

Alex J. Franzen
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EDUCATION

- 2025 Ph.D. in Ecology and Evolutionary Biology
University of Oklahoma; Major Professor: Caryn Vaughn, PhD
Dissertation: Linking phylogeny and ecology to enigmatic freshwater mussel shell morphologies.
- 2019 B.S. in Fisheries, Wildlife and Conservation Biology
University of Minnesota Twin Cities

RECENT APPOINTMENTS

- 2026–present Peter Buck Postdoctoral Fellow, National Museum of Natural History, Smithsonian Institution, Washington DC. Supervisor: John Pfeiffer, PhD
- 2023–2024 Research Volunteer, U.S. Geological Survey Columbia Environmental Research Center, Columbia, MO. Supervisor: Brandon Sansom, PhD
- 2022–2025 Graduate Fellow, National Museum of Natural History, Smithsonian Institution, Washington DC. Supervisor: John Pfeiffer, PhD
- 2020–2025 Graduate Research Assistant, Oklahoma Biological Survey, University of Oklahoma, Norman, OK. Research Project: OPUS – Linking species traits, community change and environmental change across scales to forecast how animal declines impact ecosystem function.
Supervisor: Caryn Vaughn, PhD
- 2020–2025 Graduate Teaching Assistant, School of Biological Sciences, University of Oklahoma, Norman, OK. Courses: General Biology and Stream Ecology
- 2019 Stream Fish Habitat Intern, Minnesota Department of Natural Resources.
Supervisor: Lecia Babeu
- 2018–2020 Curatorial Assistant (Fish and Invertebrates), Bell Museum, University of Minnesota, St. Paul, MN. Supervisor: Andrew Simons, PhD
- 2017–2018 Undergraduate Research Assistant, Department of Fisheries and Wildlife, University of Minnesota, St. Paul, MN. Research Project: Improving conservation of the federally endangered Spectaclecase mussel with natural history research and host management recommendations.
Supervisor: Mark Hove

RESEARCH PRODUCTS (ORCID: 0000-0002-9109-377X)

Peer-reviewed publications

Franzen, AJ, BJ Sansom, JM Pfeiffer, FE Goetz, SM Keogh, CC Vaughn. (2026). Evaluating correlations between freshwater mussel shell morphology and valve-gaping activity across riverine conditions. *Freshwater Biology* 71(6), e70257. <https://doi.org/10.1111/fwb.70257>.

Atkinson, CL, **AJ Franzen**, GW Hopper, JW Lopez, Z Zbinden, CC Vaughn. (2025). Environmental gradients drive convergence in life history strategies among disparate but coevolved taxonomic groups. *Ecology* 106(12): e70273. <https://doi.org/10.1002/ecy.70273>.

Keogh, SM, BJ Minerich, LM Ohlman, ME Pletta, AE Scheunemann, ZK Schroeder, ZA Secrist, **AJ Franzen**, BE Sietman, & AM Simons. (2025). Phenotypic Plasticity, Multiple Paternity, and Shell Shape Divergence Across Lake-Stream Habitats in a Freshwater Mussel Brood (*Pyganodon grandis*). *Freshwater Biology* 70(1), e14358. <https://doi.org/10.1111/fwb.14358>

Lopez, JW, TP DuBose, **AJ Franzen**, CL Atkinson, & CC Vaughn. (2022). Long-term monitoring shows that drought sensitivity and riparian land use change coincide with freshwater mussel declines. *Aquatic Conservation: Marine and Freshwater Ecosystems* 32(10), 1571–1583. <https://doi.org/10.1002/aqc.3884>

In review/revision

Moore, EA, CC Vaughn, & **AJ Franzen. Variation in shell morphology and mitochondrial DNA of two species of freshwater mussels in the Kiamichi River, Oklahoma, USA. *In revision at Freshwater Mollusk Biology and Conservation*.

***Franzen, AJ**, JM Pfeiffer, M Sei, and CC Vaughn. Clarification of Species Boundaries in Common and Morphologically Variable Freshwater Mussels (*Fusconaia*). *In review*.

In preparation

***Franzen, AJ**, JM Pfeiffer, M Sei, BE Sietman, JL Harris, SM Keogh, K Inoue, and CC Vaughn. Genome skimming, morphometrics, and ecology elucidates a shell morphology spectrum in freshwater mussels (Unionidae: *Fusconaia*). *In prep*.

* = manuscript available on request

** = Student mentee author/co-author

Non Peer-reviewed newsletter articles and technical reports

Pfeiffer, JM, JP Chong, S Craft, T Dubose, **A Franzen**, M Hove, T Smith, and D Woolnough. (2024). Requesting feedback on potentially problematic freshwater mollusk common names. *Ellipsaria* 26 (1): 18-21.

Vaughn, CC, JW Lopez, TP DuBose, **AJ Franzen**. (2022). Status assessment for the Southern Hickorynut in Oklahoma ([Report No. T-111](#)). Oklahoma Department of Wildlife Conservation.

Franzen, AJ, and CC Vaughn. (2022). Rescuing Regional Freshwater Mussel Collections: Digitizing Mussels at the University of Oklahoma. *Ellipsaria* 24 (3): 16-17.

Smith, TA, M Bradley, M Davis, B Douglas, H Dunn, N Eckert, **A Franzen**, M Hove, B Karns, D Kelner, L Kitchel, M Pletta, A Roberts, B Sietman, J Tiemann, and J Weininger. (2021). Plan for the Controlled Propagation and Reintroduction of the Spectaclecase Mussel (*Cumberlandia monodonta*). USFWS Interagency Plan, St. Paul, MN. 53 pp.

Benedict, A, M Hove, B Sietman, **A Franzen**, L Neu, C Rounds, E Slaikeu, I Tolo, M Pletta, and D Hornbach. (2019). Natural hosts of some common Mississippi River mussel species. *Ellipsaria* 21(2): 33-35.

Franzen, A and A Simons. (2019). Revisiting the Dwight W. Taylor Collection of Mollusks: Curation and Cataloging of Invertebrate Specimens in the Bell Museum. *Ellipsaria* 21(1): 17

Swanson, C, M Hove, **A Franzen**, D Hornbach, M Davis, and B Sietman. (2018). *Ligumia subrostrata* host fishes and geospatial associations. *Ellipsaria* 20(4): 45-48.

Hove, M, B Burke, **A Franzen**, M Bartsch, D Waller, N Eckert, M Bradley, T Smith, M Davis, B Sietman, B Karns, R Whaley, and A Holdhusen. (2018). Brooding *Quadrula fragosa* Behaviors and Interactions with Fishes. *Ellipsaria* 20(2): 26-30.

Sietman, B, M Davis, M Hove, M Pletta, T Wagner, S Marr, Z Secrist, M Freeburg, A Scheunemann, K Krupp, E Hagemeyer, **A Franzen**, C Swanson, and A Sampson. (2017). *Cumberlandia monodonta* – Host Enigma Resolved. [*Ellipsaria* 19\(3\): 18-20.](#)

FELLOWSHIPS AND GRANTS

Research Fellowships

- 2026 Peter Buck Postdoctoral Fellowship Program, National Museum of Natural History, Smithsonian Institution (\$144,000)
- 2024 Nancy L. Mergler Dissertation Completion Fellowship, University of Oklahoma (\$25,000)
- 2024 Dodge Family College of Arts and Sciences Graduate Finishing Fellowship, University of Oklahoma (\$12,500 – Fellowship awarded but I declined the award because I received other funding)
- 2022 Dodge Family College of Arts and Sciences Graduate Research Fellowship, University of Oklahoma (\$5,000)
- 2022 Kenneth Jay Boss Fellowship in Invertebrate Zoology, National Museum of Natural History, Smithsonian Institution (\$4,000)
- 2022–2024 University of Oklahoma Adams Graduate Scholarship (3 awarded–\$10,500 total)

Research Grants

- 2023 Society of Systematic Biologists Graduate Student Research Award (\$3,000)
- 2022–2023 Robberson Research Grant, University of Oklahoma, Graduate College (2 awarded–\$2,000 total)
- 2022 American Malacological Society Melbourne R. Carriker Student Research Award in Malacology (\$1,300)
- 2022 OU Graduate Student Senate Research Grant (\$750)
- 2021 Conchologists of America Academic Grant (\$1,685)
- 2021–2023 Hill Fund, University of Oklahoma, Biology Department (3 awarded–\$2,000 total)
- 2019 Oklahoma Department of Wildlife Conservation, State Wildlife Grant. *Status assessment for the Southern Hickorynut in Oklahoma*. PI: CC Vaughn, Co-PIs: JW Lopez, TP DuBose, **AJ Franzen** (\$101,693)
- 2018 Undergraduate Research Opportunities Program Grant, University of Minnesota (\$1,800)
- 2017 Unpaid Internship Grant, University of Minnesota CFANS (\$1,000)

Travel Grants

- 2023 Freshwater Mollusk Conservation Society Student Travel Award (\$900)
- 2022–2024 OU Graduate Student Senate Travel Grant (3 awards – \$2,100 total)
- 2019 University of Minnesota CFANS Study Abroad Travel Grant (\$1,300)
- 2019 Minnesota Chapter American Fisheries Society Scholarship (\$900)

PROFESSIONAL PRESENTATIONS

Invited seminars

Linking Phylogeny and Ecology to Enigmatic Freshwater Mussel Shell Morphologies. University of Oklahoma. Norman, OK, USA. 25 April 2025.

Paradox of the Pigtoes: linking phylogeny and ecology to morphological diversity in pleurobemine freshwater mussels. Department of Invertebrate Zoology No Bones Lunch Seminar, National Museum of Natural History, Washington D.C, USA. 25 October 2022.

Contributed oral presentations as presenting author

Franzen, AJ, JM Pfeiffer, SM Keogh, M Sei, JL Harris, BE Sietman, and CC Vaughn. Elucidating supraspecific diversity and species boundaries in the Pleurobemini with molecular phylogenetics and geometric morphometrics. Society for Freshwater Sciences Annual Meeting (International Meeting). Philadelphia, PA, USA. 2-6 June 2024.

Franzen, AJ, JM Pfeiffer, SM Keogh, and CC Vaughn. Genome skimming and micro-CT scanning elucidate species boundaries in problematic pleurobemines. 13th Biennial Freshwater Mollusk Conservation Society Symposium (International Meeting). Portland, OR, USA. 10-14 April 2023.

Franzen, AJ, JM Pfeiffer, and CC Vaughn. DNA Barcoding and Molecular Phylogenetics Reveals Hidden Diversity in a Widespread Freshwater Mussel Species. Consortium of Aquatic Science Societies Joint Aquatic Sciences Meeting (International Meeting). Grand Rapids, MI, USA. 15-20 May 2022.

Franzen, AJ. Freshwater time machines: patterns of mussel collecting in the United States. University of Oklahoma EcoMunch series. Norman, OK, USA. 4 April 2022.

Franzen, AJ. Recovering cryptic diversity in imperiled freshwater mussels (Bivalvia: Unionidae). University of Oklahoma EcoMunch series. Norman, OK, USA. 13 October 2021.

Franzen, AJ. Comparative species delimitation of the *Fusconaia flava* species complex (Bivalvia: Unionidae). Interior Highlands Mollusk Conservation Meeting. Virtual meeting. 16 March 2021

Franzen, A, M Hove, B Sietman, M Davis, D Hornbach, and A Benedict. Rough fish no more: research and management of rare *Hiodon* and an endangered freshwater mussel. Upper Mississippi River Conservation Committee Mussel Coordination Team meeting. LaCrosse, WI, USA. 18-19 March 2019.

Franzen, A, M Hove, B Sietman, M Davis, D Hornbach, and A Benedict. Rough fish no more: research and management of rare *Hiodon* and an endangered freshwater mussel. Minnesota Chapter of American Fisheries Society annual meeting. Fargo, ND, USA. 23-25 February 2019.

Co-authored poster presentations

Lopez, JW, CL Atkinson, **AJ Franzen**, CC Vaughn. Synthesizing functional traits and environmental data to understand freshwater mussel declines and their implications for stream ecosystems. World Congress of Malacology. São Paulo, Brazil. 6 August 2025.

Dubose, TP, TA Smith, SR Craft, JP Chong, MC Hove, **AJ Franzen**, DA Woolnough, X Rangaswami, JM Pfeiffer, ME Bradley, K Inoue, and JS Tiemann. Identifying, promoting, and supporting diversity in the Freshwater Mollusk Conservation Society. Consortium of Aquatic Science Societies Joint Aquatic Sciences Meeting (International Meeting). Grand Rapids, MI, USA. 15-20 May 2022.

TEACHING EXPERIENCE

Summer 2023	Stream Ecology (BIOL 4423), 23 students
Summer 2021	Stream Ecology (BIOL 4423), 19 students
Fall 2020	Introductory Biology Laboratory (BIOL 1124), 64 students
Fall 2019	Ichthyology Laboratory (FW 4136/5136), 24 students

PROFESSIONAL ACTIVITIES**Professional Societies**

1. American Fisheries Society
 - 2021–present Professional Certification – Associate Fisheries Professional
 - 2017–present Student & Early Career Professional Education Subsection
 - 2016–present Member
2. Freshwater Mollusk Conservation Society
 - 2025–present Mollusk Professional Certification – Certified Mollusk Professional
 - 2023–present Genetics Committee
 - 2020–present Diversity, Equity, and Inclusion Committee
 - 2016–present Member
3. Society for Freshwater Science
 - 2019–present Member
4. Society of Systematic Biologists
 - 2022–present Member

Professional Development

1. Marine Biological Laboratory Advanced Research Training Course, Workshop on Molecular Evolution. 2023
2. PADI Open Water SCUBA Diver. 2017
3. U.S. Fish and Wildlife Service Electrofishing Safety. 2017
4. American Heart Association Basic Life Support (CPR and AED). 2018
5. American Red Cross Adult First Aid/CPR/AED. 2018 and 2021

MENTORING ACTIVITIES

1. Undergraduate Students at the University of Oklahoma
 - 2023 Emily Nguyen
 - 2022–2025 Elisabeth Moore (received best student presentation in Biology at 2024 OU Undergraduate Research Symposium)
2. Undergraduate Students at the University of Minnesota
 - 2022–2023 Marcus Popovich, College of Food, Agricultural and Natural Resource Sciences (CFANS) Mentor Program
 - 2020–2021 Anna Deneen, CFANS Mentor Program
 - 2019–2020 Lauren Laughlin, CFANS Mentor Program

SERVICE**Institutional leadership**

- 2024 Graduate Student representative on OU School of Biological Sciences committee on promotion and tenure policies
- 2022–2023 OU School of Biological Sciences Diversity, Equity, and Inclusion committee (disbanded due to Oklahoma Executive Order 2023-31)
- 2022–2023 Member of Board of Directors for CFANS Alumni Society
- 2021–2023 Biology Department Faculty Meeting Liaison, OU Biology Graduate Student Association

2020–2022	Steering Committee Alumni Co-chair. CFANS Mentor Program
2018–2019	Vice President, CFANS Undergraduate Student Board
2017–2018	President, CFANS Undergraduate Student Board
2017–2018	Steering Committee Student Co-Chair. CFANS Mentor Program

Ad-hoc reviewer

Freshwater Mollusk Biology and Conservation, Freshwater Science, Hydrobiologia, Freshwater Biology, Ecology

OUTREACH ACTIVITIES

2026–present	Member of Vermillion River Watershed Community Advisory Committee. Dakota County, MN.
2024	I co-developed this web site and accompanying outreach poster: The Freshwater Mussels of Oklahoma
2022	OU Coding Outreach for Data Education Workshop Instructor.
2021–2025	BioReach graduate student-led STEM outreach, University of Oklahoma. Ask-A-Grad-Student events at Sam Noble Museum. Research Spotlight at Norman Earth Day Festival, Norman, OK.
2020	Bell Museum Fish Collection Spotlight. Something Fishy at the Bell
2017–2019	Led 8 th grade students on tours of the FWCB Wet Lab and Fish & Invertebrate Collections at the Bell Museum for Hope for Tomorrow campus visits.

ADDITIONAL SUPPORTING EXPERIENCE

2013–present	Volunteer with Friends of the Mississippi River, St. Paul, MN
2014–present	Volunteer with Minnesota Wetland Health Evaluation Program, Dakota County, MN
2015–2020	Volunteer with Minnesota Department of Natural Resources Scientific and Natural Areas Program
2015–2020	Volunteer with Minnesota Pollution Control Agency Citizen Stream Monitoring Program