

GREY T. GUSTAFSON

Assistant Professor
Department of Biological Sciences
Northern Arizona University
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EDUCATION

- 2016 **Ph.D.** University of New Mexico, Biology (Advisor: K.B. Miller)
2010 **B.S.** University of Kansas, Biology, emphasis in Ecology and Evolutionary Biology

PROFESSIONAL APPOINTMENTS

- 2020–present **Assistant Professor**, Department of Biological Sciences, Northern Arizona University
2020–present **Curator**, Northern Arizona University Arthropod Collection, Northern Arizona University
2016–2020 **Postdoctoral Researcher**, Department of Ecology and Evolutionary Biology, University of Kansas.
2017–2018 **Adjunct Lecturer**, Department of Environmental Science, Haskell Indian Nations University.

PEER REVIEWED PUBLICATIONS

* = denotes result of mentorship † = denotes co-lead authorship

37. **Gustafson, G.T.**, Glynn, R.D., Short, A.E.Z., Tarasov, S., Gunter, N.L. 2023. To design, or not to design? Comparison of beetle ultraconserved element probe set utility based on phylogenetic distance, breadth, and method of probe design. *Insect Systematics and Diversity* 7(4): 1–16.
- *36. Suksai, B., **Gustafson, G.T.**, Sites, R.W., Sangpradub, N. 2021. The Gyrinidae (Coleoptera) fauna of Thailand: Key to tribes and genera, with new records and keys to species of Dineutini and Gyrinini. *Zootaxa* 5071 (1): 97–117.
35. Jami, L., **Gustafson, G.T.**, Steinmann, T., Piñeirua, M., Casas, J. 2021. Overcoming drag at the water-air Interface constrains body size in whirligig beetles. *Fluids* 6 (7): 249.
DOI:10.3390/fluids6070249
34. Surbakti, S., Balke, M., Hájek, J., **Gustafson, G.T.** 2021. Notes on *Dineutus helleri* Ochs, 1925, with new records for the Cyclops Mountains whirligig beetle, *D. h. stueberi* Ochs, 1955 (Coleoptera, Gyrinidae). *Check List* 17(4): 1061–1066.
- †33. Baca, S.M., **Gustafson, G.T.**, Alexander, A.M., Gough, H.M., Toussaint, E.F.A. 2021. Integrative phylogenomics reveals a Permian origin of Adephaga beetles. *Systematic Entomology* 46 (4): 968–990.
32. Vasilikopoulos, A., **Gustafson, G.T.**, Balke, M., Niehuis, O., Beutel, R.G., Misof, B. 2021. Resolving the phylogenetic position of Hygrobiidae (Coleoptera: Adephaga) requires objective statistical tests and exhaustive phylogenetic methodology: a response to Cai et al. (2020). *Molecular Phylogenetics & Evolution* 162: 106923. DOI: 10.1016/j.ympev.2020.106923

- *31. Suksai, B., **Gustafson, G.T.**, Sites, R.W., Sangpradub, N. 2021. Review of the *Patrus landaisi* species group from Thailand with description of three new species (Coleoptera, Gyrinidae). *Zootaxa* 4991 (3): 561–591.
30. **Gustafson, G.T.**, Miller, K.B., Michat, M.C., Alarie, Y., Baca, S.M., Balke, M., Short, A.E.Z. 2021. The enduring value of reciprocal illumination in the era of insect phylogenomics: a response to Cai *et al.* (2020). *Systematic Entomology* 46 (3): 473–486.
29. Short, A.E.Z., Benetti, C.J., **Gustafson, G.T.** 2020. New records of *Platynectes* (s. str.) diving beetles from South America with description of new species (Coleoptera: Dytiscidae: Agabinae). *Acta Entomologica Musei Nationalis Pragae* 60 (2): 437–447.
28. Benetti, C.J., **Gustafson, G.T.**, Hamada, N., A.E.Z. Short 2020. *Hydaticus aequalis* sp. n. and a new record of *H. devexus* Trémouilles, 1996 from Brazil (Coleoptera, Dytiscidae, Hydaticini). *Zootaxa* 4820 (2): 379–384.
27. **Gustafson, G.T.**, S.M. Baca, A. Alexander, A.E.Z. Short. 2020. Phylogenomic analysis of the beetle suborder Adephaga with comparison of tailored and generalized ultraconserved element (UCE) probe performance. *Systematic Entomology* 45(3): 552–570. DOI: 10.1111/syen.12413
26. **Gustafson, G.T.**, M.C., Michat, M. Balke. 2020. Burmese amber reveals a new stem lineage of whirligig beetle (Coleoptera: Gyrinidae) based on the larval stage. *Zoological Journal of the Linnean Society* 189: 1232–1248. DOI: 10.1093/zoolinnean/zlz161
25. **Gustafson, G.T.**, A. Alexander, J.S. Sproul, J.M. Pflug, D.R. Maddison, A.E.Z. Short. 2019. Ultraconserved element (UCE) probe set design: base genome and initial design parameters critical for optimization. *Ecology and Evolution* 9(12): 6933–6948. DOI: 10.1002/ece3.5260
24. Gonzalez, V.H., **G.T. Gustafson**, M.S. Engel. 2019. Morphological phylogeny of Megachilini and the evolution of leaf-cutter behavior in bees. *Journal of Melittology* 85: 1–123.
23. **Gustafson, G.T.** 2018. Cenozoic out-of-Africa dispersal shaped diversification of the whirligig beetle genus *Aulonogyrus* (Coleoptera: Gyrinidae: Gyrinini). *Arthropod Systematics & Phylogeny* 76(2): 295–302.
22. **Gustafson, G.T.**, A.A. Prokin, R. Bukontaite, J. Bergsten, K.B. Miller. 2017. Tip-dated phylogeny of whirligig beetles reveals ancient lineage surviving on Madagascar. *Scientific Reports* 7: 8619. DOI: 10.1038/s41598-017-08403-1
21. Baca, S.M., A. Alexander, **G.T. Gustafson**, & A.E.Z. Short. 2017. Ultraconserved elements show utility in phylogenetic inference of Adephaga (Coleoptera) and suggest paraphyly of ‘Hydradephaga’. *Systematic Entomology* 42(4) 786 – 795. DOI: 10.1111/syen.12244.
20. **Gustafson, G.T.** & K.B. Miller. 2017. Systematics and evolution of the whirligig beetle tribe Dineutini (Coleoptera, Gyrinidae, Gyrininae). *Zoological Journal of the Linnean Society* 181(1): 118 – 150. DOI: DOI: 10.1093/zoolinnean/zw014.
19. **Gustafson, G.T.** & A.E.Z. Short. 2017. Review of the whirligig beetle genus *Gyrinus* of Venezuela (Coleoptera: Gyrinidae). *Acta Entomologica Musei Nationalis Pragae* 72(2): 479 – 520.

18. **Gustafson, G.T.**, J. Bergsten, T. Ranarilalaitiana, J.H. Randriamihala, & K.B. Miller. 2017. The morphology and behavior of the endemic Malagasy whirligig beetle *Heterogyrus milloti* Legros, 1953 (Coleoptera: Gyrinidae: Heterogyrinae). *The Coleopterists Bulletin* 71(2): 315 – 328.
17. Michat, M.C., **G.T. Gustafson**, & J. Bergsten. 2017. Larval morphology and chaetotaxy of *Dineutus sinuosipennis* Laporte, 1840, with a key for the identification of larvae of the tribe Dineutini (Coleoptera, Gyrinidae). *ZooKeys* 718: 95 – 114. DOI: 10.3897/zookeys.718.20726.
16. Fikáček, M., **G.T. Gustafson**, & A.E.Z. Short. 2017. On wet rocks with snorkels: Immature stages of *Tritonus* cascade beetles with unusual modification of spiracles (Coleoptera: Hydrophilidae: Laccobiini). *Annales Zoologici* 67(1): 97 – 107. DOI: 10.3161/00034541ANZ2017.67.1.011
15. **Gustafson, G.T.** & K.B. Miller. 2016. Revision of the Southeast Asian whirligig beetle genus *Porrorhynchus* Laporte, 1835 (Gyrinidae: Gyrininae: Dineutini). *The Coleopterists Bulletin* 70(4): 675 – 714.
14. **Gustafson, G.T.**, J. Hájek, & K.B. Miller. 2016. Description of two new species of *Dineutus* sensu stricto from Southeast Asia with a key to the known species of the subgenus (Coleoptera: Gyrinidae: Dineutini). *Acta Entomologica Musei Nationalis Pragae* 56(2): 629 – 643.
13. **Gustafson, G.T.**, A.E.Z. Short, & K.B. Miller. 2016. New species of diving beetles in the subgenus *Platynectes* s. str. From the Guiana Shield (Coleoptera: Dytiscidae: Agabinae). *Acta Entomologica Musei Nationalis Pragae* 56(1): 79 – 102.
12. Ryan, M.J., I.M. Latella, **G.T. Gustafson**, J.T. Giermakowski, & H. Snell. 2016. *Anaxyrus microscaphus* (Arizona Toad). Diet, vertebrate prey. *Herpetological Review* 47(3): 436.
11. Michat, M.C. & **G.T. Gustafson**. 2016. Larval morphology and chaetotaxy of *Macrogryus oblongus* (Boisduval, 1835) (Coleoptera: Gyrinidae). *Aquatic Insects* 37(2): 87 – 98.
10. **Gustafson, G.T.** & R.W. Sites. 2016. A North American biodiversity hotspot gets richer: A new species of whirligig beetle from the Southeastern Coastal Plain of the United States. *Annals of the Entomological Society of America* 109(1): 42 – 48. DOI: <http://dx.doi.org/10.1093/aesa/sav100>.
9. **Gustafson, G.T.** & K.B. Miller. 2015. The New World whirligig beetles of the genus *Dineutus* Macleay, 1825 (Coleoptera, Gyrinidae, Gyrininae, Dineutini). *ZooKeys* 476: 1 – 135.
8. **Gustafson, G.T.**, C.A. Maier, S.M. Baca, & C.K. Faris. 2014. Rediscovery of *Lutrochus laticeps* Casey, 1893 (Coleoptera: Lutrochidae) and the Discovery of *Dineutus productus* Roberts, 1895 and *Dineutus serrulatus analis* Régimbart, 1882 (Coleoptera: Gyrinidae) in Kansas, with Notes on Habitat Preference. *The Coleopterists Bulletin* 68(4): 714 – 718.
- *7. Baca, S.M., **G.T. Gustafson**, M. Toledo, & K.B. Miller. 2014. Revision of the Neotropical burrowing water beetle genus *Liocanthhydrus* Guignot (Coleoptera: Noteridae: Noterinae: Noterini) with the description of two new species. *Zootaxa*, 3793(2): 231 – 246.
6. Touroult, J. ... **G.T. Gustafson**, ... & S. Brûlé [18th of 35 authors]. 2014. Combien y a-t-il d'espèces de coléoptères en Guyane? Une première analyse du référentiel TAXREF. pp. 3 – 18. In *Coléoptères de Guyane*. Tome VIII. ACOREP, France. 104 pp.

5. **Gustafson, G.T.** & K.B. Miller. 2013. On the family- and genus-series nomina in Gyrinidae Latreille, 1810 (Coleoptera, Adephaga). *Zootaxa*, 3731(1): 077 – 105.
4. **Gustafson, G.T.** & K.B. Miller. 2012. A new species of *Desmopachria* Babington (Coleoptera: Dytiscidae: Hydroporinae: Hyphyrini) from Venezuela. *Koleopterologische Rundschau* Vol. 82: 71 – 76.
3. **Gustafson, G.T.** & A.E.Z. Short. 2010. Redescription of the Neotropical water scavenger beetle genus *Phaenostoma* Orchymont (Coleoptera: Hydrphilidae: Coelostomatini) with description of two new species. *Acta Entomologica Musei Nationalis Pragae* 50(2): 459 – 469.
2. **Gustafson, G.T.** & A.E.Z. Short. 2010. Revision of the Neotropical water scavenger beetle genus *Guyanobius* Spangler (Coleoptera: Hydrophilidae: Chaetarthriini). *Aquatic Insects* 32(4): 245 – 258.
1. **Gustafson, G.T.** & Chaboo, C.S. 2009. Ambulatory use of ventro-lateral abdominal ampullae by larvae of *Labidomera clivicollis* (Kirby) (Coleoptera: Chrysomelidae: Chrysomelinae). *The Coleopterists Bulletin* 63(3): 357 – 363.

BOOK CHAPTERS

- Gustafson, G.T.**, Ranarilalantiana, T., & Bergsten, J. 2022. Coleoptera: Gyrinidae, Whirligig Beetles, *Fandiorano*. In *The New Natural History of Madagascar* Vol. 1. Ed. Goodman, S. M. pgs. 1034–1040. Princeton, NJ. Princeton University Press.

PRESENTATIONS

Invited Lectures* and Departmental Seminars

- 2023 From fossil to genome: Integrative phylogenetic approaches uncover the evolutionary history of predaceous ground and water beetles. Hubbell Seminar – competitive selection. University of Michigan, Department of Ecology and Evolutionary Biology.*
- 2020 From fossil to genome: Novel phylogenetic approaches illuminate the evolution of predaceous beetles. Northern Arizona University, Department of Biological Sciences.*
- 2019 From fossil to genome: An integrative approach to whirligig beetle systematics. University of Kansas EEB Departmental Seminar Series.
- 2019 200 million years on the surface of water: Evolution and diversification of the whirligig beetles. American Museum of Natural History, New York.*
- 2019 Fossils, molecules, and genomes: An integrative approach to the systematics of predaceous beetles. Washington State University, Department of Entomology.*
- 2018 200 Million Years on the Surface of Water: Systematics and Evolution of the Whirligig Beetles. Texas A&M University San Antonio.*
- 2015 ‘Giggin’ round the world. Phylogenetics and Biogeography of the Whirligig Beetle Tribe Dineutini. The University of New Mexico, Biology Department Brown Bag Seminar.

Presentations Contributed at Scientific Meetings

* = undergraduate mentee, † = graduate student mentee

- 2023 Integrated phylogenomic methods clear muddied waters in the shallow-scale diversification of neotropical aquatic beetles (Coleoptera: Noteridae). Baca, S.M., **Gustafson, G.T.**, DeRaad, D., Short, A.E.Z., & Moyle, R. *Evolution*.
- 2022 Phylogeography of the Mojave giant tiger beetle. †Glynn, R.D., *Bachelor, K., **Gustafson, G.T.** 1st place student competition 10 minute paper. *Entomological Society of America Meeting*.
- 2022 The evolutionary history of whirligig beetles inferred from UCEs. **Gustafson, G.T.**, Baca, S.M., Miller, K.B. & Short, A.E.Z. *Entomological Society of America Meeting*.
- 2019 Phylogenomic analysis of the beetle suborder Adephaga confirms paraphyly of the 'Hydradephaga'. **Gustafson, G.T.**, Baca, S.M., Alexander, A., & Short, A.E.Z. *Entomological Society of America Meeting*.
- 2019 Improving the targeted capture of Ultraconserved Elements for phylogenetic inference: A case study using the water beetle family Noteridae (Coleoptera). Baca, S.M., **Gustafson, G.T.**, & Short, A.E.Z. *Entomological Society of America Meeting*.
- 2017 Systematics and evolution of the whirligig beetle tribe Gyrinini (Coleoptera: Gyrininae: Gyrinidae). **Gustafson, G.T.** & Short, A.E.Z. *Entomological Society of America Meeting*.
- 2017 Exploring the utility of ultraconserved elements for phylogenetic inference of Coleoptera. Baca, S.M., Alexander, A. **Gustafson, G.T.**, & Short, A.E.Z. *Entomological Society of America Meeting*.
- 2016 Phylogenetics and diversification of whirligig beetles (Coleoptera: Gyrinidae): A role for sexual selection? **Gustafson, G.T.** Symposium: Systematics and Diversity of Aquatic Beetles: An Emerging Model System in Evolutionary Biology. *XXV International Congress of Entomology*.
- 2013 On the large North American whirligig beetles: a synopsis of the species of *Dineutus* MacLeay in North America. **Gustafson, G.T.** & Miller, K.B. *Southwestern Branch meeting of the Entomological Society of America*.
- 2013 On the tribe formerly known as Enhydrini (Coleoptera: Gyrinidae: Gyrininae). Toward a revision of the tribe and a review of its history. **Gustafson, G.T.** & Miller, K.B. *Entomological Society of America Meeting*.
- 2011 Toward a revision of the charismatic whirligig beetle genus *Porrorhynchus* Castelnau. **Gustafson, G.T.** & Miller, K.B. *Entomological Society of America Meeting*.

Posters Contributed at Scientific Meetings

* = undergraduate mentee, † = graduate student mentee

- 2023 Phylogenomics of *Agrilus* wood-boring beetles. Ulmer, J.M., Kanda, K., **Gustafson, G.**, Chamorrow, L. *USDA Interagency Forum on Invasive Species*.
- 2023 Integrative genomics helps to understand the evolution of vulnerable insular communities: radiation and extinction of Dung Beetles (Coleoptera: Scarabaeinae) in the Malagasy region. Lopes, F., Rossini, M., **Gustafson, G.T.**, Gunter, N., †Glynn, R., Porch, N., Straube, N., & Tarasov, S. *The Society of Systematic Biologists Stand Alone Meeting*.
- 2022 Optimizing DNA extraction of large museum specimens for phylogenomic analysis. *Bachelor, K.N., **Gustafson, G.T.**, †Glynn, R.D. *Entomological Society of America Meeting*.
- 2012 Revision of the Neotropical Burrowing Water Beetle genus *Liocanthhydrus* Guignot (Coleoptera: Noteridae). Baca, S. M, **Gustafson, G. T.** & Miller, K.B. *Entomological Society of America Meeting*.
- 2009 Revision of the Neotropical Water Scavenger Beetle *Guyanobius* Spangler (Coleoptera: Hydrophilidae). **Gustafson, G.T.** & A.E.Z. Short. *Entomological Society of America Meeting*.

GRANTS, AWARDS, AND FELLOWSHIPS

(\$1,196,659)

Grants

- 2021 Manticores and Giant Tigers: Phylogeny and biogeography of the tiger beetle tribe Manticorini (Coleoptera: Cicindelidae). PI **Grey Gustafson**. National Science Foundation DEB#2208620. Awarded: **\$690,347**.
- 2021 Terrestrial Invertebrate Survey Specimen Identification and Consultation for U.S. Navy Support Facility, Diego Garcia. RSOI N62742-21-2-0001. PI Gary Alpert, Co-PIs Stephen Shuster & **Grey Gustafson**. Department of the Navy, Cooperative Ecosystem Studies Unit (CESU). Awarded: **\$98,955**.
- 2020 Developing phylogenomic resources and rapid identification tools for the study and control of *Agrilus* (Buprestidae). PI Lourdes Chamorro, Co-PIs Kojun Kanda & **Grey Gustafson**. USDA Forest Service, International Programs. Awarded: **\$382,851**.
- 2015 The Alvin R. and Caroline G. Grove Research Scholarship, University of New Mexico. Awarded: **\$2,000**.
- 2015 Biology Graduate Student Association, Graduate Research Allocation Committee, Research Grant, University of New Mexico. Awarded: **\$400**.
- 2014 National Science Foundation. Doctoral Dissertation Improvement Grant (DDIG): A phylogenetic study of speciation in whirligig beetles. Award #1402446. Awarded: **\$19,606**.
- 2014 Museum of Comparative Zoology, Harvard, Ernst Mayr Travel Grants in Animal Systematics. Awarded: **\$1,500**.

Awards

- 2018 Jean Theodore Lacordaire Prize 2017: highest achievement for Ph.D. research based on the biology and evolution of beetles, The Coleopterists Society. **\$1,000**.
- 2013 Ph.D. Oral Competition 2nd place, Southwestern Branch of the Entomological Society of America.
- 2010 Outstanding Senior in Biology Award, University of Kansas.

Fellowships

- 2016–2019 Institutional Research and Academic Career Development Awards (IRACDA). National Institutes of Health.

TEACHING AND MENTORING EXPERIENCE

Teaching

- 2023 BIO 599, Phylogenetics, Northern Arizona University, **instructor of record**.
- 2021, 2022 BIO 322, Entomology, Northern Arizona University, **instructor of record**.
- 2021, 2022 BIO 182H, Unity of Life II: Lives of Multicellular Organisms, Honors), Northern Arizona University **instructor of record**.
- 2020–2022 BIO 244, Fundamentals of Evolutionary Biology (BIO 244), Northern Arizona University, **instructor of record**.
- 2018 Entomology (BIOL 390 S/T), Haskell Indian Nations University, **instructor of record**.
- 2017 & 2018 Responsible Conduct of Research, University of Kansas Bridge Program and Haskell Indian Nations University, **co-instructor**.
- 2017 General Biology Lab (BIOL 103), Haskell Indian Nations University, **co-instructor**.

Mentoring

Graduate students

- 2023 – present **Jamie Ramirez**. Ph.D. student, Northern Arizona University.
- 2023 – present **Teagan Mulford**. Ph.D. student, Northern Arizona University.

- 2023 – present **Ming-Hsun Chou**. Ph.D. student, Northern Arizona University.
 2022 – present **Joseph Benzel**. Ph.D. student, Northern Arizona University.
 2021 – present **Rachel Smith**. MS student, Northern Arizona University.
 2019 – 2020 **Benjamart Suksai**. Ph.D. student, Khon Kaen University, Thailand.
 2018 – 2019 **Daniara Colpani**. Ph.D. student, Instituto Nacional de Pesquisas da Amazônia, Brazil.
 2016 – 2019 **Stephen Baca**. Ph.D. student, University of Kansas.

Undergraduate students

- 2023 – present **Galilelo Durgan**. Northern Arizona University
 2021 – present **Kyleigh Bachelor**. Northern Arizona University.
 2021 – 2022 **Claudia DiMartini**. Northern Arizona University.
 2014 – 2015 **Emma Cleary**. University of New Mexico.
 2011 – 2013 **Stephen Baca**. University of New Mexico. Now postdoc at University of Kansas.
 Results: see Baca et al. 2012 in Presentations and Baca et al. 2014 in Publications.

RESEARCH EXPERIENCE

Lab Research

- 2020–present Principal Investigator, Northern Arizona Insect Lab of Systematics, Department of Biological Science, Northern Arizona University
 2016–2020 Postdoctoral Researcher, Andrew Short Lab, Department of Ecology and Evolutionary Biology & Biodiversity Institute, University of Kansas.
 2010–2016 Graduate Research Assistant, Kelly Miller Invertebrate Systematics Lab & Museum of Southwestern Biology, University of New Mexico.
 2009–2010 Undergraduate Research Assistant, Andrew Short Lab, National Science Foundation REU Supplement for DEB-0816904, Department of Ecology and Evolutionary Biology, University of Kansas.

Field work

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| 2022 | Mojave desert (2 weeks) | | |
| 2018 | Brazil (2 weeks) | 2012 | Venezuela (2.5 weeks) |
| 2015 | Australia (2 weeks) | 2012 | Panama (1 week) |
| 2015 | Panama (1 week) | 2010 | Costa Rica (10 days) |
| 2015 | Thailand (1 week) | 2009 | Venezuela (3.5 weeks) |
| 2014 | Madagascar (4 weeks) | | |

Museum research

- 2020 Colorado Plateau Museum of Arthropod Biodiversity, Northern Arizona University, Flagstaff, AZ
 2018 Instituto Nacional de Pesquisas da Amazônia, Manaus, Amazonas, Brazil
 2016 Oregon State Arthropod Collection, Oregon State University, Corvallis, OR
 2015 The South Australian Museum, Adelaide, South Australia, Australia
 2015 Enns Entomology Museum, University of Missouri, Columbia, MO
 2014 Musée National d'Histoire Naturelle, Paris, France
 2013 The Arthropod Museum, New Mexico State University, Las Cruces, NM
 2012 Museo del Instituto de Zoología Agrícola, Maracay, Venezuela
 2011 J.B. Wallis Museum of Entomology, The University of Manitoba, Winnipeg, Manitoba, Canada
 2010 Museum of Southwestern Biology, The University of New Mexico, Albuquerque, NM

- 2010 National Biodiversity Institute of Costa Rica (INBio), Santo Domingo de Heredia, Costa Rica
2010 Denver Museum of Nature and Science, Denver, CO
2009 Museo de Artrópodos, Universidad del Zulia, Maracaibo, Venezuela
2009 United States National Museum of Natural History, Smithsonian Institution, Washington D.C.
2009 Snow Entomological Collection, University of Kansas, Lawrence, KS

Workshops

- 2022 Entomological Collections Management Workshop, Tempe, AZ
2014 Bodega Bay Applied Phylogenetics Workshop

Specialized techniques and analytical skills

- Insect internal anatomy preparation (i.e. clearing and staining)
- Sperm cell collection and preparation (i.e. dissection, slide preparation and staining)
- Phylogenetic inference (Bayesian, maximum likelihood, parsimony, coalescent-based methods)
- Tip-dating approaches for time calibration of phylogeny
- *De novo* genome assembly
- Ultraconserved element (UCE) probe set design
- Phylogenomic analysis via UCEs
- Ancestral state and range reconstruction

PROFESSIONAL SERVICE

Editorial Positions

- 2021 – present *The Coleopterists Bulletin*: Review editor: Aquatic beetles.
2020 – present *Zootaxa*: Subject editor: Coleoptera: Myxophaga (excluding Hydroscaphidae).
2010 – present *Acta Entomologica Musei Nationalis Pragae*: English language editor.

Manuscript Review Service

Acta Entomologica Musei Nationalis Pragae, Aquatic Insects, Biodiversity Data Journal, Boletín de la Sociedad Entomológica Aragonesa, Check List, The Coleopterists Bulletin, Cretaceous Research, Ecology & Evolution, Journal of Insect Biodiversity and Systematics, Journal of the Kansas Entomological Society, Molecular Ecology, PeerJ, Systematic Biology, Systematic Entomology, ZooKeys, Zootaxa

Grant Review Service

National Science Foundation, United States of America
Natural Sciences and Engineering Research Council of Canada.

Committee Service

- 2020 – present Biological Sciences Collections Committee (Northern Arizona University)
2020 – 2022 Graduate Programing Committee (Northern Arizona University)
2014 – 2015 Biology Graduate Student Association Co-President. (University of New Mexico)
2013 – 2014 Student Scholarship Committee: Graduate student representative. (University of New Mexico)

- 2012 – 2013 Biology Graduate Student Association, Graduate and Professional Student Association representative. (University of New Mexico)
- 2008 –2010 Undergraduate Programming Committee for Ecology and Evolutionary Biology and Organismal Biology Majors. (University of Kansas)

Public Outreach

- 2021 City of Flagstaff Sustainability Office, Garden Workshop and Food Stories Series, Flagstaff, AZ: *Garden Insects: Pests and Pollinators*, **invited speaker**.
- 2016 Bernalillo County Open Space, Naturalist Series, Spring Edition, Albuquerque, NM: *Whirligig beetles of the World*, **invited speaker**.
- 2015 The Cactus and Succulent Society of New Mexico, Albuquerque, NM: *Cactus and Insect Interactions*, **invited speaker**.
- 2015 Los Ranchos Farm Camp, Albuquerque, NM: *What is an insect?*, **guest speaker**.
- 2012 Communicating Science to the Public Course: Albuquerque Academy, Albuquerque, NM: *Systematic Biology*, **guest speaker**.
- 2012 Rio Rancho High School, Albuquerque, NM: *College and Careers in Biology*, **guest speaker**.
- 2010 Dung beetles of Colorado, Denver Museum of Nature and Science, **assisted citizen science project**.

PRESS AND MEDIA COVERAGE

Press coverage

- 2017 **KU Today**. *Meet Madagascar's oldest animal lineage, a whirligig beetle with 206-million-year-old origins*. By Brendan Lynch: <http://today.ku.edu/2017/10/02/meet-madagascars-oldest-animal-lineage-whirligig-beetle-206-million-year-old-origins>
- 2015 **Entomology Today**. *New Whirligig Beetle Showcases U.S. Biodiversity Hotspot*. By Leslie Mertz: <http://entomologytoday.org/2015/11/05/new-whirligig-beetle-showcases-u-s-biodiversity-hotspot/>
- 2015 **The Christian Science Monitor**. *New beetle species may already be endangered*. By Annika Fredrikson: <http://www.csmonitor.com/Science/2015/1106/New-beetle-species-may-already-be-endangered>
- 2015 **UNM Newsroom**. *New whirligig beetle species discovered by University of New Mexico Ph.D. student*. By Steve Carr: <http://news.unm.edu/news/new-whirligig-beetle-species-discovered-by-university-of-new-mexico-ph-d-student>
- 2015 **UNM Daily Lobo**. *UNM grad student names new beetle species after old mentor*. By Elizabeth Sanchez: <http://www.dailylobo.com/article/2015/11/30-grad-student-discovers-new-beetle-species>
- 2015 **Nature World News**. *Whirligig beetles collected in Alabama help identify unknown museum specimens*. By Samantha Mathewson: <http://www.natureworldnews.com/articles/18073/20151110/whirligig-beetles-collected-alabama-help-identify-unknown-museum-specimens.htm>
- 2015 **Scientific American**. *The adorable Alabama whirligig beetle that eluded entomologists*. By Jennifer Frazer: <http://blogs.scientificamerican.com/artful-amoeba/the-adorable-alabama-whirligig-beetle-that-eluded-entomologists/>

Media coverage

2017 **KCUR 89.3FM Central Standard.** *Madagascar's oldest beetle.* By Gina Kaufmann & Matthew Long-Middleton: <http://kcur.org/post/myra-christopher-and-bioethics-madagascars-oldest-beetle#stream/0>