

CURRICULUM VITAE

University of Idaho

NAME: Chris A. Hamilton

DATE: 12/13/2023

RANK OR TITLE: Assistant Professor

DEPARTMENT: Entomology, Plant Pathology & Nematology

OFFICE LOCATION AND CAMPUS ZIP:

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DATE OF FIRST EMPLOYMENT AT UI: 10/01/2018

DATE OF TENURE: (Year or untenured) untenured

DATE OF PRESENT RANK OR TITLE: 10/01/2018

EDUCATION BEYOND HIGH SCHOOL:

Degrees:

Ph.D., Auburn University, Auburn, Alabama, 08/2015, Evolutionary Biology

M.S., The University of Texas at Arlington, Arlington, Texas, 08/2009, Biology

B.A., Western Kentucky University, Bowling Green, Kentucky, 12/1999, Photojournalism

EXPERIENCE:

Teaching, Extension and Research Appointments: (List position titles and locations since receipt of Bachelor's degree)

Assistant Professor, University of Idaho; PI of the Arthropod Molecular Systematics Lab; Member of the Institute for Interdisciplinary Data Sciences; affiliate faculty member in American Indian Studies (Department of Sociology and Anthropology); affiliate faculty member in the Bioinformatics and Computational Biology Program (BCB); faculty member Institute for Health in the Human Ecosystem (IHHE). 2018 – present

NSF Postdoctoral Fellow, "Broadening Participation of Native Americans into Collections-Based Research: Testing Hypotheses on the Hawkmoth-Bat Evolutionary Arms Race", Florida Museum of Natural History, University of Florida, Gainesville, Florida. 2016 – 2018

Postdoctoral Research Associate, Florida Museum of Natural History, University of Florida, Gainesville, Florida. 2015 –2016

Research Assistant:

Auburn University (Fall 2011 – Spring 2015)

East Carolina University (Fall 2009 – Summer 2011)

Teaching Assistant:

Auburn University – BIOL 1011: A Survey of Life (Spring 2012 & 2014)

East Carolina University – BIOL 1061: Environmental Biology (Fall 2009)

Univ. of Texas at Arlington – BIOL 1442: Structure & Function of Organisms (Spring 2006 – Spring 2009)

Non-Academic Employment including Armed Forces: (List title, brief description, date)

Freelance photojournalist based in Dallas, Texas, 2000 – 2006

TEACHING ACCOMPLISHMENTS: (Academic and Extension teaching)

Areas of Specialization:

Phylogenetics, Systematics, Taxonomy, Bioinformatics, Geometric Morphometrics

STEM education/outreach

Courses Taught: (title, course number, date(s))

Spring 2024

ENT 322 – General and Applied Entomology; University of Idaho

– Class size is estimated to be around 20 students.

Spring 2019-2022

BIOL 536 – Phylogenetics Reading Group; University of Idaho

– I do not teach this class, but I participated in PuRGe, a class that is held once a week with undergraduates and graduate students from the University of Idaho and Washington State University. Class size = ~15-20. I stopped participating in 2022.

Spring 2018

ENY 6934 – Seminar in Arthropod Phylogenetic Systematics; University of Florida

– Class size = 12. The primary goal was for students to read and discuss key literature in the development and application of modern phylogenetic methods, in particular, those that have influenced arthropod systematics.

Fall 2015, 2016, 2017

ZOO 4926/ENY 4905 (lecture and labs) – Spider Biology; University of Florida

– Class size approximately 30. Presented lectures on the evolution of spider silk and webs, the other arachnid families, and assisted with teaching lab and assisting field work.

Spring 2012 & 2014

BIOL 1011 (lab) – A Survey of Life; Auburn University

– Class size approximately 40; 4 classes. The purpose of this laboratory was to emphasize the contrasting strategies that animals employ to meet their similar biological needs. The class was heavily human focused, a mini A&P for non-majors, then followed by how humans interact with the world around them, much like the other organisms that students come across on a daily basis.

Fall 2009

BIOL 1061 (lab) – Environmental Biology; East Carolina University

– Class size of 14; 1 class. The main objectives of this course were to expose students to the field of Biology, familiarize them with the scientific method, and get them to think about the living world and their impact on it, in particular, how humans share many ecological connections with the organisms around them. Most classes incorporated a field component, allowing the students to explore the natural areas around campus.

Spring 2006 – Spring 2009

BIOL 1442 (lab) – Structure & Function of Organisms; University of Texas at Arlington

– Class size approximately 30; 3 classes. The primary purpose of this laboratory was to teach basic scientific and laboratory skills necessary to conduct research and understand/interpret the results. By participating in a variety of quantitative exercises that focused on data collection, statistical analyses, and presentation of results, students began to understand the scientific method, how to search library and electronic databases for published papers, and how to generate lab reports following accepted formats and standards for published research.

Students Advised:*High School students:*

2022

– Daisy Sawyer; a senior from Kellogg High School. Daisy is worked on her senior research project on Idaho trapdoor spiders, in the lab.

Undergraduate Students:

2019-2020

– University of Idaho undergraduate Abbey Runge (Biology).

2015 to 2018

– University of Florida undergraduates Shaelyn McGiveron (Emerging Scholar recipient), Adena Mahadai (Emerging Scholar recipient; graduated, presently a medical student), Dominique Philoctete (University Scholar), Neeka Sewnath (University Scholar; graduated, presently a graduate student), and Simone Yen (University Scholar).

2012 to 2013

– Auburn University undergraduate Miranda Reich (Masters student at Auburn).

2012

– Summer REU student Kellie Fredette (Stetson University; Masters student in the Bond Lab at Auburn).

2009 to 2011

– East Carolina University undergraduate Xavier Atkinson (received MS at ECU).

Graduate Students:

PhD students: Erik Ciaccio (started in 2020), Karina Silvestre-Bringas (started in 2020), Arnau Calatayud Mascarell (started in 2022).

Postdoctoral Researcher:

Ethan Briggs (started in 2023; University of Queensland, Australia)

Courses Developed:

Spring 2018

ENY 6934 – Seminar in Arthropod Phylogenetic Systematics; University of Florida

Non-credit Classes, Workshops, Seminars, Invited Lectures, etc.:**Invited Lectures**

2019

- ENT 440/540 Insect Identification/Systematics; presented lectures on spiders and other arachnids.

Workshops

2022 & 2023

– Nannoppolo' Lab: LEGO-based STEM workshop to teach K-12 students about genomics (from genotype to phenotype). This workshop is predominately for our tribal children here in Idaho (Nez Perce & Coeur d'Alene), but I also use it in Arizona (San Carlos Apache).

– STEM workshop with San Carlos Apache youth to show how Western Science and Traditional Ecological Knowledge (with Apache tribal elder) can work together to better understand our world. (San Carlos Apache reservation, Arizona).

2017

– Phylogenomics/Bioinformatics workshop on preparing and using Anchored Hybrid Enrichment datasets (McGuire Center for Lepidoptera and Biodiversity, University of Florida)

– Geometric Morphometrics workshop on using the R package 'Momocs' for shape analysis (McGuire Center for Lepidoptera and Biodiversity, University of Florida)

SCHOLARSHIP ACCOMPLISHMENTS: (Including scholarship of teaching and learning, artistic creativity, discovery, and application/integration)

Publications, Exhibitions, Performances, Recitals:

Peer Reviewed/Evaluated: (i.e. books, book chaps., journals, proc., abstr., etc.; provide citations-author, date, title, publisher)

2023

38. Kuntner M, Čandek K, Gregorič M, Turk E, Hamilton CA, Chamberland L, Starrett J, Cheng RC, Coddington JA, Agnarsson I, Bond JE. 2023. Increasing Information Content and Diagnosability in Araneoid Spider Family Classification. *Systematic Biology*. 72(4): 964–971.

37. Galleti-Lima A, Hamilton CA, Borges LM, Guadanucci JPL. 2023. Phylogenomics of Lasiodoriforms: reclassification of the South American genus *Vitalius* Lucas, Silva and Bertani and allied genera (Araneae: Theraphosidae). *Frontiers in Ecology and Evolution*. 11 (2023): 1177627.

2022

36. Stevens P, Anthony-Stevens V, Hedden-Nicely D, Hamilton CA. Tribal Nation Building and the Role of Faculty: Paying the Debt on Indigenous Wellbeing in Higher Education. *Journal of American Indian Education*. 60(3). 13-43.

35. Hamilton CA, Winiger N, Rubin JJ, Breinholt J, Rougerie R, Kitching IJ, Barber JR, Kawahara AY. Hidden phylogenomic signal helps elucidate arsenurine silkmoth phylogeny and the evolution of body size and wing shape trade-offs. *Systematic Biology*. 71(4):859-874.

34. Li X, Hamilton CA, Markee A, Ballesteros L, Rougerie R, Kitching IJ, Kawahara AY. A diversification relay race from Caribbean-Mesoamerica to the Andes- historical biogeography of *Xylophanes* hawkmoths. *Proceedings of the Royal Society – Biological Sciences*. 289: 20212435.

33. Bond JE, Godwin RL, Colby JD, Newton LG, Zahnle XJ, Agnarsson I, Hamilton CA, Kuntner M. An assessment of the state of spider taxonomy over the last decade and the insights it provides regarding the taxonomic crisis. *Diversity*. 14(1): 1-15.

2021

32. Aiello BR., Bin Sikandar U, Minoguchi H, Bhinderwala B, Hamilton CA, Kawahara AY, Sponberg S.

- The evolution of two distinct strategies of moth flight. *Journal of the Royal Society Interface*. 18: 20210632; 1-10.
31. Turk E, Bond J, Cheng RC, Candek K, Hamilton CA, Kralj-Fiser, Kuntner M. A Natural Colonization of Asia: Phylogenomic and Biogeographic History of Coin Spiders (Araneae: Nephilidae: *Herennia*). *Diversity*. 13(11): 1-14.
 30. Mtui D, Silvestre Bringas K, Ciaccio E, Leblanc L, Okick R, Bwenge D, Hamilton CA. Phylogenetic relationships, distribution, and abundance of *Charaxes mtui*ae Collins Congdon and Bampton, 2017 and its host plant in the Udzungwa mountain forest in southern Tanzania. *Metamorphosis*. 32: 60-66.
 29. Aiello BR, Tan, M, Bin Sikandar U, Alvey, AJ, Bhinderwala, B, Kimball KC, Barber, JR, Hamilton CA, Kawahara AY, Sponberg S. Adaptive shifts underlie the divergence in wing morphology in bombycoid moths. *Proceedings of the Royal Society – Biological Sciences*. 288: 20210677; 1-10.
 28. Hamilton, CA, Shockley, FW, Simmons, R, Smith, A, Ware, J, Zaspel, JM. Letter to the Editor: The Future for a Prominent Taxonomy. *Insect Systematics and Diversity*. 5(1): 2; 1-2.
- 2020
27. Longhorn, SJ & Hamilton CA. A molecular approach to the phylogeny of Theraphosidae and their kin. In: *New World Tarantulas: taxonomy and evolutionary biology of Theraphosidae*. Springer. Pgs 25-75.
 26. Bond JE, Hamilton CA, Godwin RL, Ledford JM, Starrett J. Phylogeny, Evolution and Biogeography of the North American Trapdoor Spider Family Euctenizidae (Araneae: Mygalomorphae) and the Discovery of a New “Endangered Living Fossil” Along California’s Central Coast. *Insect Systematics and Diversity*. 4(5): 2; 1-14.
 25. Opatova V, Hamilton CA, Hedin M, Montes de Oca L, Král J, Haddad CR, Bond JE. Phylogenetic systematics and classification of the spider infraorder Mygalomorphae using genomic scale data. *Systematic Biology*. 69(4): 671-707.
- 2019
24. Timmermans MJTN, Daghmoumi, SM, Glass D, Hamilton CA, Kawahara AY, Kitching IJ. Phylogeny of the hawkmoth tribe Ambulycini: mitogenomes from museum specimens resolve major relationships. *Insect Systematics and Diversity*. 3(6): 12; 1-8.
 23. Hamilton CA, St Laurent RA, Dexter, K, Kitching IJ, Breinholt J, Zwick A, Timmermans M, Barber JR, Kawahara AY. Phylogenomics resolves major relationships and reveals significant diversification rate shifts in the evolution of silk moths and relatives. *BMC Evolutionary Biology*. 19(1): 1-13.
 22. Kuntner M, Hamilton CA, Cheng R-C, Gregorič M, Lupše N, Lemmon EM, Lemmon AR, Agnarsson I, Coddington JA, Bond JE. Golden orbweavers ignore biological rules: Phylogenomic and comparative analyses unravel a complex evolution of sexual size dimorphism. *Systematic Biology*. 68(4): 555-572.
 21. Coddington JA, Agnarsson I, Hamilton CA, Bond JE. Spiders did not repeatedly gain, but repeatedly lost, foraging webs. *PeerJ*. 7: (e6703).
- 2018
20. St Laurent RA, Hamilton CA, Kawahara AY. Museum specimens provide phylogenomic data to resolve relationships of sack-bearer moths (Mimallonidae). *Systematic Entomology*. 43(4): 729-761.
 19. Rubin J*, Hamilton CA*, Kawahara AY, Barber JR. The evolution of anti-bat sensory illusions in moths. *Science Advances*. 4(7): eaar7428 *co-first authors
 18. Chamberland L, McHugh A, Kechejian S, Binford G, Bond J, Coddington J, Dolman G, Hamilton C, Harvey M, Kuntner M, Agnarsson I. From Gondwana to GAARlandia: Evolutionary history and biogeography of ogre-faced spiders (*Deinopis*). *Journal of Biogeography*. 45(11): 2442-2457.
 17. Godwin RL, Opatova V, Garrison NL, Hamilton CA, Bond JE. Phylogeny of a cosmopolitan family of morphologically conserved trapdoor spiders (Mygalomorphae, Ctenizidae) using Anchored Hybrid Enrichment, with a description of the new family, Halonoproctidae. *Molecular Phylogenetics & Evolution*. 126: 303-313.
 16. Kitching IJ, Rougerie R, Zwick A, Hamilton CA, St Laurent RA, Ballesteros Mejia L, Kawahara AY. A global checklist of the Bombycoidea (Insecta: Lepidoptera). *Biodiversity Data Journal*. 6: e22236.
 15. Kawahara AY, Plotkin D, Hamilton CA, Gough H, St Laurent R, Owens H, Homziak, NT, Barber JR. Diel behavior in moths and butterflies: A synthesis of data illuminates the evolution of temporal activity. *Organisms Diversity & Evolution*. 18 (1): 13-27.
- 2017
14. Maddison WP, Evans SC, Hamilton CA, Bond JE, Lemmon AR, Lemmon EM. A genome-wide phylogeny of jumping spiders (Araneae: Salticidae), using anchored hybrid enrichment. *ZooKeys*. 695: 89-101.
 13. Turner SP, Longhorn SJ, Hamilton CA, Gabriel R, Pérez-Miles F, Vogler AP. Re-evaluating conservation priorities of New World tarantulas in a molecular framework indicates non-monophyly of the genera

- Aphonopelma* and *Brachypelma*. Systematics and Biodiversity.
12. Hamilton CA. 2017. Invited Book Review “Tarantulas: Breeding Experience & Wildlife” by Frédéric Cléton, Yannick Sigwalt, and Jean-Michel Verdez. Frankfurt am Main (Germany): Edition Chimaira. *The Quarterly Review of Biology*. 92 (1): 111-112.
- 2016
11. Hamilton CA, Lemmon AR, Lemmon EM, Bond JE. 2016. Expanding anchored hybrid enrichment to resolve both deep and shallow relationships within the spider Tree of Life. *BMC Evolutionary Biology*. 16:212.
 10. Cho S, Epstein SW, Mitter K, Hamilton CA, Plotkin D, Mitter C, Kawahara AY. 2016. Preserving and vouchering butterflies and moths for large-scale museum-based molecular research. *PeerJ*. 4:e2160.
 9. Garrison NL, Rodriguez J, Agnarsson I, Coddington JA, Griswold CE, Hamilton CA, Hedin M, Kocot KM, Ledford JM, Bond JE. 2016. Spider phylogenomics: untangling the Spider Tree of Life. *PeerJ*. 4:e1719.
 8. *Hamilton CA, Hendrixson BE, Bond JE. 2016. Taxonomic revision of the tarantula genus *Aphonopelma* Pocock, 1901 (Araneae, Mygalomorphae, Theraphosidae) within the United States. *ZooKeys*. 560: 1-340.
*Altmetric score of 984 – this quantifies the amount of popular attention an article has received. #3 highest-scoring output from ZooKeys and in the top 5% of all research outputs scored by Altmetric.
- 2015
7. Graham MR, Hendrixson BE, Hamilton CA, Bond JE. 2015. Miocene extensional tectonics explain ancient patterns of diversification among turret-building tarantulas (*Aphonopelma* *mojave* group) in the Mojave and Sonoran deserts. *Journal of Biogeography*. 42(6): 1052-1065.
- 2014
6. Bond JE, Garrison NL, Hamilton CA, Godwin RL, Hedin M, Agnarsson I. 2014. Phylogenomics resolves a spider backbone phylogeny and rejects a prevailing paradigm for orb web evolution. *Current Biology*. 24: 1765-1771.
 5. Hamilton CA, Hendrixson BE, Brewer MS, Bond JE. 2014. An evaluation of sampling effects on multiple DNA barcoding methods leads to an integrative approach for delimiting species: A case study of the North American tarantula genus *Aphonopelma* (Araneae, Mygalomorphae, Theraphosidae). *Molecular Phylogenetics & Evolution*. 71: 79-93.
- 2013
4. Hendrixson BE, DeRussy BM, Hamilton CA, Bond JE. 2013. An exploration of species boundaries in turret-building tarantulas of the Mojave Desert (Araneae, Mygalomorphae, Theraphosidae, *Aphonopelma*). *Molecular Phylogenetics & Evolution*. 66: 327-340.
- 2012
3. Bond JE, Hendrixson BE, Hamilton CA, Hedin M. 2012. A reconsideration of the classification of the spider infraorder Mygalomorphae based on three nuclear genes and morphology (Arachnida: Araneae). *PLoS ONE*. 7(6): e38753.
 2. Bond JE, Hamilton CA, Garrison NL, Ray CH. 2012. Phylogenetic reconsideration of *Myrmekiaphila* systematics with a description of the new trapdoor spider species *Myrmekiaphila tigris* (Araneae, Mygalomorphae, Cyrtachenidiidae, Euctenizinae) from Auburn, Alabama. *ZooKeys*. 190: 95-109.
- 2011
1. Hamilton CA, Formanowicz DR, Bond JE. 2011. Species delimitation and phylogeography of *Aphonopelma hentzi* (Araneae, Mygalomorphae, Theraphosidae): cryptic diversity in North American tarantulas. *PLoS ONE*. 6(10): e26207.
- Peer Reviewed/Evaluated (currently scheduled or submitted):**
1. Sondhi, Y, Messcher RL, Bellantuno AJ, Storer CG, Cinel SD, Keating Godfrey R, Glass D, St Laurent RA, Hamilton CA, Earl C, Brislawn CJ, Kitching IJ, Bybee SM, Theobald JC, Kawahara AY. The developmental gene disco regulates diel-niche evolution in adult moths. *PLoS Genetics*. (in review)
 2. Hamilton, CA, Silvestre Bringas, K, Hendrixson, BE. A new species of Madrean Sky Islands tarantula in the genus *Aphonopelma* Pocock, 1901 (Araneae, Mygalomorphae, Theraphosidae) and its interesting phylogenetic story. (in prep; to be submitted in 2024)
 3. Ciaccio, E, Bond, JE, Hamilton, CA. Revisiting Evolutionary Relationships of *Antrodiaetus* (Araneae, Mygalomorphae, Antrodiaetidae) Using Phylogenomics; Implications for Species Diversity and Biogeography of a Holarctic Relict. (in prep; to be submitted in 2024)
 4. Hamilton, CA. Homeowner Guide to Idaho’s Arachnids around the home and field. University of Idaho Extension Publication. (in prep; to be submitted in 2024)

Professional Meeting Papers, Workshops, Showings, Recitals: (provide date location)

2023

- Hamilton CA. Comprender la diversidad de *Aphonopelma* en las islas del cielo de Madrean. National Autonomous University of Mexico (UNAM). June 23, 2023. [invited talk]
- *Silvestre-Bringas, K., Hamilton, CA. Understanding the Diversity and Evolution of the *Aphonopelma marxi* species complex across the Madrean Sky Island biodiversity hotspot. 2023 HHMI Gilliam Annual Meeting, September 2023.
- *Silvestre-Bringas, K., Hamilton, CA. Understanding the Diversity and Evolution of the *Aphonopelma marxi* species complex across the Madrean Sky Island biodiversity hotspot. 22nd International Society of Arachnology (Montevideo, Uruguay), March 2023.
- *Ciaccio, E., Hamilton, CA. Slower Than Rocks: Evolutionary Movement of Slow-Dispersal Spiders Across the Western Nearctic. 22nd International Society of Arachnology (Montevideo, Uruguay), March 2023. [poster]
- *Calatayud Mascarell, A, Hamilton, CA. Molecular phylogeny of *Euagrus* funnel-web spiders (Mygalomorphae: Euagridae). 22nd International Society of Arachnology (Montevideo, Uruguay), March 2023. [poster]

2022

- Hamilton CA. Integrating Western science and Traditional Ecological Knowledge (TEK) to understand *Aphonopelma* diversity across the Madrean sky islands and educate K-12 tribal students. The Entomological Society of America annual meeting (Vancouver, BC), November 16th, 2022. [invited symposium talk]
- Hamilton CA. From root to tips: Understanding the evolution of the arthropod Tree of Life. University of Missouri. September 1, 2022. [invited talk]
- *Silvestre Bringas K & Hamilton CA. Understanding the evolutionary history of the *Aphonopelma marxi* species group across the Madrean Archipelago “Sky Islands” biodiversity hotspot. AAS American Arachnological Society annual meeting (UC Davis), June 28th, 2022. [talk]
- *Ciaccio E & Hamilton CA. Systematics of western *Antrodiaetus*. AAS American Arachnological Society annual meeting (UC Davis), June 28th, 2022. [talk]
- Hamilton CA. From root to tips: Understanding the evolution of the arthropod Tree of Life. Colorado State University. May 18, 2022. [invited talk]
- Hamilton CA. Integrating Western science and Traditional Ecological Knowledge (TEK) to understand *Aphonopelma* diversity across the Madrean sky islands and educate K-12 tribal students. University of Maryland. April 8, 2022. [invited talk]
- Hamilton CA. Integrating Western science and Traditional Ecological Knowledge (TEK) to understand *Aphonopelma* diversity across the Madrean sky islands and educate K-12 tribal students. University of Manitoba (virtual). March 22, 2022. [invited talk]

2021

- Hamilton CA. Understanding *Aphonopelma* diversity across the United States and Mexico. The Mount Diablo Interpretive Association (virtual). August 18, 2021. [talk]
- Hamilton CA. Understanding *Aphonopelma* diversity across the Madrean Pine-Oak Woodlands Hotspot by integrating Western science and Traditional Ecological Knowledge (TEK). Evolution 2021, the annual meeting for The Society for the Study of Evolution (virtual). June 24, 2021. [talk]
- Hamilton CA. Symposium “Using machine learning to understand the evolution of biodiversity”. Evolution 2021, the annual meeting for The Society for the Study of Evolution (virtual). June 24, 2021. [organizer]
- *Silvestre Bringas K & Hamilton CA. Understanding the evolutionary history of the *Aphonopelma marxi* species group across the Madrean Archipelago “Sky Islands” biodiversity hotspot. AAS American Arachnological Society annual meeting (virtual), June 28th, 2021. [talk]
- *Ciaccio E & Hamilton CA. Cryptic Diversity and Biogeography: Preliminary results in a genus of a mygalomorph spider (*Antrodiaetus*, Antrodiaetidae) from the Pacific Northwest. AAS American Arachnological Society annual meeting (virtual), June 28th, 2021. [talk]
- Hamilton CA & Hendrixson BE. Understanding *Aphonopelma* diversity across the Madrean Pine-Oak Woodlands Hotspot by integrating Western Science and Traditional Ecological Knowledge. University of California, Davis. April 21 (Davis, virtual). [invited seminar speaker]
- Hamilton CA & Hendrixson BE. Understanding *Aphonopelma* diversity across the Madrean Pine-Oak Woodlands Hotspot by integrating Western Science and Traditional Ecological Knowledge. North Carolina State University. April 12 (Raleigh, virtual). [invited seminar speaker]

- Hamilton CA & Hendrixson BE. Understanding *Aphonopelma* diversity across the Madrean Pine-Oak Woodlands Hotspot. American Museum of Natural History. February 8 (New York, virtual). [invited seminar speaker]
- 2020
- Hamilton CA & Hendrixson BE. Understanding *Aphonopelma* diversity across the Madrean Pine-Oak Woodlands Hotspot. VI Congreso Latinoamericano de Aracnología. December 14-18 (Buenos Aires, Argentina, virtual). [invited speaker in the “¿Una o varias especies?, delimitación de especies en arañas como un ejercicio de taxonomía integradora.” Symposium]
- 2019
- Hamilton CA. Arthropod systematics in the age of “big data” and machine learning. XXI International Congress of Arachnology. February 10-15 (Canterbury, New Zealand). [invited speaker in the “Young Arachnologist” symposium]
 - Selected participant in the Evolutionary Quantitative Genetics workshop, Friday Harbor Labs (University of Washington)
- 2018
- Hamilton CA, Hendrixson BE, Bond JE. Integrative species delimitation and revision of a "taxonomic nightmare" spider genus using natural history collections and "big data". 2018 ESA, ESC, and ESBC Joint Annual Meeting, November 11-14 (Vancouver, BC, Canada). [invited presentation in the symposium "Species-Delimitation and Identification in the Age of Big Data and Artificial Intelligence: Molecular and Morphological Approaches."]
 - Hamilton CA, Rubin J, Barber JR, Kawahara AY. Convergent evolution of anti-bat sensory illusions in silkmoths. Evolution 2018, the Second Joint Conference on Evolutionary Biology, August 19th-23rd. (Montpellier, France). [selected to present in the symposium “From development to function: what does drive morphological convergences?”]
 - Hamilton CA. From root to tips: the use of genomic approaches to understand the evolution of arthropod diversity. University of Idaho (Moscow, ID). [Invited Seminar]
- 2017
- Hamilton CA, Rubin J, Barber JR, Kawahara AY. Bat predation drives convergent evolution of wild silk moth (Lepidoptera: Saturniidae) hindwing shape. XXXVI Annual Meeting of the Willi Hennig Society (St. Petersburg, FL). [invited symposium speaker]
 - Hamilton CA, Keller N, Breinholt J, Barber JR, Rougerie R, Kawahara AY. The evolution of wing shape tradeoffs in the subfamily Arsenurinae (Lepidoptera, Bombycoidea, Saturniidae)...and how their bat predators have played a significant role. Evolution 2017, the annual meeting for The Society for the Study of Evolution (Portland, Oregon). [talk]
 - *Mahadai A, *McGiveron S, *Philoctete D, Hamilton CA. The evolution of wing shape across an evolutionary arms race. Undergraduate Research Scholars, Research Week, The University of Florida. [poster]
 - Selected participant in Dan Rabosky’s (University of Michigan) workshop on estimating diversification rates, Oregon State University
- 2016
- Hamilton CA. From root to tips: genomic approaches to resolving the arthropod Tree of Life. University of Pittsburgh (Pittsburgh, PA). [Invited Seminar]
 - Hamilton CA. From so simple a beginning: understanding how evolution has shaped arthropod diversity. FLMNH McGuire Center Seminar Series (Gainesville, FL). [Invited Seminar]
 - Hamilton CA. Using genomics to understand the evolution of *Aphonopelma*: miniaturization and other tales of North American tarantulas. 2016 Colorado Desert Natural History Research Symposium. Anza-Borrego Foundation (Borrego Springs, CA). [Invited Seminar]
 - Hamilton CA, Keller N, Breinholt J, Barber JR, Kawahara AY. Phylogenetic relationships, wing shape, and the evolution of tails across the Arsenurinae (Lepidoptera, Bombycoidea, Saturniidae). Southern Lepidopterists’ Society and Association for Tropical Lepidoptera 2016 Annual Meeting (Gainesville, FL). [talk]
 - Hamilton CA, Keller N, Breinholt J, Barber JR, Kawahara AY. Phylogenetic relationships, wing shape, and the evolution of tails across the Arsenurinae (Lepidoptera, Bombycoidea, Saturniidae). XXV International Congress of Entomology (Orlando, FL). [talk]
 - Hamilton CA. Evolution of the Bombycoidea: the role bat predation has played on their diversification. Bombycoidea Workshop 2016 (Ecuador). [talk]
 - Hamilton CA, Hendrixson, BE, Bond JE. Phylogenomics and taxonomic revision of the tarantula genus *Aphonopelma* Pocock, 1901 (Araneae, Mygalomorphae, Theraphosidae) within the United States. 20th

- International Congress of Arachnology (Colorado School of Mines, Golden, CO). [talk]
- Hamilton CA, Lemmon AR, Lemmon EM, Bond JE. Expanding Anchored Hybrid Enrichment to resolve both deep and shallow relationships within the Spider Tree of Life. Evolution 2016, the annual meeting for The Society for the Study of Evolution (University of Texas, Austin, TX). [talk]
 - *Sewnath, N, Hamilton CA, Hill, GM, Kawahara, AY. Moth wing shape and size as a defense strategy against bats. Undergraduate Research Scholars, Research Week, The University of Florida. [poster]
*winner Best Student Research Exhibit at the FLMNH
 - Participant in Bombycoidea Workshop 2016, August 4-14, Wild Sumaco Biological Station, Ecuador 2014
 - Hamilton CA, Lemmon AR, Lemmon EM, Bond JE. A new age for spider phylogenomics: expanding Anchored Hybrid Enrichment to resolve both deep and shallow relationships within spiders. 28th European Congress of Arachnology (University of Torino, Torino, Italy). [talk]
- 2013
- Hamilton CA, Bond JE. An integrative approach to species boundaries - incorporation of differing DNA barcoding methods: a case study of the North American tarantula genus *Aphonopelma*. 37th Annual Meeting of the American Arachnological Society (East Tennessee State University, Johnson City, TN). [talk]
 - Hamilton CA, Lemmon AR, Lemmon EM, Bond JE. Anchoring spiders into the world of phylogenomics: expanding anchored hybrid enrichment for species lacking reference genomes. 37th Annual Meeting of the American Arachnological Society (East Tennessee State University, Johnson City, TN). [poster]
 - Hamilton CA, Bond JE. An integrative approach to species boundaries - incorporation of differing DNA barcoding methods: a case study of the North American tarantula genus *Aphonopelma*. Auburn University Graduate Scholars Forum. [talk]
 - Selected participant in the Bodega Bay Applied Phylogenetics workshop
- 2012
- *Fredette K, Garrison N, Hamilton CA, Bond JE. Potential hybridization of two species of trapdoor spiders in the genus *Cyclocosmia*. Auburn University REU project presentation. [poster]
- 2011
- *Atkinson XJ, Hamilton CA, Bond JE. Phylogeography of the *Aphonopelma reversum* species complex (Araneae, Mygalomorphae, Theraphosidae): population fragmentation in an endemic California spider. East Carolina University Research Week. [poster]
- 2010
- Hamilton CA, Hendrixson BE, Bond JE. Testing the efficacy of DNA barcoding in the North American tarantula genus *Aphonopelma*. Evolution 2010, the annual meeting for The Society for the Study of Evolution (Portland State University, Portland, OR). [talk]
 - Hamilton CA, Hendrixson BE, Bond JE. Testing the efficacy of DNA barcoding in the North American tarantula genus *Aphonopelma*. 34th Annual Meeting of the American Arachnological Society (East Carolina University, Greenville, NC). [poster]
 - "The *Aphonopelma* of North America: evolutionary relationships and historical biogeography". 2010 British Tarantula Society Annual Lectures (Bristol, England). [Invited Seminar]
 - Longhorn SJ, Turner S, Hamilton CA, Vogler A. Resolving the nomenclatural nightmare for tarantulas with molecular analyses. XVIII International Congress of Arachnology (Siedlce, Poland). [poster]
- 2009
- Hamilton CA, Formanowicz DR. Determining the phylogeographic dynamics of the edge relationships between *Aphonopelma hentzi* (Girard) and its neighbors along the Colorado River Basin (Araneae, Mygalomorphae, Theraphosidae). 33rd Annual Meeting of the American Arachnological Society (Arkansas Tech University, Russellville, AR). [talk]

Grants and Contracts Awarded: (provide principal and co investigators, title, sponsor, funding dates, amount)

2023

- HHMI Gilliam Fellowship for Advanced Study. PI. Amount = \$159,000 (3 years).
*grant funds 3 years of graduate student Karina Silvestre Bringas's PhD, DEI work, and provides funds for Hamilton's work with Native students here at UI.

2022

- NSF DRK12: Cultivating Relationships: Partnering Teachers, Tribes, and Landscapes for Sustaining STEM Education. coPI. Amount = \$2,999,953 (4 years).
- NSF DEB: CAREER: Integrating Western science and Traditional Ecological Knowledge (TEK) to

- understand *Aphonopelma* diversity across the Madrean ‘sky islands’ and educate K-12 tribal students. Amount = \$1,016,312 (5 years).
- USDA NIFA-AFRI: Investigating the shifting distribution and outbreak potential of a Pacific Northwest coniferous forest pest – the Pandora Pine Moth. Amount = \$245,330 (2 years).
- 2021
- University of Idaho IMCI Data Access Grant. Genome Sequencing for “Investigating the outbreak potential of a Pacific Northwest coniferous forest pest – the Pandora Pine Moth. PI. Amount = \$4,745 (1 year).
- 2017
- National Science Foundation (NSF) – DEB: Phylogenetic Systematics. "Living Fossils: Integrating Phylogenomics and Comparative Morphology to Assemble the Scorpion Tree of Life. (*Senior Personnel). PI - Lorenzo Prendini. Amount = \$808,499 (3 years).
*could not be a coPI due to my PRFB status
- 2016
- National Science Foundation (NSF) – Postdoctoral Research Fellowships in Biology (PRFB). "Broadening Participation of Native Americans into Collections-Based Research: Testing Hypotheses on the Hawkmoth-Bat Evolutionary Arms Race". Amount = \$207,000 (3 years). PI - Chris Hamilton; Sponsoring Scientists - Drs. Akito Y. Kawahara & Charles Cobb.
 - Florida Museum of Natural History & University of Florida Department of Natural History Postdoctoral Professional Development grant. Advisor - Dr. Akito Y. Kawahara. Amount = \$1,000.
- 2015
- Smithsonian Peter Buck Postdoctoral Fellowship (NMNH). Advisor – Dr. Jonathan Coddington. Amount = \$104,000 (2 years; \$96,000 salary, \$8,000 research). *declined
 - Smithsonian Biogenomics/Global Genome Initiative (NMNH) – Anchored Enrichment phylogeny of spiders based on diverse genome quality tissue sampling. PI - Jonathan Coddington, CoPI's - Chris Hamilton & Jason Bond. Amount = \$20,000.
- 2013 to 2015
- National Science Foundation (NSF) – Doctoral Dissertation Improvement Grant (DDIG). Species delimitation and the evolution of dwarfism in the North American tarantula genus *Aphonopelma*. DEB1311494. PI's Jason Bond & Chris Hamilton. Amount = \$19,360
- 2010
- American Museum of Natural History (AMNH) – Theodore Roosevelt Memorial Grant. Deciphering systematic relationships among three Western North American tarantula sister species in the *Aphonopelma* “eutylum group”. Amount = \$1,500
- 2009
- American Arachnological Society (AAS) – The Vincent Roth Fund for Systematic Research. Determining the phylogeographic dynamics of the edge relationships between *Aphonopelma hentzi* (Girard) and its neighbors along the Colorado River Basin (Araneae, Mygalomorphae, Theraphosidae). Amount = \$360

Honors and Awards: (* = students)

2023

- *Arnau Calatayud Mascarell; American Museum of Natural History Collection Study Grant.
- *Arnau Calatayud Mascarell; Entomological Society of America: Systematics, Evolution, & Biodiversity Student Research Travel Award (SRTA).
- *Karina Silvestre Bringas; University of Idaho, Department of Entomology, Plant Pathology & Nematology Farmer Endowment for outstanding graduate student.
- *Erik Ciaccio; University of Idaho, Department of Entomology, Plant Pathology & Nematology Farmer Endowment for outstanding graduate student.

2022

- Nominated as UI’s representative for the HHMI Gilliam Fellowship (mentor and PhD student – Karina Silvestre Bringas)
- *Karina Silvestre Bringas; University of Idaho, Department of Entomology, Plant Pathology & Nematology Farmer Endowment for outstanding graduate student.

2021

- *Karina Silvestre Bringas; American Arachnological Society (AAS) Vincent Roth Fund for Research in Systematics.
- *Erik Ciaccio; American Arachnological Society (AAS) Vincent Roth Fund for Research in Systematics.

2019

- Elected Vice President-Elect, Systematics and Evolutionary Biology (SysEb) section, Entomological Society of America (ESA)
2016
- ICE 2016 travel award to participate in the ICE 2016 symposium “Insect effects on ecosystem services”
2014
- Auburn University Cellular and Molecular Biosciences Peaks of Excellence Research Fellowship
2013
- First Place Oral Presentation, Biological Sciences, Auburn University Research Week Graduate Symposium
2010 to 2015
- Chickasaw Nation Higher Education Grant for Doctoral Students
2010 to 2011
- UNC Campus Scholarship
2009
- American Arachnological Society travel grant
1999
- College Photographer of the Year, Pictures of the Year International competition (POYi)

SERVICE:

Major Committee Assignments: (National, State, District, County, University, College, Departmental and dates)

CALS IDEA committee (CALS Committee on Inclusion, Diversity, Equity, and Access)

PCDI (President’s committee on Diversity and Inclusion) in the Campus culture & Climate assessment group

TRAG (the university’s Tribal Research Advisory Group)

LSAMP executive council

Hemp development group (university working group with Shoshone-Bannock tribe to help develop hemp manufacturing)

Served on 1 internal Promotion & Tenure committee (EPPN; 2022)

Served on 1 internal search committee (EPPN; 2022)

Served on 1 external Promotion & Tenure committee (Millsaps College; 2018)

Served on graduate committee of Sam McCauley, PhD, 2018-2021, UI, advisor – Dave Tank

Served on graduate committee of Shannon Brandy, PhD, outside dissertation reviewer, University of Pretoria (South Africa)

Professional and Scholarly Organizations (including memberships, committee assignments, editorial services, offices held and dates)

2023

– Past President, Systematics and Evolutionary Biology (SysEb) section, Entomological Society of America (ESA)

2022

– President, Systematics and Evolutionary Biology (SysEb) section, Entomological Society of America (ESA)

2021

– Vice President, Systematics and Evolutionary Biology (SysEb) section, Entomological Society of America (ESA)

2020

– Vice President-Elect, Systematics and Evolutionary Biology (SysEb) section, Entomological Society of America (ESA)

Proposal Reviewer – NSF DBI – PRFB; NSF DEB - Phylogenetic Systematics, Evolutionary Processes; SysEb; SSB – Mini-ARTS; (Germany) Deutsche Forschungsgemeinschaft (DFG) - Lebenswissenschaften 1: Molekulare und Organismische Biologie

Subject Editor – ZooKeys (2017 to present)

Associate Editor – Frontiers in Arachnid Science (2023 to present)

Associate Editor – Zoological Journal of the Linnean Society (2023 to present)

Co-editor for a special issue of the Journal of American Indian Education (2021)

Ad hoc reviewer for: American Entomologist, American Naturalist, Arachnology, Journal of Arachnology, African Invertebrates, Journal of Biogeography, Biodiversity Data Journal, Bionomina, Bulletin of the Society of Systematic Biologists, Insect Conservation & Diversity, Invertebrate Systematics, Molecular Ecology, Molecular Phylogenetics & Evolution, Organisms, Diversity & Evolution, PeerJ, PLoS Currents - Tree of Life, PLoS ONE, Revista de Biología Tropical (International Journal of Tropical Biology and Conservation), Revista Colombiana de Entomología, Systematic Biology, Systematic Entomology, Subterranean Biology, ZooKeys, Zoologia, Zoologica Scripta, Zoological Journal of the Linnean Society, Zootaxa.

Outreach Service: (Including popular press, interview articles, newspaper articles, workshops-seminars-tours organized, Extension impact statements)

UI SACNAS faculty advisor

UI AISES faculty advisor

UI MANRRS faculty advisor (Minorities in Agriculture, Natural Resources, and Related Sciences)

UI McNair scholars Faculty Advisory Board

UI Indigenous Knowledge Field Camp (August 9-13, 2021)

STEM education/outreach events: Couer d'Alene Tribal School (Dismet, ID); Nez Perce/Lapwai schools (Lapwai, ID); Palouse Prairie School (Moscow, ID); Moscow ISD Adventure Club, after-school program (Moscow, ID); Lewis-Clark Early Childhood Program (Moscow, ID); San Carlos Middle School (San Carlos, AZ); Nannoppolo' Lab with Owyhee High School students; Nannoppolo' Lab with UI visiting HOIST High School students.

Radio/TV

– BBC Radio 5 Live (UK), BBC Radio Scotland, NewsRadio KFBK 93.1 FM (Sacramento, CA), SkyNews (UK), The Rubber Room on Triple M (Australia), and the late night Comedy Central game show @midnight Print/Internet

– American Entomologist, The Associated Press, BBC, CNN, The Capital Press, Discovery, Gizmodo, IFL Science, Live Science, Mic.com, National Geographic, Newsweek, Science News, The Sacramento Bee, The Washington Post, Scientific American, among others.

Books

– “The Lost Species: Great Expeditions in the Collections of Natural History Museums” by Christopher Kemp (2017, The University of Chicago Press Books). *Aphonopelma atomicum* got its very own chapter describing the story of how this species was originally collected and finally discovered (Chapter 18. It Came from Area 51: The Atomic Tarantula Spider).

– “Tarantulas!” (2024, Scholastic Publishing). This children’s book will highlight *Aphonopelma johnnycashi* as one of the chapters.

PROFESSIONAL DEVELOPMENT: (workshops and seminars attended)

Scholarship:

2023 – 22nd International Society of Arachnology, March 2023 (Montevideo, Uruguay).

2022 – Joint Annual Meeting of the Entomology Society of America and Canada, November 12-November 16 (Vancouver, BC, Canada)

2021 – Entomology Society of America annual meeting, October 30-November 3 (Denver, CO)

2021 – Society for the Study of Evolution annual meeting – virtual, June 21-25

2021 – American Arachnological Society – virtual, June 24-July 1

2020 – AISES National Conference (American Indian Science and Engineering Society) – virtual, Oct. 15-17

2020 – Entomology Society of America annual meeting – virtual, Nov. 16-19

2020 – Pacific Northwest Lepidopterist meeting – virtual, Dec. 11

2019 – Entomology Society of America annual meeting, November 17-20 (St. Louis, MO).

2018 – Entomology Society of America, ESC, and ESBC Joint Annual Meeting, November 11-14 (Vancouver, BC, Canada).

2018 – Second Joint Conference on Evolutionary Biology, August 19th-23rd. (Montpellier, France).

2017 – XXXVI Annual Meeting of the Willi Hennig Society (St. Petersburg, FL).

2017 – Society for the Study of Evolution annual meeting (Portland, Oregon).
2016 – Southern Lepidopterists' Society and Association for Tropical Lepidoptera Annual Meeting (Gainesville, FL).
2016 – XXV International Congress of Entomology (Orlando, FL).
2016 – 20th International Congress of Arachnology (Colorado School of Mines, Golden, CO).
2016 – Society for the Study of Evolution annual meeting (University of Texas, Austin, TX).
2014 – European Congress of Arachnology annual meeting (University of Torino, Torino, Italy).
2013 – American Arachnological Society annual meeting (East Tennessee State University, Johnson City, TN).
2010 – Society for the Study of Evolution annual meeting (Portland State University, Portland, OR).
2010 – American Arachnological Society annual meeting (East Carolina University, Greenville, NC).
2010 – XVIII International Congress of Arachnology (Siedlce, Poland).
2009 – American Arachnological Society annual meeting of the (Arkansas Tech University, Russellville, AR).

Workshops:

2021

Took BCB 503 section 1 CRN 4394: a workshop on using the bioinformatics program RevBayes (Aug 24 - Sep 28).

2019

Selected participant in the Evolutionary Quantitative Genetics workshop, Friday Harbor Labs (University of Washington).

2017

Selected participant in Dan Rabosky's (University of Michigan) workshop on estimating diversification rates, Oregon State University.

2016

Selected participant in Bombycoidea Workshop 2016, August 4-14, Wild Sumaco Biological Station, Ecuador.

2013

Selected participant in the Bodega Bay Applied Phylogenetics workshop.