

Stephanie L Baumgart, PhD

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Employment History

- 2026 – ···· 📌 **Lecturer**, Department of Physiology and Aging, College of Medicine, University of Florida
- 2023 – 2026 📌 **Postdoctoral Associate**, Prof. Emma Schachner's lab, Department of Physiological Sciences, College of Veterinary Medicine, University of Florida
- 2021 – 2023 📌 **Postdoctoral Scholar**, Prof. Paul Sereno's lab, Department of Organismal Biology and Anatomy, University of Chicago
- 2018 – 2021 📌 **CT Operator**, openVertebrate (oVert) Thematic Collection Network (TCN) National Science Foundation project: microCT-scanned, processed, and uploaded to [MorphoSource.org](https://morphosource.org) >500 avian and herpetological specimens from the Field Museum of Natural History
- 2012 – 2015 📌 **Student Fossil Preparator**, Prof. Paul Sereno's lab, University of Chicago

Education

- 2015 – 2021 📌 **PhD University of Chicago**, Integrative Biology
Thesis: *Morphology and evolution of the avian flight apparatus in relation to ecology and function*; Adviser: Paul Sereno
- 2015 – 2018 📌 **MSc University of Chicago**, Integrative Biology
- 2010 – 2014 📌 **BSc University of Chicago**, Biological Sciences
Specialization in Ecology and Evolution, General Honors, Biological Sciences Honors
Thesis: *Pneumaticity in a Cretaceous pterosaur from Niger as compared with modern birds*

Research Publications

- 1 P. C. Sereno, D. C. Vidal, N. P. Myhrvold, E. D. Johnson-Ransom, M. Ciudad Real, **S. L. Baumgart**, N. Sanchez Fontela, T. L. Green, E. T. Saitta, B. Adamou, L. L. Bop, T. M. Keillor, E. C. Fitzgerald, D. B. Dutheil, R. A. S. Laroche, A. V. Demers-Potvin, Á. Simarro Cano, F. Gasco-Lluna, A. Lazaro, A. Gamonal, C. V. Beightol, V. Reneleau, R. Vautrin, F. Bertozzo, A. Granados, G. Kinney-Broderick, J. C. Mallon, R. M. Lindoso, and J. Ramezani, "New scimitar-crested *Spinosaurus* species from the Sahara caps stepwise spinosaurid radiation," *Science*, 2026. 📄 DOI: 10.1126/science.adx5486.
- 2 P. C. Sereno, E. T. Saitta, D. C. Vidal, N. P. Myhrvold, M. Ciudad Real, **S. L. Baumgart**, L. L. Bop, T. M. Keillor, M. Eriksen, and K. Derstler, "Duck-billed dinosaur fleshy midline and hooves reveal terrestrial clay-template 'mummification'," *Science*, 2025. 📄 DOI: 10.1126/science.adw3536.
- 3 G. Senevirathne, S. C. Fernandopulle, D. Richard, **S. L. Baumgart**, A. Liv Christensen, M. Fabbri, J. Höppner, H. Jüppner, P. Li, V. Bothe, N. Fröbisch, I. Simcock, O. J. Arthurs, A. Calder, N. Freilich, N. C. Nowlan, I. A. Glass, A. Craft, and T. D. Capellini, "The evolution of hominin bipedalism in two steps," *Nature*, 2025. 📄 DOI: 10.1038/s41586-025-09399-9.
- 4 **S. L. Baumgart**, C. A. Grand Pré, J. M. Bourke, and E. R. Schachner, "The living dinosaur: Accomplishments and challenges of reconstructing dinosaur physiology," *Biology Letters*, vol. 21, p. 20 250 126, 2025. 📄 DOI: 10.1098/rsbl.2025.0126.

- 5 D. C. Blackburn, D. M. Boyer, J. A. Gray, J. Winchester, J. M. Bates, **S. L. Baumgart**, E. Braker, D. Coldren, K. W. Conway, A. D. Rabosky, N. de la Sancha, C. B. Dillman, J. L. Dunnum, C. M. Early, B. W. Frable, M. W. Gage, J. Hanken, J. A. Maisano, B. D. Marks, K. P. Maslenikov, J. E. McCormack, R. S. Nagesan, G. G. Pandelis, H. L. Prestridge, D. L. Rabosky, Z. S. Randall, M. B. Robbins, L. A. Scheinberg, C. L. Spencer, A. P. Summers, L. Tapanila, C. W. Thompson, L. Tornabene, G. J. Watkins-Colwell, L. J. Welton, the oVert Project Team, and E. L. Stanley, "Increasing the impact of vertebrate scientific collections through 3D imaging: The openVertebrate (oVert) Thematic Collections Network," *BioScience*, vol. 74, no. 3, pp. 169–186, 2024. [DOI: 10.1093/biosci/biad120](https://doi.org/10.1093/biosci/biad120).
- 6 N. P. Myhrvold, **S. L. Baumgart**, D. Vidal, F. E. Fish, D. M. Henderson, E. T. Saitta, and P. C. Sereno, "Diving dinosaurs? Caveats on the use of bone compactness and pFDA for inferring lifestyle," *PLOS ONE*, vol. 19, no. 3, e0298957, 2024. [DOI: 10.1371/journal.pone.0298957](https://doi.org/10.1371/journal.pone.0298957).
- 7 E. T. Saitta, J. Vinther, M. K. Crisp, G. D. Abbott, L. Wheeler, S. Presslee, T. G. Kaye, I. Bull, I. Fletcher, X. Chen, D. Vidal, F. Sanguino, Á. D. Buscalioni, J. Calvo, P. C. Sereno, **S. L. Baumgart**, M. Pittman, M. J. Collins, J. Sakalauskaite, M. Mackie, F. D. Bello, M. R. Dickinson, M. A. Stevenson, P. Donohoe, P. R. Heck, B. Demarchi, and K. E. H. Penkman, "Non-avian dinosaur eggshell calcite can contain ancient, endogenous amino acids," *Geochimica et Cosmochimica Acta*, vol. 365, pp. 1–20, 2024. [DOI: 10.1016/j.gca.2023.11.016](https://doi.org/10.1016/j.gca.2023.11.016).
- 8 P. C. Sereno, N. Myhrvold, D. M. Henderson, F. E. Fish, D. Vidal, **S. L. Baumgart**, T. M. Keillor, K. K. Formoso, and L. L. Conroy, "*Spinosaurus* is not an aquatic dinosaur," *eLife*, vol. 11, e80092, 2022. [DOI: 10.7554/eLife.80092](https://doi.org/10.7554/eLife.80092).
- 9 R. P. DeVries, P. C. Sereno, D. Vidal, and **S. L. Baumgart**, "Reproducible digital restoration of fossils using Blender," *Frontiers in Earth Science*, vol. 10, 2022. [DOI: 10.3389/feart.2022.833379](https://doi.org/10.3389/feart.2022.833379).
- 10 **S. L. Baumgart**, P. C. Sereno, and M. W. Westneat, "Wing shape in waterbirds: Morphometric patterns associated with behavior, habitat, migration, and phylogenetic convergence," *Integrative Organismal Biology*, vol. 3, no. 1, 2021. [DOI: 10.1093/iob/obab011](https://doi.org/10.1093/iob/obab011).
- 11 G. Senevirathne, **S. Baumgart**, N. Shubin, J. Hanken, and N. H. Shubin, "Ontogeny of the anuran urostyle and the developmental context of evolutionary novelty," *Proceedings of the National Academy of Sciences*, vol. 117, no. 6, pp. 3034–3044, 2020. [DOI: 10.1073/pnas.1917506117](https://doi.org/10.1073/pnas.1917506117).

Teaching Experience

University of Florida

- **Faculty Instructor, Large Animal Anatomy**; Prof. J. Ignacio Aguirre; ~150 students; 2024 –
 - Acquired specimens, recruited experts, and developed a dissection guide for a reptile dissection lab session (2025)
 - Prosected pony and calf specimens for students to consult while learning anatomy (2024)
 - Gave advice to students on their dissections and answered questions during lab sessions
 - Pinned practical exam specimens, proctored, and graded exams

Teaching Experience (continued)

University of Chicago

- **Lead Teaching Assistant, *From Fossils to Fermi's Paradox: On the Origin and Evolution of Intelligent Life***; Profs. Paul Sereno, Sarah London, Leslie Rogers; ~90 students; 2021
 - Created a template for speakers' presentations to explicitly include context to help students connect the material to overall themes
 - Assisted with converting the course to an accessible online format with Zoom links and recordings for lectures and discussions
 - Generated/edited transcripts for the lectures
 - Worked with four other TAs and Prof. Rogers to design weekly discussion sections to create an engaging environment for students to work with the material
 - Gave feedback on the directions and rubrics for the blog posts and final project
- **Lead Teaching Assistant, *From Fossils to Fermi's Paradox: On the Origin and Evolution of Intelligent Life***; Profs. Paul Sereno, Sarah London, Leslie Rogers; ~140 students; 2019
 - Helped design the course structure, policies, syllabus, and grading scheme
 - Led weekly discussion sections with three other TAs (duties divided based on expertise needed for the week)
 - Helped create a midterm and final exam, graded exams
- **Peer Educator, *The Human Body***; Prof. Callum Ross, Dr. Richard Madden; 9 students; 2018
 - Guided Pritzker MD-PhD students through the osteology and cadaver labs of upper limb, lower limb, and head and neck modules
 - Conducted review sessions before exams
 - Helped design, set up, and grade practical exams
- **Teaching Assistant, *Chordates: Evolution and Comparative Anatomy***; Prof. Michael Coates; 9 students; 2018
 - Gave two guest lectures
 - Managed lab sessions
 - Created and graded lab practical exams
- **Teaching Assistant, *Mammalian Evolutionary Biology***; Profs. Zhe-Xi Luo, Kenneth Angielczyk; 6 students; 2016
 - Gave one guest lecture
 - Managed lab sessions/discussion
 - Helped set up and grade lab practical exams
- **Teaching Assistant, *Vertebrate Structure and Function***; Prof. Paul Sereno; 15 students; 2015, 2013
 - Gave one guest lecture per year
 - Managed lab sessions
 - Designed and graded lab quizzes
 - Set up and graded exams
- **Teaching Assistant, *Core Biology: Neuroscience***; Prof. Megan McNulty; 15 students; 2014
 - Led weekly discussions (9) about neuroscience papers
 - Gave draft feedback on and graded written assignments
- **Teaching Assistant, *Dinosaur Science***; Prof. Paul Sereno; 15 students; 2014
 - Gave a guest lecture
 - Designed/hosted review sessions on geology, skeletal anatomy, and phylogenetics
 - Taught students paleontological fieldwork techniques on a week-long dinosaur dig in Wyoming at the end of the course

Teaching Experience (continued)

University of Florida Course Lectures

- “**Avian Anatomy 1: Bones, Muscles, and the Respiratory System**”, Avian Biology; College of Liberal Arts and Sciences; 2025

University of Chicago Course Lectures

- “**Bones/cartilage**”, Chordates: Evolution and Comparative Anatomy; 2018
- **Amniote Diversity II: Dinosaurs/Birds/Mammals**, Chordates: Evolution and Comparative Anatomy; 2018
- **Ecological adaptations**, Mammalian Evolutionary Biology; 2016
- **Early theropod dinosaurs**, Dinosaur Science; 2016
- **Editing Wikipedia articles**, Dinosaur Science; 2016
- **Gliding and flying**, Vertebrate Structure and Function; 2015
- **Digging and climbing**, Vertebrate Structure and Function; 2014
- **Marginocephalian dinosaurs**, Dinosaur Science; 2014
- **Gliding and flying**, Vertebrate Structure and Function; 2013

Mentoring and Training

- **Miss Alexis Slack**, Schachner lab PhD student; trained to use the microCT scanner, feedback on thesis proposal and seminar; 2024 –
- **Miss Grace Broderick**, Sereno lab member; feedback on grant writing, graduate school applications (Masters from University of Bristol, PhD student at Cambridge); 2019-22
- **Dr Maria Viteri**, University of Chicago undergraduate, Sereno lab member; feedback on senior thesis, grant writing, graduate school applications (recipient of NSF GRFP, PhD from Stanford); 2015-17
- **Miss Brigit Tronrud**, University of Chicago undergraduate; feedback on senior thesis doing image analysis of theropod dinosaur *Suchomimus* neck CT data using Mimics; 2016
- **Miss Shubha Vedula**, University of Chicago undergraduate; image analysis of CT scan data of mammal teeth using Mimics; 2016
- **Mr Marciano Molzahn**, high school student from France; job shadowing for fossil preparation and image analysis of CT scan data using Mimics; 2015

Conference Presentations

- 1 **S. L. Baumgart**, R. E. Diaz Jr., C. Zimmerman, and E. R. Schachner, “Chick lung development: Revisiting the past and preparing for the future,” in *Society of Integrative and Comparative Biology*, Portland, Oregon, Jan. 2026.
- 2 A. L. Pineda, **S. L. Baumgart**, A. Martinez, M. S. Echols, and E. R. Schachner, “Pulmonary anatomy of passerines: 3D anatomy, clinical relevance, and comparisons with other common companion birds and poultry,” in *Association of Avian Veterinarians Conference and Expo*, Phoenix, Arizona, Oct. 2025.
- 3 **S. L. Baumgart**, M. B. Habib, M. A. Brown, A. J. Moore, and E. R. Schachner, “Are pterosaurs special? comparing bone distribution in pterosaur humeri to birds,” in *Society of Integrative and Comparative Biology Annual Meeting*, Atlanta, Georgia, Jan. 2025.

- 4 A. J. Moore, K. Bates, **S. L. Baumgart**, and E. R. Schachner, "When lungs invade: New perspectives on avian postcranial skeletal pneumaticity," in *Society of Integrative and Comparative Biology Annual Meeting*, Atlanta, Georgia, Jan. 2025.
- 5 E. R. Schachner, A. Martinez, **S. L. Baumgart**, A. Slack, A. Pineda, J. Johnson, C. Huntley, C. A. Grand Pre, C. Zimmerman, A. Lawson, and A. J. Moore, "Diverse pneumatizing pulmonary diverticula in birds challenge reconstructions of dinosaur lungs," in *Society of Integrative and Comparative Biology Annual Meeting*, Atlanta, Georgia, Jan. 2025.
- 6 A. Slack, J. Johnson, A. J. Moore, C. Zimmerman, **S. L. Baumgart**, A. Martinez, and E. R. Schachner, "Comparative pulmonary anatomy of avian predators: Air sacs in red-tailed hawks and great horned owls," in *Society of Integrative and Comparative Biology Annual Meeting*, Atlanta, Georgia, Jan. 2025.
- 7 **S. L. Baumgart**, M. B. Habib, M. A. Brown, and E. R. Schachner, "How special are pterosaurs? Comparing cross-sectional structure of pterosaur humeri to that of birds," in *Society of Vertebrate Paleontology 84th Annual Meeting*, Minneapolis, Minnesota, Oct. 2024.
- 8 E. T. Saitta, P. C. Sereno, M. Ciudad Real, D. C. Vidal, T. M. Keillor, **S. L. Baumgart**, N. P. Myhrvold, A. Burdick, T. G. Kaye, and M. Erikson, "Exceptional preservation of integumental structures in hadrosaur 'mummies' via clay templating," in *Society of Vertebrate Paleontology 84th Annual Meeting*, Minneapolis, Minnesota, Oct. 2024.
- 9 E. R. Schachner, A. Martinez, **S. L. Baumgart**, A. B. Lawson, R. E. Diaz Jr, T. Skorka, B. P. Hedrick, and A. J. Moore, "Divergence of pneumatizing pulmonary tissues in five extant avian taxa: Implications for reconstructions across Ornithodira," in *Society of Vertebrate Paleontology 84th Annual Meeting*, Minneapolis, Minnesota, Oct. 2024.
- 10 P. C. Sereno, D. C. Vidal, N. P. Myhrvold, M. Ciudad Real Ballesterero, E. T. Saitta, N. S. Fontela, E. D. Johnson-Ransom, **S. L. Baumgart**, F. Gascó-Lluna, and Á. Simarro Cano, "Scimitar-crested species of *Spinosaurus* discovered in riparian habitat in Niger (Farak Formation, Cenomanian)," in *Society of Vertebrate Paleontology 84th Annual Meeting*, Minneapolis, Minnesota, Oct. 2024.
- 11 D. C. Vidal, **S. L. Baumgart**, M. Ciudad Real, A. Gamonal, F. Gasco-Lluna, A. Granados, A. Lazaro, N. Sanchez Fontela, N. P. Myhrvold, and P. C. Sereno, "New dinosaur assemblages from Niger challenge the hypothesis on hyperabundance of large predatory dinosaurs during the "mid-Cretaceous";" in *XXXIX Jornadas de la Sociedad Española de Paleontología*, A Coruña, Spain, Oct. 2024.
- 12 **S. L. Baumgart**, A. J. Moore, and E. R. Schachner, "Bone distribution in the avian humerus and its correlation with flight style," in *Society of Integrative and Comparative Biology Annual Meeting*, Seattle, Washington, Jan. 2024.
- 13 **S. L. Baumgart** and P. C. Sereno, "Morphology and pneumatics of a pterosaur wing (Pterosauria: Ornithocheiromorpha) from the Elrhaz Formation (Aptian-Albian) of Niger," in *Society of Vertebrate Paleontology 83rd Annual Meeting*, Cincinnati, Ohio, Oct. 2023.
- 14 P. C. Sereno, R. P. DeVries, N. P. Myhrvold, **S. L. Baumgart**, D. C. Vidal, T. M. Keillor, and L. L. Conroy, "*FossilScope*: Lifting the veil on the underlying data and manipulations yielding 3-dimensional skeletal and flesh models," in *Society of Vertebrate Paleontology 83rd Annual Meeting*, Cincinnati, Ohio, Oct. 2023.
- 15 N. P. Myhrvold, P. C. Sereno, **S. L. Baumgart**, D. C. Vidal, F. E. Fish, D. M. Henderson, and E. T. Saitta, "Deep dive on bone compactness and statistical methods for recognizing significance in the inference of lifestyle in spinosaurids and other dinosaurs," in *Society of Vertebrate Paleontology 83rd Annual Meeting*, Cincinnati, Ohio, Oct. 2023.

- 16 **S. L. Baumgart**, “Comparative pneumaticity in the avian humerus and implications for pterosaurs,” in *Society of Integrative and Comparative Biology Annual Meeting*, Phoenix, Arizona, Jan. 2022.
- 17 **S. L. Baumgart** and L. P. A. M. Claessens, “Avian sternum disparity and ecomorphological implications,” in *Society of Integrative and Comparative Biology Annual Meeting*, Austin, Texas, Jan. 2020.
- 18 G. Senevirathne, **S. L. Baumgart**, N. Shubin, J. Hanken, and N. H. Shubin, “Ontogeny of the anuran urostyle: The developmental context of evolutionary novelty,” in *Society of Integrative and Comparative Biology Annual Meeting*, Austin, Texas, Jan. 2020.
- 19 **S. L. Baumgart** and P. C. Sereno, “Phylogeny repetitively constrains bird morphology,” in *Society of Vertebrate Paleontology 79th Annual Meeting*, Brisbane, Australia, Oct. 2019.
- 20 C. M. Early, J. M. Bates, **S. L. Baumgart**, A. T. Peterson, H. L. Prestridge, M. B. Robbins, G. J. Watkins-Colwell, and D. C. Blackburn, “Information gaps in digital databases as identified by a multi-institution initiative to digitize avian specimens,” in *iDigBio Annual Summit*, Gainesville, Florida, Jun. 2019.
- 21 **S. L. Baumgart**, “Does body mass constrain wing shape or sternum shape?” In *Society of Integrative and Comparative Biology Annual Meeting*, San Francisco, California, Jan. 2018.
- 22 **S. L. Baumgart**, “Convergence in avian sternum morphology and relation to ecology,” in *1st Annual Great Lakes Student Paleoconference*, University of Michigan, Ann Arbor, Michigan, 2017.
- 23 **S. L. Baumgart**, “Relating ecology to sternum morphology in ‘water birds,’” in *Society of Vertebrate Paleontology 83rd Annual Meeting*, Calgary, Alberta, Canada, Aug. 2017.
- 24 **S. L. Baumgart** and M. W. Westneat, “Geometric morphometrics of the avian wing and sternum,” in *Society for Advancement of Chicanos/Hispanics and Native Americans in Science, Regional Conference*, Chicago, Illinois, May 2017.
- 25 **S. L. Baumgart** and M. W. Westneat, “Geometric morphometrics of the avian wing and sternum,” in *Society of Integrative and Comparative Biology Annual Meeting*, New Orleans, Louisiana, Jan. 2017.
- 26 **S. L. Baumgart** and P. C. Sereno, “Pneumaticity in modern birds compared to a large pterosaur,” in *Society of Vertebrate Paleontology 75th Annual Meeting*, Dallas, Texas, Oct. 2015.
- 27 **S. L. Baumgart**, “Air vs. bone in the wing skeleton of a giant pterosaur,” in *University of Chicago Undergraduate Biological Sciences College Division Honors Symposium*, Chicago, Illinois, May 2014.
- 28 **S. L. Baumgart** and P. C. Sereno, “Pneumaticity in a large pterosaur compared to modern birds,” in *10th North American Paleontological Convention*, Gainesville, Florida, Feb. 2014.

Peer-Reviewed Conference Articles

- 1 E. R. Schachner, **S. L. Baumgart**, A. Martinez, A. Pineda, A. Slack, E. Clements, and M. S. Echols, “Three-dimensional digital anatomy of the avian lower respiratory system: Structural diversity and the impact on diagnosis, obesity, disease, and surgical planning,” in *2025 AAV Annual Conference & Expo Conference Proceedings*, Phoenix, Arizona: Association of Avian Veterinarians, Oct. 2025.

Awards and Grants

- \$11,530  **Co-I:** "Development of the respiratory system in the chick: airways, air sacs, and innervation patterns," University of Florida College of Veterinary Medicine Consolidated Faculty Research Development Award Grant Competition; 2025
- \$106,575  Graduate Assistance in Areas of National Need Fellowship (GAANN Program, US Federal Department of Education) Integrative and Comparative Neuromechanics; 2017-18
(4 quarters of tuition, stipend, and fees)
- \$101,937  Graduate Assistance in Areas of National Need Fellowship (GAANN Program, US Federal Dept. of Education) Integrative and Comparative Neuromechanics; 2016-17
(4 quarters of tuition, stipend, and fees)
- \$1,784  Henry Hinds Evolutionary Biology Graduate Student Research Award, Committee on Evolutionary Biology, University of Chicago; 2016

Travel Grants

- \$1,000  Florida Museum of Natural History Travel Award; University of Florida; 2025
- hotel cost  Charlotte Magnum Student Support Program Award recipient for Society of Integrative and Comparative Biology Annual Meeting; 2020
- \$610  University of Chicago Biological Sciences Division Dean's Council Travel Grant for Society of Integrative and Comparative Biology Annual Meeting; 2020
- \$600  Jackson School of Geosciences Student Travel Grant for Society of Vertebrate Paleontology 79th Annual Meeting; 2019
- registration  Charlotte Magnum Student Support Program Award recipient for Society of Integrative and Comparative Biology Annual Meeting; 2018
- \$395  North American Paleontological Convention student travel grant; 2014
- \$400  iDigBio travel grant for North American Paleontological Convention funded by National Science Foundation; 2014

Achievements and Certifications

Achievements

-  **March 2024 RSC User of the Month**, awarded by University of Florida College of Engineering Research Services Center for excellent adherence to safety protocols and communication with staff; 2024
-  **University of Chicago Dean's List**, maintaining a GPA above 3.25; 2013-14

Certifications

-  **Postdoc Mentorship**, completed a series of seminars and discussions to learn about mentoring students, awarded by the University of Chicago Office of Postdoctoral Affairs; 2023
-  **Chicago College Teaching**, completed a pedagogical training program with mentoring and feedback, awarded by the University of Chicago Center for College Teaching; 2021

Other Presentations

- **Using the present to guide inferences about the past**, Lunch and Greet 3-minute research presentation, University of Florida College of Veterinary Medicine; 2024
- **How special are pterosaurs? Comparing bone distribution in pterosaur humeri to birds**, Postdoc lightning talks seminar, Florida Museum of Natural History; 2024
- **A day in the life of a grad student**, University of Chicago Paleontology Club; 2019
- **Does foraging behavior constrain avian wing shape or sternum shape?**, 6th Annual Darwin Cluster Retreat, University of Chicago, Chicago, IL; 2018
- **Comparing bat wings to bird wings**, Bat Symposium, Field Museum of Natural History, Chicago, IL; 2017
- **Patterns and constraints in the structural properties of vertebrate wings**, University of Chicago Paleontology Club; 2017
- **Wing pneumaticity in modern birds compared to a Cretaceous pterosaur**, Poster, Baumgart S.L., Conroy, L.L.; US-China Critical Transitions in the History of Life workshop; Field Museum of Natural History, sponsored by the National Science Foundation; 2015
- **Paleontology 101**, University of Chicago Paleontology Club; 2015
- **Pneumaticity in a Cretaceous pterosaur from Niger as compared with modern birds**, University of Chicago Undergraduate Research Symposium; 2014

Fieldwork

- **Florida Museum's Montbrook fossil dig**, volunteer several Sundays/field season; 2025 –
 - Excavating various Late Miocene-Early Pliocene vertebrate fauna from a sandy matrix
- **Sereno expedition**, three months in Niger; 2022
 - Excavating and prospecting in multiple Jurassic and Cretaceous paleontological beds and a Holocene archaeological bed
 - Part of the organizing team: creating a food order list and tracking the food inventory throughout the expedition, tracking and logging receipts during the trip
- **Sereno expedition**, five weeks in Niger; 2018
 - Paleontology and archaeology excavation and prospecting; late Jurassic, early Cretaceous, and Holocene beds at multiple sites
 - Logged and stored >400 artifacts found in the Gobero site (Holocene)
 - Used an RTK GPS system for taking precision GPS coordinates
 - Entered human artifact information into the Online Cultural and Historical Research Environment (OCHRE) database
- **Sereno expedition**, one week per year in Wyoming; 2013-18
 - Taught Professor Sereno's Dinosaur Science college students paleontological fieldwork and excavation techniques
- **UChicago Paleontology Club field trip**, weekend-long trip near Toledo, Ohio; 2017
 - Co-organized and led a geology and invertebrate survey trip for a group of 10-15 undergraduate students to Devonian and Ordovician formations near Toledo, Ohio
- **UChicago Paleontology Club field trip**, weekend-long trip near Cincinnati, Ohio; 2016
 - Co-organized and led a geology and invertebrate survey trip for a group of 10-15 undergraduate students to Ordovician formations near Cincinnati, Ohio

Media Coverage

- 2025
- 📌 Interviewed for [news article](#) on 'dinosaur "mummies"' paper: Sciences et Avenir (France)
 - 📌 Interviewed for [news article](#) on 'dinosaur "mummies"' paper: Agencia SINC (Spain)
 - 📌 International news coverage of the 'dinosaur "mummies"' paper: Scientific American, National Geographic, New York Times, US News, phys.org, CBS News, AP News, Popular Science, ABC News, Reuters, ScienceAlert, Agencia SINC (Spain), Sciences et Avenir (France), excite (Japan), La Nacion (Costa Rica), Frankenpost (Germany)
 - 📌 International news coverage of the 'evolution of hominin bipedalism' paper: New York Times, CNN, ScienMag, Harvard Gazette, bioengineer.org, Sci-News.com, Agencia SINC (Spain), wissenschaft.de (Germany), ChosunBiz (South Korea)
 - 📌 Interviewed for [news article](#) on 'dinosaur physiology' paper: University of Florida College of Veterinary Medicine news
 - 📌 National Geographic coverage of the paleontological component of the 2022 Niger expedition
- 2024
- 📌 National Geographic coverage of the archaeological component of the 2022 Niger expedition
 - 📌 International news coverage of 'openVertebrate' paper: Florida Museum news, ScienMag, Oxford Academic, Cornell Chronicle, Science News, Popular Science, Main Street Daily News, Berkeley News, Open Culture, Physics World, European Scientist, IFLScience, Science Daily, Spektrum (Germany), Espanol News (Spain), Alto Adige (Italy), ChosunBiz (South Korea), India Today (India)
 - 📌 News coverage of 'Diving dinosaurs?' paper: UChicago Biological Sciences press, ScienceAdviser
- 2022
- 📌 News coverage of '*Spinosaurus* is not aquatic' paper: National Geographic, CNN, UChicago News, Phys.org, Popular Science
 - 📌 Chicago Tribune article covering the third month of the Niger 2022 expedition: discussing exploration in a new area and discovery of a potentially new species of *Spinosaurus*, new sauropods (long-necked dinosaurs), and plans for establishing museums in Niger for the fossils' eventual return
 - 📌 Chicago Tribune article covering the second month of the Niger 2022 expedition: discussing discovering and excavation of 'Sauropod Island'
 - 📌 Chicago Tribune article covering the first month of the Niger 2022 expedition: discussing logistics and excavation of *Ouranosaurus*, a duck-billed dinosaur
- 2020
- 📌 International coverage of 'auran urostyle' paper: UChicago Department of Organismal Biology and Anatomy News, Oxford Academic, NASA/ADS, PNAS News

Professional Development

Databases

- 📌 **Specify 6.0**, museum collection database software; 2021 –
 - Taught myself to use the software, set up databases for the University of Chicago Research Collection and Niger's National Museum Boubou-Hama Collection
 - Teaching new users to use the database and helping log specimen fieldwork and collection data
- 📌 **Electronic Museum (EMu)**, museum collection database software; 2018
 - Trained to use the software to help log CT data at the Field Museum of Natural History in Chicago, IL

Professional Development (continued)

- **Online Cultural and Historical Research Environment (OCHRE)**, Archaeology database software; 2018
 - Trained to use the software to log >400 Niger 2018 expedition archaeological artifacts

Software

- **CT data imaging analysis**, VGStudio Max, Mimics, Avizo, Checkpoint, Slicer
- **R**, geometric morphometrics, phylogenetic comparative methods, data processing and visualization
- **Additional phylogenetics programs**, TNT, PAUP*

Other Training

- **Bird skin specimen preparation**, Florida Museum of Natural History; 2025
- **Zeiss Xradia 620 Versa microCT scanner**, University of Florida; 2025
- **Waygate/GE v|tomex|m microCT scanner**, University of Florida; 2023
- **Medical human anatomy course**, University of Chicago Pritzker School of Medicine, Prof. Callum Ross; 2017
- **Waygate/GE v|tomex|s microCT scanner**, University of Chicago; 2015

Outreach

- **Connecting Champions**, Pittsburgh, PA; 2023–
 - Remote mentoring children with cancer; one interested in paleontology (met 1-2 times per month for a year) and one interested in ecology (met 3 times)
- **Florida Museum of Natural History**, Gainesville, FL; 2023
 - Gave a public online talk "Meet a Scientist: Tools of Science" showcasing the use of CT scans in paleontology and anatomy research
- **Field Museum of Natural History**, Chicago, IL; 2016-23
 - "Dozin' with the Dinos" overnight program science showcase staff for Birds or Fossils tables (8-10 two-hour events/year, none in 2021)
 - Members' Night staff showing off fossils in the over-sized fossil collections (2019)
 - Science Hub's "Meet a Scientist," pterosaur showcase; one 2-hour event (2018)
 - Science Hub's "Meet a Scientist," bird showcase; one 2-hour event (2016)
- **Skype-A-Scientist**; 2021
 - Spoke to a dinosaur summer camp (kindergarten-5th grade) about dinosaurs and paleontology
 - Spoke to Canadian fifth-grade class about my research on birds and flight
- **School of Innovation gallery**, Texas A&M University; 2021
 - Created an exhibit piece from CT data on the unique scute anatomy of *Alligator sinensis* containing a 2D image, 3D skull, and descriptive voice note
- **Agitator Gallery Art and Science series**, Chicago, IL; 2018
 - Oral presentation for the adult members of the general public, "Reptiles in the Air"

Outreach (continued)

- **Life Long Learning Series**, Chicago, IL; 2016-18
 - Science presentations aimed at senior citizens
 - Oral presentation: "Seeing by hearing: echolocation throughout the animal kingdom," 2 events: Sulzer Public Library, Renaissance Court Senior Center
 - Oral Presentations: "Bones of Air," 5 events: Harbor Point, Conrad Sulzer Library, Woodson Public Library, Renaissance Court Senior Center, Montgomery Place
- **Museum of Science and Industry**, Chicago, IL; 2017
 - Science showcase staff for the Paleontology table at outreach program "Science Works"
- **Little Chute Middle School**, Little Chute, WI; 2017
 - Held a Skype session about paleontology with two 6th grade classes
- **Monta Herson's homeschool group**, Chicago, IL; 2017
 - Designed and hosted workshop for 20 junior high and high school students covering basics of anatomy, geology, paleontology with a Sereno Fossil Lab tour
- **Expanding Your Horizons**, Chicago, IL; 2017
 - Co-hosted workshop for middle school students covering basics of anatomy, geology, paleontology with a Sereno Fossil Lab tour
- **Hamilton Elementary School**, Chicago Public School system, Chicago, IL; 2016
 - "Paleomicrobiology" school visit with a 4/5th grade class
 - "Paleogeology" school visit with a 6th grade class
 - "Paleoecology" school visit with a 7th grade class
- **Andrew Jackson Language Academy**, Chicago Public School system, Chicago, IL; 2014-16
 - "Dinosaurs and prehistoric food webs" school visit with two 5th grade classes (2016)
 - "Paleontology and prehistoric food webs" school visit with two 5th grade class (2014)
- **Splash! Chicago**, Chicago, IL; 2014
 - Program for high school students in the Chicago area
 - Created and hosted two workshops covering basics of anatomy, geology, paleontology with a Sereno Fossil Lab tour

Professional Service

- **Reviewed manuscripts:** Nature (1), Functional Ecology (1), Royal Society Proceedings B (1), Nature Communications (2), Journal of Vertebrate Paleontology (1), Scientific Reports (1), Journal of Linnean Society (1), Communications Biology (1), Integrative Organismal Biology (2), Journal of Natural History (1)
- **CT Facility Help Page**, 2024-2025
 - Spearheaded creation of a group within the Non-Clinical Tomography Users Research Network (NoCTURN) to compile advice and resources for new CT managers regarding running a CT facility and add this information to a page on the NoCTURN website
 - <https://nocturnetwork.org/resources/c/>
- **'Paleo Hangouts' Discord server**, 2020 -
 - Co-created and co-moderate a Discord server for the international paleontology community to connect, discuss papers, ask advice
 - >330 members ranging from high school students to professors
- **Session chair**
 - "Evolutionary Morphology," Society for Integrative and Comparative Biology Annual Meeting, Austin, Texas; 2020
 - "Neornithes," Society of Vertebrate Paleontology Annual Meeting, Calgary, Alberta; 2017

Professional Service (continued)

■ Student conference organization

- Assembled and led an organization committee to host 2nd Annual Great Lakes Student Paleoconference at the University of Chicago, Chicago, Illinois; 2018
- Co-organized 1st Annual Great Lakes Student Paleoconference held at the University of Michigan, Ann Arbor, Michigan; 2017

■ University of Chicago Paleontology Club

- Co-founded this student organization to bring together students interested in paleontology as a career or as an enthusiast; 2015

■ University of Chicago Biological Sciences College Division Research Honors Retreat

- Co-organized the first annual retreat as part of the biology honors program to share research and network; 2013

Professional Memberships

■ American Association of Anatomy

■ Society of Integrative and Comparative Biology

■ Society of Vertebrate Paleontology

■ Non-Clinical Tomography Users Research Network