic hiss: adaptive or exaptative?" National meeting of the American Society of Naturalists and the Society for the Study of Evolution, Chicago Field Museum of Natural History, Chicago, IL, 23-26 June 1985.
- Rowe, M.P. "Rattlesnake rattles and burrowing owl hisses: a case of acoustic Batesian mimicry." 20th national meeting of the Animal Behavior Society, Bucknell University, Lewisburg, PA, 19-24 June 1983.
- Rowe, M.P., & D.H. Owings. "The meaning of the sound of rattling by rattlesnakes to California ground squirrels." Presented by Rowe at the 15th national meeting of the Animal Behavior Society, University of Washington, Seattle, WA, 19-23 June 1978.

Invited Seminars:

- Keynote speaker, 2019 annual meeting of the Oklahoma Branch of the American Association for Laboratory Animal Science, University of Oklahoma, July 2019.
- Arizona-Sonoran Desert Museum Docents Continuing Education Program, July 2019.
- University of Oklahoma, Department of Biology, January 2017.
- Kellogg Biological Station, K-12 Partnership plenary speaker, November 2014.
- Loma Linda University, Loma Linda, CA, May 2014.
- BLM public outreach, Organ Mountain Research Presentations, Dripping Springs, NM, July 2013.
- Texas Association of Deans of Liberal Arts and Sciences, January 2013
- BLM public outreach, Organ Mountain Research Presentations, Dripping Springs, NM, July 2012.
- University of Illinois, Program in Ecology, Evolution and Conservation Biology Seminar Series, February 2012.

SPIRE Post-doctoral Program, University of North Carolina Chapel Hill, December 2011.
 Sam Houston State University, College of Humanities and Social Sciences, 7th Annual Teaching Conference, invited workshop on using active learning to teach the nature of science. August 2011.
 Huntsville, TX, Chapter, National Audubon Society, April 2011.
 Santa Lucia Conservancy, Monterey, CA, March 2011.
 Texas Tech University, Lubbock, TX, February 2011.
 Huntsville Universal Unitarian Church, January 2011.
 Green Valley Public Outreach, University of Arizona College of Agriculture, October 2010.
 "Evo 101 Workshop: Hands on Evolution for K-12 Educators" - workshop presenter and panel discussion participant. Society for the Study of Evolution annual conference, Portland State University, June 2010.
 Sam Houston State University, College of Humanities and Social Sciences, 5th Annual Teaching Conference, invited workshop on using cooperative learning and case studies to enhance general education science courses. August 2009.
 Elon University. April 2009.
 Sam Houston State University. February 2005.
 University of North Carolina-Charlotte, October 2002.
 Keynote speaker, annual spring meeting of the Carolina Bird Club (joint ornithological society of NC and SC), Blowing Rock, NC, 5-7 May 2000.
 Western Carolina University, Cullowhee, NC, March 2000.
 Banquet speaker, Lee & Lois Herndon Chapter of the Tennessee Ornithological Society, Johnson City, TN, March 2000
 California State University at Bakersfield, March 2000
 Lees McCrae College, Banner Elk, NC, February 2000.
 Grandfather Mountain, Neotropical Migratory Bird Symposium, Linville, NC, May 1999.
 College of William & Mary, Williamsburg, VA, February 1999.
 East Tennessee State University, Johnson City, TN, January 1999.
 Bristol Bird Club, Bristol, TN, October 1998.
 Resource expert on biological diversity and the extinction crisis, Ponderosa Workshop on Sustainability, Northern Arizona University, Flagstaff, AZ, 27-29 May 1998.
 Keynote speaker, annual spring meeting of the Carolina Bird Club (joint ornithological society of NC and SC), Asheville, NC, 1-3 May 1998.
 Tennessee Ornithological Society, Milligan College, Johnson City, TN, May 1998.
 North Carolina Partners-in-Flight Research Symposium, Raleigh, NC, April 1998.
 Western Carolina University, Cullowhee, NC, January 1998.
 Appalachian State University's Social Forum Series, Boone, NC, March 1997.
 Highlands Nature Center public lecture series, Highlands, NC, July 1996.
 Keynote speaker, Southern Appalachian Highlands Conservancy, 14-16 June 1996.
 Keynote speaker, 38th Annual Roan Mountain Naturalist Rally. 4-5 May 1996.
 Panelist and Presenter, Appalachian State Special Forum on Forest Decline, October 1995.
 East Tennessee State University, Johnson City, TN, March 1995.
 Winthrop College, Rock Hill, SC, November 1994.
 Highlands Biological Station, Highlands, NC, June 1994.
 National Forest Service, Research Colloquium, Asheville, NC, March 1994.
 Western Carolina University, Cullowhee, NC, February 1994.
 Southern College, Collegedale, TN, September 1992.
 Smithsonian Institution, Washington, DC, June 1992.
 North Carolina State University, Raleigh, NC, April 1992.
 Southern College, Collegedale, TN, April 1992.
 Northern California Herpetological Society, Davis, CA, April 1991.
 University of Nevada, Reno, NV, March 1991.
 Keynote speaker, Chula Vista Nature Interp. Center, Chula Vista, California, 7-8 December

1990.

University of North Carolina-Charlotte, November 1990.
North Carolina Herpetological Society, Raleigh, NC, November 1990.
University of North Carolina-Wilmington, November 1990.
Elon College, Elon, NC, November 1990.
Arizona College of Medicine, University of Arizona, Tucson, AZ, August 1990.
Belmont Abbey College, Belmont, NC, March 1990.
University of Tennessee, Knoxville, TN, February 1990.
University of North Carolina-Asheville, December 1988.
Savannah River Ecology Laboratory, Aiken, SC, April 1988.
Lenoir-Rhyne College, Hickory, NC, October 1988.
North Carolina Herpetological Society, Raleigh, NC, November 1987.
Gardner-Webb University, Boiling Springs, NC, September 1987.
Mars Hill University, Mars Hill, NC, April 1986.
University of Tennessee, Knoxville, TN, October 1985.
World College West, San Rafael, CA, November 1983.

Professional Association Memberships (current or recent):

AIBS
American Ornithologists' Union
Animal Behavior Society
Society for Integrative & Comparative Biology
Association for the Study of Animal Behavior
Carolina Bird Club
National Science Teachers Association
National Association of Biology Teachers
North Carolina Herpetological Society
Sigma Xi
Society for Conservation Biology
Society for Integrative & Comparative Biology
Society for the Study of Amphibians and Reptiles
Society for the Study of Evolution
Southwestern Association of Naturalists

Reviewer for:

American Midland Naturalist
Animal Behavior
Association of Southeastern Biologists
Behavioral Ecology and Sociobiology
Biological Journal of the Linnean Society
Copeia
Ethology
Functional Ecology
Journal of Animal Ecology
Journal of Arachnology
Journal of College Science Teaching
Journal of Comparative Psychology
Journal of Experimental Biology
Journal of Herpetology
Journal of Mammalogy
Leverhulme Trust
NIH - STEM grant review panel
NSF - external grant reviews

Natural History
Ranger Rick
Science & Education
Society for the Study of Amphibians & Reptiles
Sigma Xi (GIAR review panel)
Smithsonian Institution
Southeastern Naturalist (guest editor)
Southwestern Naturalist
Texas Academy of Science