

Curriculum Vitae

Present address

Department of Integrative Biology
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Academic Positions

2019–Present: Assistant Professor, Dept. Integrative Biology, Oklahoma State University

2015–2018: Senior Postdoctoral Researcher. School of Biological, Earth and Environmental Science, University College Cork, Cork, Ireland. Supervising professor: Dr. John Quinn

01/2013–05/2015: NSF International Postdoctoral Research Fellow. Institute for Biology, Humboldt University, Berlin Germany. Supervising professor: Dr. Bernhard Ronacher

2012; 2015: Postdoctoral Research Fellow, University of Wisconsin-Milwaukee. Supervising professor: Dr. Gerlinde Höbel

Education

2018 Postgraduate Certificate in Teaching and Learning in Higher Education, University College Cork

2011 Ph.D. in Biological Sciences, University of Missouri.
Advisor: Dr. H. Carl Gerhardt.

2005-2007 Graduate Studies in Ecology, Evolution and Behavior, University of Texas.
Supervising professor: Dr. Mike Singer

2004 B.S. in Biology (with honors), University of North Carolina-Chapel Hill.

Research funding

2017 American Genetic Society travel grant. (\$750)

2015 Invertebrate Sound & Vibration Conference travel grant. (\$500)

2014 International Society for Behavioral Ecology travel grant. (\$1000)

2013-2014 U.S. National Science Foundation International Research Fellowship Program award for postdoctoral research. (\$138,700)

2010-2012 U.S. National Science Foundation Doctoral Dissertation Improvement Grant (DDIG). (\$14,818)

2010 Dean Metter Award, Society for the Study of Amphibians and Reptiles. (\$750)
2010 Research Fellowship, Organization for Tropical Studies. (\$2635)
2009 Gaige Fund Award, American Society for Ichthyologists & Herpetologists (\$500)
2009 Animal Behavior Society travel grant. (\$1000)
2008 Chicago Herpetological Society Grant. (\$500)
2007-2011 GAANN Fellowship, University of Missouri.
2007 Animal Behavior Society Student Research Grant. (\$500)
2006 Smithsonian Institution 10 week predoctoral fellowship. (\$4500)
2006 National Science Foundation-Honorable Mention for Predoctoral Fellowship.
2006 Graduate Research Award, Carl Gottfried Hamilton Fellowship Fund. (\$1865)
2004 Travel award, UNC Office of Undergraduate Research. (\$900)
2003 Sigma Xi grant-in-aid of research. (\$750)
2003 UNC Office of Undergraduate Research and McGee Family Foundation. (\$550)

Publications in Peer-Reviewed Journals

31. K.E. Gentry, R.N. Lewis, H. Glanz, P.I. Simões, Á.S. Nyári and **M.S. Reichert**. 2020. Bioacoustics in cognitive research: applications, considerations, and recommendations. **WIREs Cognitive Science** 2020: e1538
30. **M.S. Reichert**, S.J. Crofts, G.L. Davidson, J.A. Firth, I.G. Kulahci and J.L. Quinn. 2020. Multiple factors affect discrimination learning performance, but not between-individual variation, in wild mixed-species flocks of birds. **Royal Society Open Science** 7: 192107
29. **M.S. Reichert** and B. Ronacher. 2019. Temporal integration of conflicting directional cues in sound localization. **Journal of Experimental Biology** 222: jeb208751
28. **M.S. Reichert**. 2019. Zooming in on assessment strategies: a comment on Chapin et al. **Behavioral Ecology** 30: 1186-1187
27. **M.S. Reichert** and G. Höbel. 2018. Phenotypic integration and the evolution of signal repertoires: a case study of treefrog acoustic communication. **Ecology and Evolution** 8: 3410-3429
26. G.L. Davidson, **M.S. Reichert**, J.M.S. Crane, W. O'Shea and J.L. Quinn. 2018. Repeatable aversion across threat types is linked with life history traits but is dependent on how aversion is measured. **Royal Society Open Science** 5: 172218
25. **M.S. Reichert** and J.L. Quinn. 2017. Cognition in contests: mechanisms, ecology and evolution. **Trends in Ecology and Evolution** 32: 773-785
24. J.T. Kilmer, K.D. Fowler-Finn, D.A. Gray, G. Höbel, D. Rebar, **M.S. Reichert** and R.L. Rodríguez. 2017. Describing mate preference functions and other function-valued traits. **Journal of Evolutionary Biology** 30: 1658-1673

23. **M.S. Reichert** and G. Höbel. 2017. Frequency-channel dependent selectivity for temporal call characteristics in gray treefrogs, *Hyla versicolor*. **Journal of Experimental Biology** 220: 1256-1266
22. **M.S. Reichert**, J. Finck, and B. Ronacher. 2017. Exploring the hidden landscape of female preferences for complex signals. **Evolution** 71: 1009-1024
21. **M.S. Reichert**, L.B. Symes, and G. Höbel. 2016. Lighting up sound preferences: cross-modal influences on the precedence effect in treefrogs. **Animal Behaviour** 119: 151-159
20. M.A. Bee, **M.S. Reichert**, and J. Tumulty. 2016. Assessment and recognition of competitive rivals in anurans. **Advances in the Study of Behavior** 48: 161-249
19. **M.S. Reichert** and G. Höbel. 2015. Modality interactions alter the shape of acoustic mate preference functions in gray treefrogs. **Evolution** 69: 2384-2398
18. **M.S. Reichert**. 2015. Effects of noise on sound localization in male grasshoppers, *Chorthippus biguttulus*. **Animal Behaviour** 103: 125-135
17. **M.S. Reichert** and B. Ronacher. 2015. Noise affects the shape of female preference functions for acoustic signals. **Evolution** 69: 381-394
16. R.L. Rodríguez, M. Araya-Salas, D.A. Gray, **M.S. Reichert**, L.B. Symes, M.R. Wilkins, R.J. Safran and G. Höbel. 2015. How acoustic signals scale with individual body size: common trends across diverse taxa. **Behavioral Ecology** 26: 168-177
15. **M.S. Reichert**, H. Galante* and G. Höbel. 2014. Female grey treefrogs, *Hyla versicolor*, are responsive to visual stimuli but unselective of stimulus characteristics. **Journal of Experimental Biology** 217: 3254-3262 *Undergraduate co-author
14. **M.S. Reichert** and H.C. Gerhardt. 2014. Behavioral strategies and signaling in interspecific aggressive interactions in gray treefrogs. **Behavioral Ecology** 25: 520-530
13. **M.S. Reichert**. 2014. Playback tests and studies of animal contest dynamics: concepts and an example in the gray treefrog. **Behavioral Ecology** 25: 591-603
12. **M.S. Reichert**. 2013. Sources of variability on advertisement and aggressive calling in competitive interactions in the gray treefrog, *Hyla versicolor*. **Bioacoustics** 22: 195-214
11. **M.S. Reichert** and H.C. Gerhardt. 2013. Gray tree frogs, *Hyla versicolor*, give lower-frequency aggressive calls in more escalated contests. **Behavioral Ecology and Sociobiology** 67: 795-804
10. **M.S. Reichert**. 2013. Patterns of variability are consistent across signal types in the treefrog *Dendropsophus ebraccatus*. **Biological Journal of the Linnean Society** 109: 131-145

9. **M.S. Reichert**. 2013. Visual cues elicit courtship signals in a nocturnal anuran. **Behavioral Ecology and Sociobiology** 67: 265-271
8. **M.S. Reichert** and H.C. Gerhardt. 2013. Socially-mediated plasticity in call timing in the gray treefrog, *Hyla versicolor*. **Behavioral Ecology** 24: 393-401
7. **M.S. Reichert** and H.C. Gerhardt. 2012. Trade-offs and upper limits to signal performance during close-range vocal competition in gray treefrogs, *Hyla versicolor*. **The American Naturalist** 180: 425-437
6. **M.S. Reichert**. 2012. Call timing is determined by response call type, but not by stimulus properties, in the treefrog *Dendropsophus ebraccatus*. **Behavioral Ecology and Sociobiology** 66: 433-444
5. **M.S. Reichert** and H.C. Gerhardt. 2011. The role of body size on the outcome, escalation and duration of contests in the grey treefrog, *Hyla versicolor*. **Animal Behaviour** 82: 1357-1366
4. **M.S. Reichert**. 2011. Aggressive calls improve leading callers' attractiveness in the treefrog *Dendropsophus ebraccatus*. **Behavioral Ecology** 22: 951-959
3. **M.S. Reichert**. 2011. Effects of multiple-speaker playbacks on aggressive calling behavior in the treefrog *Dendropsophus ebraccatus*. **Behavioral Ecology and Sociobiology** 65: 1739-1751
2. **M.S. Reichert**. 2010. Aggressive thresholds in *Dendropsophus ebraccatus*: Habituation and sensitization to different call types. **Behavioral Ecology and Sociobiology** 64:529-539
1. D. Satre, **M. Reichert**, and C. Corbitt. 2009. Effects of vinclozolin, an anti-androgen, on affiliative behavior in the Dark-eyed Junco, *Junco hyemalis*. **Environmental Research** 109:400-404

Book Chapters

M.L. Dyson, **M.S. Reichert**, and T.R. Halliday. 2013. Contests in amphibians. In: Animal Contests. ed., I.C.W. Hardy and M. Briffa, pp. 228-257. Cambridge University Press.

M.S. Reichert. 2018. Precedence effect. In: Encyclopedia of Animal Cognition and Behavior. Ed., J. Vonk, T.K. Shackelford. Springer

Pre-prints, pending, in review

G. Davidson, N. Wiley, A.C. Cooke, C.N. Johnson, F. Fouhy, **M.S. Reichert**, I. de la Hera, J.M.S. Crane, I.G. Kulahci, R.P. Ross, C. Stanton, J.L. Quinn. Diet-induced changes to host gut microbiota are linked to foraging innovation in a wild bird. bioRxiv 827741; doi: <https://doi.org/10.1101/827741>

J. Clemens, B. Ronacher and M.S. Reichert. Sex specific speed-accuracy tradeoffs shape neural processing of acoustic signals. bioRxiv doi: <https://doi.org/10.1101/2020.07.20.212431>

Teaching Experience

Instructor

2020 Animal Communication (BIOL 4313), Oklahoma State University
2020 Evolution (BIOL 4133), Oklahoma State University
2019 Evolution (BIOL 4133), Oklahoma State University
2011 Herpetology (Bio_Sc 3360), University of Missouri
2009 Herpetology (Bio_Sc 3360), University of Missouri

Teaching Assistant

2013 Neurophysiology intensive course (spring and fall semesters), Humboldt University-Berlin
2011 Introductory Biology lab, University of Missouri
2010 Introductory Biology lab, University of Missouri
2009 Herpetology lab, University of Missouri
2007 Biostatistics, University of Texas
2006 Biostatistics, University of Texas (spring and fall semesters)
2005 Introductory Biology I, University of Texas

Mentorship

Ph.D. student supervision:

2016-present Amy Cooke*
2017-present Jenny Coomes*
2019-present James Erdmann

M.S. student supervision:

2018-present Ciara Sexton*
2019-present Jonathan Albers

*Co-supervised with Dr. John Quinn at University College Cork

Undergraduate students mentored (25)

- Including recipients of a Life Sciences Undergraduate Research Fellowship from the University of Missouri, a McNair fellowship from the University of Missouri, a Support for Undergraduate Research Fellows award from the University of Wisconsin-Milwaukee, a Research Experience for Undergraduates fellowship from the Organization for Tropical Studies, Wentz Scholarship from Oklahoma State University

Invited Seminars

2018 Humboldt University, Berlin (Germany)

- 2018 Oklahoma State University (USA)
2018 Queen's University Belfast (UK)
2017 University of Oxford (UK); Edward Grey Institute Seminar Series
2015 University College Cork (Ireland); Biological, Earth and Environmental Sciences Seminar Series
2015 Southern Denmark University (Odense, Denmark); Frog communication workshop
2014 Bielefeld University (Bielefeld, Germany); Brain and Behavior seminar
2014 Symposium on Contemporary Research on Anuran Communication (New York City)
2014 Karl-Franzens-University (Graz, Austria)
2013 Ludwig Maximilian University of Munich (Munich, Germany)
2013 Bielefeld University (Bielefeld, Germany); Behavior and Evolution seminar series

Contributed Presentations at National and International Meetings

Oral Presentations

M.S. Reichert. 2020. Temperature limits signaling plasticity in competitive interactions in gray treefrogs. 2020 Virtual Meeting of the Animal Behavior Society. July 2020. Oral presentation.

M.S. Reichert, I.G. Kulaheci, G.L. Davidson and J. Quinn. 2020. Scrounging Versus Learning Strategies in Foraging Songbirds. 2020 Society for Integrative and Comparative Biology conference. Austin, TX, January 2020.

M.S. Reichert, G. Davidson, I.G. Kulaheci and J. Quinn. 2019. Individual and social determinants of spatial learning performance in a multi-species field-system. 2019 Animal Behavior Society Conference. Chicago, IL, July 2019

M.S. Reichert. How might cognition play a role in animal contests? 2018 Interdisciplinary Workshop: Broader Perspectives on Animal Contests, Belfast, UK, August 2018

M.S. Reichert, M. Foraita, J.M.S. Crane and J. Quinn. Individual variation in territorial neighbour recognition learning and its consequences for reproductive success. 2018 Joint Congress on Evolutionary Biology, Montpellier, France, August 2018

M.S. Reichert, J. Finck and B. Ronacher. Exploring the hidden landscape of female preferences for complex signals. 2017 European Society for Evolutionary Biology Conference. Groningen, Netherlands.

M.S. Reichert, J. Clemens and B. Ronacher. Common biases in sound localization in insects and anurans when directional cues conflict. 2016 Animal Behavior Society Conference. Columbia, MO, USA.

M.S. Reichert, J. Clemens and B. Ronacher. Sound localization in *Chorthippus biguttulus* with conflicting directional cues: effects of temporal order. 2015 Invertebrate Sound and Vibration Conference. Ottawa, Canada

M.S. Reichert. Effects of noise on female preference functions for acoustic signals in *Chorthippus biguttulus*. International Society for Behavioral Ecology conference, New York City, August 2014

M.S. Reichert. Effects of noise on female preference functions in the acoustically communicating grasshopper *Chorthippus biguttulus*. German Ethological Society, Tutzing, Germany, February 2014

M.S. Reichert. Assessment and communication in gray treefrog aggressive interactions. Annual meeting of the Society for Integrative and Comparative Biology, Austin, TX, January 2014

M.S. Reichert. Does experience affect signal detection and classification in anuran acoustic communication? Amphibian neuroethology satellite meeting of the International Congress of Neuroethology, College Park, MD, August 2012

M.S. Reichert and H.C. Gerhardt. Trade-offs and signal performance during close-range vocal competition in gray treefrogs. Joint congress on Evolutionary Biology, Ottawa, Canada, July 2012

M.S. Reichert and H.C. Gerhardt. Determinants of RHP and the level of escalation in aggressive interactions of gray treefrogs. Annual Meeting of the Animal Behavior Society, Bloomington, IN, July 2011

M.S. Reichert. Call timing in the treefrog *Dendropsophus ebraccatus*: The role of the aggressive call. Annual Meeting of the Society for Integrative and Comparative Biology, Salt Lake City, UT, January 2011

M.S. Reichert. Call timing interactions in the treefrog *Dendropsophus ebraccatus*. Annual Meeting of the Animal Behavior Society, Williamsburg, VA, July 2010

M.S. Reichert. Aggressive thresholds in *Dendropsophus ebraccatus*: Habituation and sensitization to different call types. Annual Meeting of the Animal Behavior Society, Pirenópolis, Brazil, June 2009

Poster Presentations (as the presenting author)

M.S. Reichert. Effects of noise on female preference functions in the acoustically communicating grasshopper *Chorthippus biguttulus*. Annual meeting of the Society for Integrative and Comparative Biology, Austin, TX, January 2014

M.S. Reichert. Directional hearing in masking noise in the grasshopper *Chorthippus biguttulus*. 2013 Invertebrate Sound and Vibration meeting. Glasgow, UK

M.S. Reichert and H.C. Gerhardt. Socially-mediated plasticity in call timing in the gray treefrog, *Hyla versicolor*. 2012 International Congress of Neuroethology, College Park, MD

M.S. Reichert, F. Barbosa, and M.J. Ryan. Effects of social context on female responses to male advertisement calls in túngara frogs (*Physalaemus pustulosus*). Annual Meeting of the Animal Behavior Society, Snowbird, UT, August 2006

M.S. Reichert and A.M. Welch. The effects of social context and body condition on calling behavior in male gray tree frogs. Annual meeting of the Ecological Society of America, Portland, OR. August 2004

Academic service

Chair, career development subcommittee of University College Cork Athena SWAN School of BEES steering committee

Faculty Advisor: Zoology Graduate Students Society, Oklahoma State University (2019-present)
Graduate Committee, Oklahoma State University, member (2019-present)
Search Committee, Teaching Assistant Professor, Oklahoma State (2019)

Reviewer for:

Funding agencies:

Animal Behaviour Society Student Research Grants (2017-2020), Austrian Science Fund (FWF), Chilean National Science and Technology Commission (CONICYT), French National Research Agency (ANR)

Scientific journals:

Acta Herpetologica (1), The American Naturalist (2), Amphibia-Reptilia (2), Animal Behaviour (20), Behaviour (3), Behavioral Ecology (10), Behavioral Ecology & Sociobiology (8), Behavioral Processes (2), Bioacoustics (4), Biological Journal of the Linnean Society (3), Biology Letters (1), Copeia (1), Current Zoology (2), Ecology Letters (3), Ecology & Evolution (1), Ethology (10), Ethology Ecology and Evolution (1), Evolution (4), Frontiers in Ecology and Evolution (3), Functional Ecology (1), HardwareX (1), Herpetologica (2), Journal of the Acoustical Society of America (3), Journal of Comparative Physiology A (1), Journal of Evolutionary Biology (1), Journal of Experimental Biology (2), Journal of Herpetology (1), Journal of Insect Behavior (1), Journal of Natural History (2), Journal of Zoology (3), PeerJ (2), Proceedings of the Royal Society B (5), Royal Society Open Science (1), Scientific Reports (11), The Science of Nature (2)

Coordinator – UCC EEB journal club

Public outreach – 2017 & 2018 City of Cork “Culture Night” and “Meet the Scientist” events
Judge, 2019 Oklahoma State Science Fair

Service to professional societies:

Mentor for one undergraduate student in Turner Program, Animal Behavior Society (July 2020)
Mentor in “Virtual Mentoring Program”, 2020 Animal Behavior Society Conference (July 2020)

Professional experience

Postdoctoral research associate, 2012. Department of Biological Sciences, University of Wisconsin-Milwaukee. Supervisor: Dr. Gerlinde Höbel

Laboratory technician. University of Louisville. Supervisor: Dr. Cynthia Corbitt. 2004-2005

Laboratory assistant. University of North Carolina. Supervisor: Dr. Allison Welch. 2002-2003

Intern, invertebrate biology laboratory. University of North Carolina. 2002

Languages

English – Native

Portuguese – excellent

German - intermediate

Spanish – intermediate

French – basics