Paul Marek

Curriculum Vitae

Associate Professor
Department of Entomology
Virginia Tech
Price Hall, 216A
Blacksburg, Virginia 24061
540 231-5653
paulemarek@gmail.com
millipedes.ento.vt.edu

Education

Ph.D. in Biology, East Carolina University, NC 2008
M.A. in Systematic Biology and Ecology, San Francisco State University, CA 2002
B.S. in Biology, Loyola University of Chicago, IL 2000

Research Grants

NIH Fogarty International Center, Global Brain, co-PI, 2025-present
National Institutes of Health ($369,292)

NSF Advancing Revisionary Taxonomy and Systematics, sole PI, 2025-present
National Science Foundation ($658,169)

CIB Insecta, Funga, & Soil Biodiversity, sole PI, 2025-present
California Institute for Biodiversity ($105,764)

USFWS Endangered Plant and Insect Species Program, sole PI, 2025-present
Federal Endangered Species Act Section 6 Traditional Conservation ($10,662)

CLIR Council on Library & Information Resources, co-PI, 2020-2023
Digitizing Hidden Special Collections ($244,752)

NSF Systematics and Biodiversity Science, PI, 2019-2024
National Science Foundation ($1,042,457)

NSF Advancing Revisionary Taxonomy and Systematics, sole PI, 2017-2022
National Science Foundation ($383,130)

USFWS Endangered Plant and Insect Species Program, sole PI, 2019-2021
Federal Endangered Species Act Section 6 Traditional Conservation ($10,458)

NSF Collections in Support of Biological Research, sole PI, 2015-2019
National Science Foundation ($467,249)

NSF Biodiversity Discovery & Analysis, co-PI, 2013-2018
National Science Foundation ($783,747)

Surveys for forest sensitive millipedes in U.S. National Forest, sole PI, 2016-2017
Appalachian Power ($26,000)

NSF Phylogenetic Systematics, sole PI, 2011-2015
National Science Foundation ($254,385)

Expeditions Council, sole PI, 2012-2014
National Geographic Society ($17,050)

NSF Doctoral Dissertation Improvement, co-PI, 2006-2008
National Science Foundation ($10,510)

Publications

Shear, W.A., Pape, R.B., P.E. Marek. 2025. Cave millipedes of the United States. XVII. A new troglobiotic *Nevadesmus* Shear, 2009 (Diplopoda, Polydesmida, Macrosternodesmidae) from an Arizona cave, with a review of its fauna and ecology, in review.

Shear, W.A., Richart, C.H., P.E. Marek. 2025. A third species of the rare millipede genus *Apterourus* Loomis, 1966 (Diplopoda, Chordeumatida, Striarioidea, Apterouridae), in review.

Marek, P.E., J.C. Means, D.A. Hennen, C. Tingley. 2025. Revision of the millipede genus *Apheloria* Chamberlin, 1921 (Polydesmida, Xystodesmidae, Apheloriini). *Zootaxa*, 5701: 315–350.

Banks, P., Menegatti, C., L. Du, P.E. Marek, E.Y. Mevers. 2025. The discovery of complex heterocycles from millipede secretions. *Journal of the American Chemical Society*, 147: 26813–26819.

Shear, W.A., P.E. Marek. 2025. Additions to the family Caseyidae Verhoeff, 1909. V. The new genus *Benlomondia* and two new species (Diplopoda, Chordeumatida, Striariidea, Caseyoidea). *Zootaxa*, 5659: 400–406.

Shear, W.A., P.E. Marek. 2025. Additions to the millipede family Caseyidae Verhoeff, 1909. IV. Two new genera and three new species (Chordeumatida, Striarioidea, Caseyidae). *Zootaxa*, 5631: 533–547.

Coleman, J.L., Wang, S.Y., Marek, P.E., Morrison, C.R., Sedio, B.E., Cannatella, D.C. 2025. Nuance in the narrative of a brown poison frog: environmental alkaloids and specialized foraging in a presumed toxin-free and diet-generalized species. *Journal of Chemical Ecology*, 51: 1–25.

Shear, W.A., P.E. Marek. 2024. Additions to the millipede family Caseyidae Verhoeff, 1909. III. Proposal of the new subfamily Ochrogrammatinae, new records of *Vasingtona irritan*s (Chamberlin, 1910), established species of *Ochrogramma* Gardener and Shelley, 1989, a new species of *Ochrogramma* from Washington state, USA (Diplopoda, Chordeumatida, Striariidea), and observations on spermatozoa and spermatophores. *Insecta Mundi*, 1090: 1–21.

Menegatti, C., Wood, J.S., Banks, P., Knott, K., Briganti, J.S.. Briganti, A.J., McNally, S.V.G.,Marek, P.E., Brown, A.M., Jones, T.H., Williamson, R.T., E.Y. Mevers. 2024. Neuromodulating alkaloids from millipede defensive secretions. *Journal of Natural Products*, 88: 110–118.

Harrison, G., Dunleavy, H.P., Vasquez-Valverde, L.F., Del Pozo-Valdivia, A.I., Ivanov, K., P.E. Marek. 2024. Arthropod diversity in shallow subterranean habitats of the Appalachian Mountains. *Subterranean Biology*, 49: 75–95.

Mikel-Stites, M.R., Marek, P.E., Hellier, M.E., A.E. Staples. 2024. Left-right tympanal size asymmetry in the parasitoid fly *Ormia ochracea*, *microPublication Biology*, 1–6.

Banks, P., Funkhouser, E.M., Macias, A.M., Lovett, B., Meador, S., Hatch, A., Garraffo, H.M., Cartwright, K.C., Kasson, M.T., Marek, P.E., Jones, T.H., E.Y. Mevers. 2024. The chemistry of the defense secretions of three species of millipedes in the genus *Brachycybe*, *Journal of Chemical Ecology*, 50: 478–488.

Shear, W.A., P.E. Marek. 2024. The millipede family Striariidae Bollman, 1893. IX. The identity of *Striaria californica* Cook, 1899, and the new genus *Bayaria* for *Striaria nana* Loomis, 1936, with a key to genera and an annotated checklist of the Striariidae (Diplopoda, Chordeumatida, Striarioidea), *Zootaxa*, 5463: 524–544.

Bergh, J.C., Marek, P.E., Short, B.D., Skevington, J.H., F. Thompson. 2023. The identity of *Neocnemodon calcarata* (Loew) (Diptera: Syrphidae), a specialized flower fly predator of woolly apple aphid, In: K. Jordaens, X. Mengual, J. Skevington (eds.) *Contributions to Dipterology in honour of F. Christian Thompson, Studia Dipterologica, Supplement* 23: 147–163.

P.E. Marek, Hall, C.L., Lee, C., Bailey, J., Berger, M., Kasson, M., W.A. Shear. 2023. A new species of Illacme from southern California (Siphonophorida, Siphonorhinidae), *ZooKeys*, 1167: 265–291.

Shear, W.A., P.E. Marek. 2023. The millipede family Striariidae Bollman, 1893. VIII. Three new genera and four new species of minute millipedes from Oregon and Washington, USA (Diplopoda, Chordeumatida, Striarioidea), *Zootaxa*, in press.

Mikel-Stites, M., Salcedo, M.K., Socha, J.J., Marek, P.E., A.E. Staples. 2023. A biologically accurate model of directional hearing in the parasitoid fly *Ormia ochracea*, *Bioinspiration & Biomimetics*, in press.

Marek, P.E., W.A. Shear. 2022. Quick guide: Myriapoda, *Current Biology*, 32: 1294–1296.

Shear, W.A., Marek, P.E., Bond, J.E., T. Wesener. 2022. The millipede family Striariidae Bollman, 1893. VII. *Petra sierwaldae*, n. gen., n. sp., a minute millipede from Idaho, USA (Diplopoda, Chordeumatida, Striariidae), *Zootaxa*, 5213: 287–293.

Shear, W.A., P.E. Marek. 2022. The millipede family Striariidae Bollman, 1893. VI. Six new genera and thirteen new species from western North America (Diplopoda, Chordeumatida, Striarioidea), *Zootaxa*, 5205: 501–531.

Vasquez-Valverde, L.F., P.E. Marek. 2022. Phylogenetic review of the millipede genus *Cherokia* Chamberlin, 1949 (Polydesmida: Xystodesmidae), *ZooKeys*, 1106: 141–163.

Hennen, D.A., Means, J.C., P.E. Marek. 2022. A revision of the *wilsoni* species group in the millipede genus *Nannaria* Chamberlin, 1918 (Diplopoda, Polydesmida, Xystodesmidae). *ZooKeys*, 1096: 17–118.

Jones, T., Harrison, D., Mevers, E., Menegatti, C., Marek, P.E., Hennen, D., Kasson, M., Macias, A., Lovett, B., R. Saporito. 2022. Deoxybuzonamine isomers from the

millipede *Brachycybe lecontii* (Platydesmida: Androgonathidae), *Journal of Natural Products*, 85: 1134–1140.

Shear, W.A., Nosler, P., P.E. Marek. 2022. The millipede family Striariidae Bollman, 1893. IV. *Amplaria oedipus*, n. sp., with a secondary sexual modification of males unique among millipedes (Diplopoda, Chordeumatida, Striarioidea). *Zootaxa*, 5099: 137–145.

Shear, W.A., P.E. Marek. 2022. The milliped family Striariidae Bollman, 1893. V. *Stegostriaria dulcidormus*, n. gen., n. sp., *Kentrostriaria ohara*, n. gen., n. sp., and the convergent evolution of exaggerated metazonital crests (Diplopoda, Chordeumatida, Striarioidea). *Zootaxa*, 5094: 461–472.

Marek, P.E., Buzatto, B.A., Shear, W.A., Means, J.C., Black, D.G., Harvey, M.S., J. Rodriguez. 2021. The first true millipede—1306 legs long. *Scientific Reports*, 11: 1–8.

Shear, W.A., P.E. Marek. 2021. Three new genera and eighteen new species of miniature polydesmid millipedes from the northwestern United States (Diplopoda, Polydesmida, Polydesmidae). *Zootaxa*, 4975: 81–126.

Means, J.C., Hennen, D.A., P.E. Marek. 2021. A revision of the minor species group in the millipede genus *Nannaria* Chamberlin, 1918 (Diplopoda, Polydesmida, Xystodesmidae). *ZooKeys*, 1030: 1–180.

Means, J.C., Hennen, D.A., Tanabe, T., P.E. Marek. 2021. Phylogenetic systematics of the millipede family Xystodesmidae. *Insect Systematics and Diversity*, 5: 1–26.

Wong, V.L., Hennen, D.A., Macias, A.M., Brewer, M.S., Kasson, M.K., P.E. Marek. 2020. Natural history of the social millipede *Brachycybe lecontii* Wood, 1864. *Biodiversity Data Journal*, 8: e50770.

Wong, V.L., P.E. Marek. 2019. Super black eyespots of the Eyed elater. *PeerJ*, 8: e50770.

Shear, W.A., P.E. Marek 2019. Urochordeumatidae Silvestri, 1909, a millipede family endemic to Washington State, USA (Chordeumatida, Striariidea, Striarioidea). *Zootaxa*, 4657: 352–360.

Macias, A.M, Marek, P.E., Morrissey, E.M., Brewer, M.S., Short, D.P.G., Stauder, C.M., Wickert, K.L., Berger, M.C., Methany, A.M., Stajich, J.E., Boyce, G., Rio, R.V.M., Panaccione, D.G., Wong, V.L., Jones, T.H., M. Kasson. 2019. Diversity and function of fungi associated with the fungivorous millipede, *Brachycybe lecontii*. *Fungal Ecology*, 41: 187–197.

Sierwald, P., Hennen, D.A., Zahnle, X.J., Ware, S., P.E. Marek. 2019. Taxonomic synthesis of the eastern North American millipede genus *Pseudopolydesmus* (Diplopoda: Polydesmida: Polydesmidae), utilizing high-detail ultraviolet fluorescence imaging. *Zoological Journal of the Linnean Society*, 1–26.

Nguyen, A.D., Sierwald, P., P.E. Marek. 2019. The pill millipedes of Vietnam: a key to genera and descriptions of five new species (Diplopoda: Glomerida: Glomeridae). *Raffles Bulletin of Zoology*, 67: 260–297.

Shorter, P.L., Hennen, D.A., P.E. Marek. 2018. Cryptic diversity in *Andrognathus corticarius* Cope, 1869 and description of a new *Andrognathus* species from New Mexico (Diplopoda, Platydesmida, Andrognathidae), *ZooKeys*, 786: 19–41.

Lancaster, J., Khrimian, A., Young, S., Lehner, B., Luck, K., Wallingford, A., Ghosh, S., Zerbe, P., Muchlinski, A., Marek, P.E., Sparks, M., Tokuhisa, J., Tittiger, C., Köllnerd, T., Weber, D., Gundersen-Rindal, D., Kuhar, T., D. Tholl. 2018. De novo formation of an aggregation pheromone precursor by an isoprenyl diphosphate synthase-related terpene synthase in the harlequin bug, *Proceedings of the National Academy of Sciences, USA*, 115: E8634–E8641.

Rodriguez, J., Jones, T.H., Sierwald, P., Marek, P.E., Shear, W.A., Brewer, M.S., Kocot, J.E., J.E. Bond. 2018. Step-wise evolution of complex chemical defenses in millipedes: a phylogenomics approach, *Scientific Reports*, 8: 3209.

Marek, P.E., Means, J.C., D.A. Hennen. 2018. *Apheloria polychroma*, a new species of millipede from the Cumberland Mountains (Polydesmida: Xystodesmidae), *Zootaxa*, 4375: 409–425.

Yang, F., Chan, K., Marek, P.E., Armstrong, P.M., Liu, P., Bova, J.E., Bernick, J.N., McMillan, B.E., Weidlich, B.G., S.L. Paulson 2018. Cache Valley Virus in *Aedes japonicus japonicus* mosquitoes, Appalachian Region, United States. *Emerging Infectious Diseases*, 24: 553–557.

Means, J.C., P.E. Marek. 2017. Is geography an accurate predictor of evolutionary history in the millipede family Xystodesmidae? *PeerJ*, 5:e3854.

Shear, W.A., Nosler, P., P.E. Marek. 2017. The identity of *Amplaria nazinta* (Chamberlin, 1910): a century-old millipede mystery resolved (Diplopoda, Chordeumatida, Striariidae), *Zootaxa*, 4311: 233–240.

Marek, P.E. 2017. Ultraviolet-induced fluorescent imaging for millipede taxonomy, *Research Ideas and Outcomes*, 3: 1–14.

Marek, P.E., Krejca, J., W.A. Shear. 2016. A new species of *Illacme* Cook & Loomis, 1928 from Sequoia National Park, California, with a world catalog of the Siphonorhinidae (Diplopoda, Siphonophorida), *ZooKeys*, 626: 1–43.

Shear, W.A., Ferreira, R.L., Iniesta, L.F.M., P.E. Marek 2016. A millipede missing link: Dobrodesmidae, a remarkable new polydesmidan millipede family from Brazil with supernumerary rings (Diplopoda, Polydesmida), and the establishment of a new suborder Dobrodesmidea, *Zootaxa*, 4178: 371–390.

Dellinger, T., Wong, V., P.E. Marek. 2016. Makelabels: a Bash script for generating data matrix codes for collection management, *Biodiversity Data Journal*, 4: 1–9.

Garcia, A.J., Priya, S., P.E. Marek. 2015. Understanding the locomotion and dynamic controls for millipedes: Part 1 – Kinematic analysis of millipede movements, *Proceedings of the ASME 2015 Conference on Smart Materials, Adaptive Structures and Intelligent Systems*, 1–10.

Meyer, W.M., Eble, J., Franklin, K., McManus, R.B., Brantley, S.L., Henkle, J., Marek, P.E., Hall, W.E., Olson, C.A., McInroy, R., Bernal Loaiza, E.M., Brusca, R.C., W. Moore. 2015. Ground-Dwelling Arthropod Communities of a Sky Island Mountain Range in Southeastern Arizona, USA: Obtaining a Baseline for Assessing the Effects of Climate Change, *PLoS ONE*, 10: 1–18.

Means, J.C., Francis, E.A., Lane, A.A., P.E. Marek. 2015. A general methodology for collecting and preserving xystodesmid and other large millipedes for biodiversity research, *Biodiversity Data Journal*, 3: 1–17.

Marek, P.E., W. Moore. 2015. Discovery of a glowing millipede in California and the gradual evolution of bioluminescence in Diplopoda, *Proceedings of the National Academy of Sciences, USA*. 112: 6419–6424.

Harris, M.C., Dotseth, E.J., Jackson, B.T., Paulson, S.L., Marek, P.E., D.M. Hawley. 2015. Detection and isolation of La Crosse virus in field-collected *Aedes japonicus japonicus* (Diptera: Culicidae) in the Appalachian Region, *Emerging Infectious Diseases*, 21.

Marek, P.E., Tanabe, T., S. Sierwald. 2014. A species catalog of the millipede family Xystodesmidae (Diplopoda: Polydesmida), *Virginia Museum of Natural History Special Publications*, 17: 1–117.

Kamali, M., Peery, A., Marek, P.E., Antonio-Nkondjio, C., Ndo, C., Tu, Z., Simard, F., I.V. Sharakhov. 2014. Temporal diversification of major African malaria vectors inferred from multigene phylogenetics, *PLoS ONE*, 9: 1–9.

Marek, P.E., Shear, W.A., J.E. Bond. 2012. A redescription of the leggiest animal, the millipede *Illacme plenipes*, with notes on its natural history and biogeography (Diplopoda, Siphonophorida, Siphonorhinidae), *ZooKeys*, 241: 77–112.

Marek, P.E., Yeager, J., Molina, S., Papaj, D., W. Moore. 2011. Bioluminescent aposematism in millipedes, *Current Biology*, 21: R680–R681.

Marek, P.E. 2010. A revision of the Appalachian millipede genus *Brachoria* Chamberlin, 1939 (Polydesmida, Xystodesmidae, Apheloriini), *Zoological Journal of the Linnean Society*, 159: 817–889.

Shear, W.A., P.E. Marek. 2009. *Andrognathus hoffmani*, n. sp., a second species in the genus and the first species of Andrognathidae from México (Diplopoda, Platydesmida, Andrognathidae). Festschrift in honor of Richard Hoffman, *Memoirs of the Virginia Museum of Natural History*, 16: 149–158.

Marek, P.E., J.E. Bond. 2009. A Müllerian mimicry ring in Appalachian millipedes, *Proceedings of the National Academy of Sciences, USA*. 106, 9755–9760.

Walker, M.J., Stockman, A.K., Marek, P.E., J.E. Bond. 2009. Pleistocene glacial refugia across the Appalachian Mountains and coastal plain in the millipede genus *Narceus*: Evidence from population genetic, phylogeographic, and paleoclimatic data, *BMC Evolutionary Biology*. 9: 25.

Marek, P.E., J.E. Bond. 2007. A reassessment of apheloriine millipede phylogeny: additional taxa, Bayesian inference, and direct optimization. *Zootaxa*. 1610: 27–39.

Marek, P.E., J.E. Bond. 2006. Phylogenetic systematics of the colorful, cyanide-producing millipedes of Appalachia (Polydesmida, Xystodesmidae, Apheloriini) using a total evidence Bayesian approach. *Molecular Phylogenetics and Evolution*. 41: 704–729.

Marek, P.E., J.E. Bond. 2006. Biodiversity hotspots: Rediscovery of the world's leggiest animal. *Nature*. 441: 707.

Marek, P.E., D.H. Kavanaugh. 2005. The evolutionary relationships of North American *Diplous* Motschulsky (Coleoptera: Carabidae: Patrobini) inferred from morphological and molecular evidence. *Invertebrate Systematics*. 19: 145–168.

Marek, P.E., Bond, J.E., P. Sierwald. 2003. Rhinocricidae Systematics II: A species catalog of the Rhinocricidae (Diplopoda: Spirobolida) with synonymies. *Zootaxa*. 308: 1–108.

Bond, J.E., P.E. Marek. 2003. Rhinocricidae Systematics I: The taxonomic placement of the species of *Zipyge* Chamberlin, 1925 and *Oxypygides* Chamberlin, 1922 (Diplopoda: Spirobolida: Rhinocricidae: Oxypyginae). *Zootaxa*. 292: 1–8.

Websites

Marek, P.E. 2014–present. Virginia Tech Insect Collection, online at https://collection.ento.vt.edu, and Marek Lab of Systematic Entomology at Virginia Tech, online at https://millipedes.ento.vt.edu.

Marek, P.E. 2011–present. Editor, online at https://en.wikipedia.org.

Marek, P.E. 2010. *Brachoria* Chamberlin 1939. Version 16 September 2010, online at http://tolweb.org/Brachoria *in The Tree of Life Web Project*.

Teaching Experience

Assistant (2013–2019), Associate (2019–present) Professor, Virginia Tech
- Course: Insect Biology Lecture and Lab (2013–present)
- Course: Insect Evolution and Diversity Lecture and Lab (2015, 2018)
- Course: Discovery and Analysis of Arthropod Diversity (2020)
- Course: Practical Computing for Biologists (2016)

Adjunct Professor, Pima Community College, 2009
- Course: General Biology II Lecture and Lab

Teaching Assistant, East Carolina University, 2007
Course: Phylogenetic Theory

Teaching Assistant, East Carolina University, 2004
Course: Terrestrial Arthropod Biology

Teaching Assistant, San Francisco State University, 2001–2002
Course: Insect Taxonomy Lab

Student advising

Doctoral students: Jackson Means (2014–2018, graduated), Derek Hennen (2015-2020, graduated), Luisa Fernanda Vasquez Valverde (2021–2024, graduated)

Masters students: Victoria Wong (2015–2017, graduated), Fernanda Vasquez (2019–2021, graduated), Garrett Harrison (2021–2023, graduated), Carter Young (2025–present), Alex Santiago Alvear (2025–present).

Undergraduate students: Nina Zegler (2014–2015), Kathryn Lawler (2014–2015), Tessa Metz (2015–2016), Pat Shorter (2015–2017), Joseph Montemayor (2016–2017), Grant Schiermeyer (2017–2018), Kathryn Williamson (2017–2019), Madeleine Hellier (2019–2020), Loren Jones (2019-2020), Sarah Turner (2019–2020), Bailey Connors (2021), Howard Dunleavy (2021–2022), Maggie Thomas (2022–2023), Steph Benbow (2022–2024), Kayla Elahi (2024), Nicholas Collins (2024–present), Derek Pantel (2025–present), Tica Jones (2025–present).

High school students: Cole Cramer (2025), 10th grader, La Cañada High School.

Insect Curation Experience

Curator, Virginia Tech Insect Collection, 2013–present
Curation, supervision, management of Virginia Tech Insect Collection

Curator, San Francisco State University, 2001–2002
Curation of San Francisco State University Entomology Museum

Research Assistant, CalBug. California Academy of Sciences. May–June 2002
Retrospective databasing and georeferencing entomology collections

Undergraduate Volunteer, University of Central Florida, February–August 2000
Curation and identification of Florida Carabidae backlog

Undergraduate Volunteer, Field Museum of Natural History, 1998–1999
Curation of Austral rove beetles

Awards & Honors

Research Productivity Award, 2022
Latham Hall, Virginia Tech

Recognition for contributions to the field of taxonomy and discovery of a new species of tarantula named *Aphonopelma mareki*, by colleagues in 2016 *ZooKeys*, doi:10.3897/zookeys.560.6264

Sigma Xi Helms Award for Student Research, 2010
East Carolina University

Faculty Standards Teaching Award, 2009
Pima Community College

Ernst Mayr Award Nomination, 2009
Society for Systematic Biology, Annual Meeting

Postdoctoral Excellence in Research and Teaching (PERT) Fellowship, 2008
National Institutes of Health, Center for Insect Science, University of Arizona

Second Place Presentation, 2007
Student Paper Competition, Entomological Society of America

First Place Presentation, 2007
Student Paper Competition, East Carolina Graduate Student Research Day

Partnerships for Enhancing Expertise in Taxonomy (PEET) Fellowship, 2003-2008
National Science Foundation, East Carolina University

Scholars Award 2003-2005
Graduate School, East Carolina University

Graduate Assistantship 2000-2002
Division of Research, California Academy of Sciences

Partnerships for Enhancing Expertise in Taxonomy Internship 2000
Department of Zoology, Field Museum of Natural History

REU Internship, Summer Systematics Institute 1999
Division of Research, California Academy of Sciences

Professional Appointments

Associate Professor, Virginia Tech, 2019–present
Department of Entomology, Insect Taxonomy & Systematics.

Assistant Professor, Virginia Tech, 2013–2019
Department of Entomology, Insect Taxonomy & Systematics.

Editor of Diplopoda, *Zootaxa*, 2016–2020, 2023–present.

Secretary and Webmaster, Virginia Natural History Society, 2017–2021

Councilor, Virginia Natural History Society, 2015–2017

Research Associate, Virginia Museum of Natural History, 2013–present

National Geographic Explorer, 2012

Research Associate/Principal Investigator, University of Arizona, 2011–2013
Evolution of bioluminescence in millipedes.

NIH Postdoctoral Research Associate, University of Arizona, 2008–2011
Evolution of luminescence in Californian millipedes. Advisors, Wendy Moore and Dan Papaj

Doctoral Fellow, East Carolina University, 2003–2008
Systematics and evolution of mimicry in Appalachian millipedes. Advisor: Jason Bond

Graduate Assistant, San Francisco State University, 2000–2002
Systematics of the North American ground beetle *Diplous*. Advisor: David Kavanaugh

Expedition Entomologist, California Academy of Sciences, 2002
Spider biodiversity of the Gaoligong Mountains of China. Advisor: Charles Griswold

Curator, San Francisco State University, 2001–2002
Curation of San Francisco State University Entomology Museum. Advisor: John Hafernik

Undergraduate Research Assistant, Field Museum of Natural History, 2000
Classification and systematics of the millipede family Rhinocricidae. Advisor: Petra Sierwald

NSF Undergraduate REU Intern, California Academy of Sciences, 1999
Beetle systematics (Summer Systematics Institute). Advisor: David Kavanaugh

Undergraduate Research Assistant, Loyola University Chicago, 1999
Effects of elevated CO_2 on leaf chemistry and crane fly detritivory. Advisor: Nancy Tuchman

Undergraduate Research Assistant, Loyola University Chicago, 1999
Cladistic analysis of the leaf-rolling weevil genus group Attelabina. Advisor: Robert Hamilton

Undergraduate Volunteer, Field Museum of Natural History, 1998–1999
Curation of Austral rove beetles. Advisors: Margaret Thayer and Alfred Newton

Community Engagement and Public Outreach

Interviewed by the Los Angeles Times and the New Species Podcast for an article and podcast episode about the discovery of the Los Angeles thread millipede, *llacme socal*, 2023

Interviewed by New York Times, The Atlantic, National Public Radio, VICE, Reuters, Izvestia, National Geographic, and other media outlets for an article about the discovery of the leggiest animal on the planet, *Eumillipes persephone*, 2021–2022

Interviewed by Virginia Tech's University Relations about *Nannaria hokie*, a newly discovered millipede that lives on campus, 2021

Interviewed by United States Department of Agriculture Radio on the topic of "Digitizing Pollinators Makes Data More Widely Accessible", 2020

Interviewed by Anna Rothschild of Anna's Magic Show Hooray about millipedes, and discuss the question, "Why do millipedes have so many legs?", 2018

Interviewed by Vittoria Traverso from Atlas Obscura about the discovery of the millipede, *Apheloria polychroma*, 2018

Interviewed by the New York Times and highlighted on Saturday Night Live's Weekend Update for research on the discovery of *Illacme tobini*, 2016

Science advisor for BBC film "Attenborough's Life that Glows", 2016

Interviewed by the New York Times, National Science Foundation, and National Geographic News for research on the discovery of a bioluminescent millipede in California, 2015

Interviewed by National Public Radio's Science Friday Radio Show for research on the leggiest animal on the planet, *Illacme plenipes*, 2012

Interviewed by the BBC News for research on the leggiest animal on the planet, the enigmatic *Illacme plenipes*, 2012

Arizona Insect Festival, co-organized "Luminous Insect" exhibit, 2012

Scientific advisor for National Geographic Television's Series, "Wild Wild West". Traveled with NGS photographers to film bioluminescent millipedes, 2012

Interviewed by National Public Radio's Science Friday Radio Show for research on bioluminescent and biofluorescent millipedes, 2012

Scientific contributor for Xylem and Phloem's educational iPad app, "Isopod: The Roly Poly Science Game" featuring scientific topics authored by entomologists, biologists and teachers, 2012

Scientific advisor for American Museum of Natural History's science exhibit "Creatures of Light: Nature's Bioluminescence" (included as part of the exhibit, an

educational iPad app, which includes the bioluminescent millipede *Motyxia sequoiae* and our study in *Current Biology*), 2012

BioBlitz Saguaro National Park, National Geographic/National Park Service, Organized public arthropod inventory focused on bioluminescence, fluorescence, and arthropod coloration, 2011

Interviewed by Canadian Broadcast Corporation's Quirks & Quarks Radio Show, LiveScience, Discover Magazine, New Scientist, MSNBC, and National Geographic for research on bioluminescent aposematism in millipedes, 2011

Arizona Insect Festival, organized "D.E.A.D." tent (Decomposer Education and Appreciation Destination), 2011

Undergraduate Biology Research Program Small Group Leader, University of Arizona, 2011

Natural History, millipedes and insects blogger, https://millipedes.ento.vt.edu, 2009 - present

Meet the Beetles! Playing live at the Arizona-Sonora Desert Museum, 2010

Darwin Day, Darwin 200th Birthday Celebration, University of Arizona, 2009

Interviewed by National Public Radio, Voice of America, New York Times, BBC News, Reuters, and Associated Press for research on *Illacme plenipes*, "leggiest animal on the planet," and biodiversity, 2006 (VOA interview broadcast globally through shortwave radio)

BugFest, North Carolina State Museum of Natural History, 2005, 2022

"Don't Bug Me" event tutor, Science Olympiad, C.M. Eppes Middle School, NC, 2005-2007

Teacher Services Assistant, California Academy of Sciences, 2000-2002

Research Talks

Research paper, International Congress of Myriapodology, Serbia, 2025: "Systematics of cyanogenic millipedes in the order Polydesmida"

Invited seminar, Carnegie Museum of Natural History, Moriarity Seminar, 2024: "Glow-in-the-dark millipedes, mimicry rings, and the 1,306-legged millipede"

Invited seminar, UC Berkeley, Essig Brunch Seminar, 2023: "Glow-in-the-dark millipedes, mimicry rings, and the 1,306-legged millipede"

Keynote speaker, 19th International Congress of Myriapodology, Bogota, Colombia, 2023, "Glow-in-the-dark millipedes, Appalachian mimicry rings, and the 1,306-legged millipede"

Invited seminar, Invertebrates in Education and Conservation Conference, 2023, “Glow-in-the-dark millipedes, Appalachian mimicry rings, and the 1,306-legged millipede”

Invited seminar, Chabot Space and Science Center, First Fridays, 2023, “Glow-in-the-dark millipedes, Appalachian mimicry rings, and the 1,306-legged millipede”

Invited seminar, BugFest, North Carolina Museum of Natural Sciences, 2022: "Glow-in-the-dark millipedes, Appalachian mimicry rings, and the 1,306-legged minibeast”

Invited seminar, Colorado State University, 2022: “Millipede systematics and the evolution of bioluminescence and mimicry”

Invited seminar, Clemson University, 2018: “Appalachian millipede diversity and the evolution of bioluminescence”

Invited seminar, James Madison University, 2018: “Millipede biodiversity and the evolution of bioluminescence”

Research paper, International Congress of Myriapodology, Thailand, 2017: “Evolution of bioluminescence in Sierra luminous millipedes”

Invited seminar, Smithsonian Institution, 2016: “Glow-in-the-dark millipedes, mimicry rings and the 750-legged minibeast”

Invited seminar, Peaks of Otter, Blue Ridge Parkway, National Park Service, 2016: “Discovery and description of new millipede species in Appalachia”

Invited seminar, University of Maryland, 2016: “Millipede biodiversity and the evolution of bioluminescence”

Invited seminar, East Carolina University, 2016: “Millipede biodiversity and the evolution of bioluminescence”

Research paper, Entomological Society of America, 2015: “Discovery of a glowing millipede in California and the gradual evolution of bioluminescence in Diplopoda”

Invited seminar, Highlands Biological Station, 2015: “Glow-in-the-dark millipedes, mimicry rings and the 750-legged minibeast”

Lecture, Highlands Biological Station, 2015: “How to collect millipedes”

Research paper, International Firefly Symposium, 2014: “The evolution of bioluminescence in the Sierra luminous millipedes”

Invited seminar, Mountain Lake Biological Station, University of Virginia, 2014: “Systematics and the evolution of bioluminescence and mimicry in millipedes:

Invited seminar, University of Illinois, Urbana-Champaign, 2014: “The evolution of mimicry and bioluminescence in millipedes”

Invited seminar, College of William and Mary, 2014: “The glow means no: The evolution of bioluminescence in millipedes”

Invited seminar, Auburn University, 2014: “Systematics and the evolution of bioluminescence in millipedes”

Invited seminar, Virginia Museum of Natural History, 2014: “The evolution of bioluminescence in millipedes”

Invited seminar, Virginia Tech, 2013: “Phylogenetic systematics and the evolution of bioluminescence in cyanide-producing millipedes”

Invited seminar, University of Missouri - St. Louis, 2012: “Millipede systematics and the evolutionary ecology of warning coloration”

Invited seminar, Purdue University, 2012: “Millipede systematics and the evolutionary ecology of warning coloration”

Invited seminar, Field Museum of Natural History, Watson Armour Research Seminar Series, 2012: “The glow means No: the evolution of bioluminescence in millipedes”

Invited seminar, University of Illinois at Chicago, 2012: “The glow means No: the evolution of bioluminescence in millipedes”

Invited lecture, Millsaps College Moreton Lecture, 2012: “Glow-in-the-dark millipedes, mimicry rings and the 750-legged beast”

Invited lecture, University of Arizona, Topics in Behavioral Ecology class, 2012: “Behavioral ecology of color and light”

Invited seminar, University of Vermont, 2011: “Millipede systematics and the evolutionary ecology of warning coloration”

Invited seminar, Stephen F. Austin University, 2011: “Millipede systematics and the evolutionary ecology of warning coloration”

Invited seminar, California Academy of Sciences, 2011: “The glow means No: the evolution of bioluminescence in millipedes”

Invited seminar, Stetson University, 2011: “Millipedes, mimicry, and bioluminescence”

Invited seminar, Cleveland Museum of Natural History, 2011: “Mimicry, bioluminescence, and the 750-legged beast”

Invited lecture, San Diego State University, Biology Department, 2011: “The future of taxonomy and cybertaxonomy”

Invited seminar, San Diego State University, Biology Department, 2011: “The glow means No: the evolution of bioluminescence in millipedes”

University of Arizona, Ecology and Evolutionary Biology Department, 2010: “The glow means, No: the evolution of bioluminescence in millipedes”

University of Arizona, Center for Insect Science, Hexapodium, 2010: “The glow means, No: the evolution of bioluminescence in millipedes”

Society of Systematic Biologists, Evolution, 2009: “Mimicry in Appalachian millipedes”

Invited seminar, University of Arizona, Entomology Department, 2008: “Warning, cyanide and masquerade: A Müllerian mimicry ring in Appalachian millipedes”

Invited seminar, University of Tennessee Martin, Biology Department, 2008: “Mimicry in Appalachian millipedes”

Richard Hoffman Birthday Festschrift, 2007: “A molecular phylogenetic approach to genus delimitation within the xystodesmid tribe Apheloriini (Polydesmida)”

North Carolina Academy of Science, 2007: “Systematics and color mimicry evolution of the cyanide-producing millipedes of Appalachia”

East Carolina University, Graduate Student Research Day, 2007: “Systematics and color mimicry evolution of the cyanide-producing millipedes of Appalachia”

Entomological Society of America, 2007: “Systematics and color mimicry evolution of the cyanide-producing millipedes of Appalachia”

Invited lecture, East Carolina University, Field Zoology Class, 2006: “Bizarrodiversity”

Southeastern Population Ecology and Evolutionary Genetics, 2006: “Systematics and color mimicry evolution of the cyanide-producing millipedes of Appalachia”

Society of Systematic Biologists, Evolution, 2006: “An exemplar phylogenetic approach to evaluating higher-level classification problems in cyanogenic xystodesmid millipedes in Appalachia”

Association of Southeastern Biologists, 2006: “Systematics and color mimicry evolution of the cyanide-producing millipedes of Appalachia”

Entomological Society of America, 2005: “Systematics and mimicry evolution of colorful cyanide-producing millipedes of Appalachia”

Southeastern Ecology and Evolution Conference, 2005: “Systematics and mimicry evolution of cyanide producing millipedes”

East Carolina University, Graduate Student Research Day, 2005: “Systematics and mimicry evolution of cyanide producing millipedes”