

CURRICULUM VITAE

STEPHANIE L. BAUMGART, PH.D.

1333 Center Drive • Basic Sciences Building B2-012 • Gainesville, FL 32601
sbaumgart@ufl.edu • stephaniebaumgart.com

EDUCATION

- Ph.D. Integrative Biology, University of Chicago Aug 2021
Dissertation: Morphology and evolution of the avian flight apparatus and its relation to ecology and function; Advisor: Paul Sereno
- M.S. Integrative Biology, University of Chicago Mar 2018
- B.S. Biological Sciences, University of Chicago June 2014
Specialization in Ecology and Evolution, General Honors, Biological Sciences Honors; Advisor: Paul Sereno

WORK EXPERIENCE

- Postdoctoral Associate**, Schachner Lab, Dept. of Physiological Sciences, July 2023-Present
College of Veterinary Medicine, University of Florida, Gainesville, FL
- Conduct research on the morphology and evolution of the avian respiratory system
 - Intubate and CT scan avian specimens
- Postdoctoral Scholar**, Sereno Lab, Dept. of Organismal Biology & Anatomy, Sept 2021-July 2023
University of Chicago, Chicago, IL
- Conduct research and writing on functional morphology of *Spinosaurus*, avian sternum morphology, and distribution of bone in avian humeri
 - Co-organized and participated in 3-month expedition to Niger to excavate Jurassic, Cretaceous, and Holocene fossils
 - Created a collection database for both modern and extinct taxa
- CT Technician**, openVertebrate (oVert) Thematic Collection Network (TCN) 2018-2021
National Science Foundation project; Chicago CoPIs: Zhe-Xi Luo, John Bates
- CT-scanned, processed, and uploaded to Morphosource.org >500 avian and herpetological specimens from the Field Museum of Natural History
- Student Fossil Preparator**, Fossil Lab of Prof. Paul Sereno, University of Chicago 2012-2015
- Prepared fossils using manual and pneumatic tools
 - Assisted in CT scanning large specimens at the UChicago Hospitals
 - Assisted in dinosaur exhibit (National Geographic Spinosaurus exhibit)
 - Tended the dermestid colony for vertebrate skeletal preparation
 - Gave lab tours to school groups, families, and visiting researchers
 - Trained undergraduates to prepare fossils

TEACHING EXPERIENCE

Lead Teaching Assistant, From Fossils to Fermi's Paradox: On the Origin and Evolution of Intelligent Life; Profs. Paul Sereno, Sarah London, Leslie Rogers 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

Teaching Assistant, From Fossils to Fermi's Paradox: On the Origin and Evolution of Intelligent Life; Profs. Paul Sereno, Sarah London, Leslie Rogers 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 2018

- Guided Pritzker medical students through the osteology and cadaver labs
- Conducted review sessions before exams
- Helped design, set up, and grade practical exams

Teaching Assistant, Chordates: Evolution & Comparative Anatomy; Prof. Michael Coates 2018

- Gave two guest lectures
- Managed lab sessions
- Created and grade lab practical exams

Teaching Assistant, Mammalian Evolutionary Biology; Profs. Zhe-Xi Luo, Kenneth Angielczyk 2016

- Gave one guest lecture
- Managed lab sessions/discussion
- Help set up and grade lab practical exams

Teaching Assistant, Vertebrate Structure and Function; Prof. Paul Sereno 2015 & 2013

- Gave one guest lecture per year
- Managed lab sessions
- Designed lab quizzes
- Proctored and graded exams

Teaching Assistant, UChicago Core Biology: Neuroscience; Prof. Megan McNulty 2014

- Led weekly discussions
- Gave feedback on and graded written assignments

Teaching Assistant, Dinosaur Science; Prof. Paul Sereno 2014

- Gave a guest lecture
- Designed review sessions
- Proctored and graded exams

Mentoring

Miss Raina DeVries, lab affiliate; feedback on manuscript, advice on publication and graduate school (publication: DeVries et al. 2022) 2020-2023

Miss Grace Broderick, lab affiliate; feedback on grant writing, graduate school applications (Masters from University of Bristol, PhD student at Cambridge) 2019-2022

Miss Maria Viteri, University of Chicago undergraduate; 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 CT data Suchomimus neck in Mimics 2016-17

Miss Samantha Baste, University of Chicago undergraduate; summer project conducting image analysis of bird CT scan data in Mimics 2016

Miss Shubha Vedula, University of Chicago undergraduate; image analysis of CT scan data of mammal teeth in Mimics 2016

Mr. Marciano Molzahn, high school student from France; job shadowing for fossil preparation and image analysis of CT scan data in Mimics 2015

PUBLICATIONS

Sereno, P.C., Henderson, D.M., Vidal, D., Fish, F.E., **Baumgart, S.L.**, Keillor, T.K., Formoso, K.K., Myrhvold, N., Conroy, L.L. 2022. "Spinosaurus is not an aquatic dinosaur." eLife. DOI: <https://doi.org/10.7554/eLife.80092>

DeVries, R., Sereno, P.C., Vidal, D., **Baumgart, S.L.** 2022. "Reproducible digital restoration of vertebrate fossils using Blender." Front. Earth Sci. 10 DOI: 10.3389/feart.2022.833379.

Baumgart, S.L., Sereno, P.C., Westneat, M.W. 2021. "Waterbird wing shape: relationships with behavior, habitat, migration, and phylogenetic convergence." Int. Org. Bio. 3 (1). DOI: 10.1093/iob/obab011.

Senevirathne, G., **Baumgart, S.**, Shubin, N., Hanken, J. & Shubin, N. H. 2020. "Ontogeny of the anuran urostyle and the developmental context of evolutionary novelty." Proc. Natl. Acad. Sci. 117 (6) 3034-3044. DOI: 10.1073/pnas.1917506117.

In revision Myhrvold N, Sereno P.C., **Baumgart S.L.**, Vidal D., Fish F.E., Henderson D.M., Saitta, E.T. “Diving dinosaurs? Caveats on the use of bone compactness and pFDA for inferring lifestyle.” bioRxiv. DOI: 10.1101/2023.05.04.539484.

CONFERENCE PRESENTATIONS

Baumgart, S.L., Sereno, P.C. Platform Presentation: “Morphology and pneumatics of a pterosaur wing (Pterosauria: Ornithocheiromorpha) from the Elrhaz Formation (Aptian-Albian) of Niger.” Society of Vertebrate Paleontology (SVP) Annual Meeting, Cincinnati, Ohio. 2023

Sereno, P.C., DeVries, R.P., Myhrvold, N.P., **Baumgart, S.L.**, Vidal, D.C., Keillor, T., Conroy, L.L. Platform Presentation: “*FossilScope*: Lifting the veil on the underlying data and manipulations yielding 3-dimensional skeletal and flesh models.” Society of Vertebrate Paleontology (SVP) Annual Meeting, Cincinnati, Ohio. 2023.

Myhrvold, N.P., Sereno, P.C., **Baumgart, S.L.**, Vidal, D.C., Fish, F.E., Henderson, D., Saitta, E.T. Platform Presentation: “Deep dive on bone compactness and statistical methods for recognizing significance in the inference of lifestyle in spinosaurids and other dinosaurs.” Society of Vertebrate Paleontology (SVP) Annual Meeting, Cincinnati, Ohio. 2023.

Baumgart, S.L. Remote Presentation: “Comparative pneumaticity in the avian humerus and implications for pterosaurs.” Society of Integrative and Comparative Biology (SICB) Annual Meeting, Phoenix, Arizona. 2022.

Baumgart, S.L., Claessens, L.P.A.M. Platform Presentation: “Avian sternum disparity and ecomorphological implications.” Society of Integrative and Comparative Biology (SICB) Annual Meeting, Austin, Texas. 2020.

Senevirathne, G., **Baumgart, S.**, Shubin, N., Hanken, J., Shubin, N.H. Platform Presentation: “Ontogeny of the anuran urostyle: the developmental context of evolutionary novelty.” Society of Integrative and Comparative Biology (SICB) Annual Meeting, Austin, Texas. 2020.

Early, C.M., Bates, J., **Baumgart, S.**, Peterson, A.T., Prestridge, H.L., Robbins, M., Watkins-Colwell, G.J., Blackburn, D.C. Platform Presentation: “Information Gaps in Digital Databases as Identified by a Multi-institution Initiative to Digitize Avian Specimens.” iDigBio Annual Summit, Gainesville, Florida. 2019.

Baumgart, S.L., Sereno, P.C. Platform Presentation: “Phylogeny repetitively constrains bird morphology.” Society of Vertebrate Paleontology (SVP) Annual Meeting, Brisbane, Australia. 2019.

Baumgart, S.L. Platform Presentation: “Does body mass constrain wing shape or sternum shape?” Society of Integrative and Comparative Biology (SICB) Annual Meeting, San Francisco, California. 2018.

Baumgart, S.L. Platform Presentation: “Relating ecology to sternum morphology in ‘water birds.’” Society of Vertebrate Paleontology (SVP) Annual Meeting, Calgary, Alberta. 2017.

Baumgart, S.L., Westneat, M.W. Poster: “Geometric morphometrics of the avian wing and sternum.” Society for Advancement of Chicanos/Hispanics and Native Americans in Science, Regional Conference, Chicago, Illinois. 2017.

Baumgart, S.L., Westneat, M.W. Poster: “Geometric morphometrics of the avian wing and sternum.” Society of Integrative and Comparative Biology (SICB) Annual Meeting, New Orleans, Louisiana. 2017.

Baumgart, S. L., Sereno, P.C. Poster: “Pneumaticity in modern birds compared to a large pterosaur.” Society of Vertebrate Paleontology (SVP) Annual Meeting, Dallas, Texas. 2015.

Baumgart, S.L., Sereno, P.C., Platform Presentation: “Pneumaticity in a large pterosaur compared to modern birds.” 10th North American Paleontological Convention (NAPC), Gainesville, Florida. 2014.

INVITED TALKS AND LECTURES

Invited Talks

Discussion: “A day in the life of a grad student,” University of Chicago Paleontology Club. 2019.

Lighting Talk: “Does foraging behavior constrain avian wing shape or sternum shape?”, 6th Annual Darwin Cluster Retreat, University of Chicago, Chicago, IL. 2018.

Oral Presentation: “Convergence in avian sternum morphology and relation to ecology”, 1st Annual Great Lakes Student Paleoconference, University of Michigan, Ann Arbor, MI. 2017.

Oral Presentation: “Comparing bat wings to bird wings”, Bat Symposium, Field Museum of Natural History. 2017.

Oral Presentation: “Patterns and constraints in the structural properties of vertebrate wings,” University of Chicago Paleontology Club. 2017.

Poster: “Wing pneumaticity in modern birds compared to a Cretaceous pterosaur,” 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.

Oral Presentation: “Paleontology 101,” University of Chicago Paleontology Club. 2015.

Oral Presentation: University of Chicago Undergraduate Biological Sciences College Division Honors Symposium. 2014.

Oral Presentation: University of Chicago Undergraduate Research Symposium. 2014.

University of Chicago class 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.

AWARDS AND GRANTS

Graduate Assistance in Areas of National Need Fellowship (GAANN Program – US Federal Dept. of Education) Integrative and Comparative Neuromechanics (\$106,575: 4 quarters of tuition, stipend, and fees)	2017-18
Graduate Assistance in Areas of National Need Fellowship (GAANN Program – US Federal Dept. of Education) Integrative and Comparative Neuromechanics (\$101,937: 4 quarters of tuition, stipend, and fees)	2016-17
Henry Hinds Evolutionary Biology Graduate Student Research Award (\$1,784) Committee on Evolutionary Biology, University of Chicago	2016
University of Chicago Dean’s List	2013-14

Student Travel Grants

Society of Integrative and Comparative Biology Annual meeting Charlotte Mangum Student Support Program Award recipient (hotel fee covered) University of Chicago Biological Sciences Division Dean’s Council Travel Grant (\$600)	2020
Jackson School of Geosciences Student Travel Grant for Society of Vertebrate Paleontology 79 th Annual Meeting (\$600)	2019
Charlotte Mangum Student Support Program Award recipient for the Society of Integrative and Comparative Biology Annual meeting (registration fee covered)	2018
North American Paleontological Convention (\$795) Student travel grant funded by conference (\$395) iDigBio travel grant for North American Paleontological Convention funded by National Science Foundation (\$400)	2014

FIELDWORK

Field Assistant , Sereno team, three months in Niger	2022
<ul style="list-style-type: none"> 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 trip 	

Field Assistant , Sereno team, five weeks in Niger	2018
<ul style="list-style-type: none"> • 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 the RTK GPS system for taking precision GPS coordinates • Entered human artifact information into the Online Cultural and Historical Research Environment (OCHRE) database 	
Field Assistant , Sereno team, one week in Jurassic Morrison Formation, Shell, WY	2013-18
<ul style="list-style-type: none"> • Giving Sereno's Dinosaur Science college students hands-on experience with paleontological fieldwork 	
Field Trip Leader , University of Chicago Paleontology Club, Geology and invertebrate survey trip, Devonian and Ordovician formations near Toledo, Ohio	2017
Field Trip Leader , University of Chicago Paleontology Club, Geology and invertebrate survey trip, Ordovician formations near Cincinnati, Ohio	2016

PROFESSIONAL DEVELOPMENT

Taught myself to use the Specify database software, logging the University of Chicago Research Collection and Niger's National Museum Boubou-Hama Collection	2021-Present
Earned Diversity and Inclusion Certificate	2022
Earned College Teaching Certificate	2021
Trained to use the Electronic Museum (EMu) database (Ref: Kate Webbink)	2018
Trained to use the Online Cultural and Historical Research Environment (OCHRE) database to store and organize information about archaeological artifacts (Ref: Sandra Schloen)	
Trained in medical human anatomy course in the Pritzker School of Medicine, University of Chicago (Course Director: Prof. Callum Ross)	2017
Attended "How to Share your Science Story" webinar hosted by Space Time Labs	
Trained and certified for independent operation and basic maintenance of UChicago microCT (computed tomography) scanner (CT Manager: April Neander)	2015-17

Software

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

OUTREACH AND SERVICE

Florida Museum of Natural History, Gainesville, FL	2023-Present
<ul style="list-style-type: none">• Gave a public online talk “Meet a Scientist: Tools of Science” showcasing the use of CT scans in paleontology and anatomy research	
Connecting Champions, Pittsburgh, PA	2023-Present
<ul style="list-style-type: none">• Remote mentoring a child with cancer who wants to be a paleontologist, meeting once or twice a month	
Field Museum of Natural History, Chicago, IL	2016-2023
<ul style="list-style-type: none">• 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
<ul style="list-style-type: none">• Spoke to a dinosaur summer camp (kindergarten-5th grade) about dinosaurs and paleontology• Lectured to Canadian fifth-grade class about my research on birds and flight	
School of Innovation gallery, Texas A&M University	
<ul style="list-style-type: none">• Created an exhibit piece from CT data on the unique scute anatomy of <i>Alligator sinensis</i> containing a 2D image, 3D skull, and descriptive voice note	
Agitator Gallery Art and Science series, Chicago, IL	2018
<ul style="list-style-type: none">• Oral Presentation: “Reptiles in the Air”	
Life Long Learning Series, program for senior citizens	2016-18
<ul style="list-style-type: none">• Oral Presentations: “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
<ul style="list-style-type: none">• Showcase staff for the Paleontology table at “Science Works”	
Little Chute Middle School, Little Chute, WI	2017
<ul style="list-style-type: none">• Held a Skype session about paleontology with two 6th grade classes	
Monta Hernon’s homeschool group	2017
<ul style="list-style-type: none">• Workshop for junior high and high school students covering basics of anatomy, geology, paleontology with a lab tour	

Expanding Your Horizons, Chicago, IL	2017
<ul style="list-style-type: none"> • Workshop for underserved middle school girls covering basics of anatomy, geology, paleontology with a lab tour 	
Hamilton Elementary School, Chicago Public School system, Chicago, IL	2016
<ul style="list-style-type: none"> • “Paleomicrobiology” school visit with a 4/5th grade class • “Paleogeology” school visit with a 6th grade class • “Paleoecology” school visit with a 7th grade 	
Andrew Jackson Language Academy, Chicago Public School system, Chicago, IL	2014-16
<ul style="list-style-type: none"> • “Dinosaurs and prehistoric food webs” school visit with two 5th grade classes • “Paleontology and prehistoric food webs” school visit with two 5th grade classes 	
‘Splash! Chicago,’ program for underserved high school students in the Chicago area	2014
<ul style="list-style-type: none"> • Workshop covering basics of anatomy, geology, paleontology with a lab tour 	

PROFESSIONAL SERVICE

Reviewed manuscripts for Journal of Vertebrate Paleontology, Scientific Reports, Journal of the Linnean Society, Communications Biology	2021-Present
Co-created and co-moderate a Discord server ("paleo hangouts") for the international paleontology community to connect, discuss papers, ask advice; 290+ members ranging from high school students to professors.	2020-Present
Session Chair for Session 72: Evolutionary Morphology, Society for Integrative and Comparative Biology Annual Meeting, Austin, Texas	2020
Assembled and led an organization committee to host 2 nd Annual Great Lakes Student Paleoconference at the University of Chicago, Chicago, Illinois	2018
Co-organized 1 st Annual Great Lakes Student Paleoconference held at the University of Michigan, Ann Arbor, Michigan	2017
Session Moderator for Technical Session III: Neornithes, Society of Vertebrate Paleontology Annual Meeting, Calgary, Alberta	
Co-founded the University of Chicago Paleontology Club	2015
Co-organized 1 st Annual Biological Sciences College Division Research Honors Retreat	2013