

Evan Thomas Saitta, Ph.D.

E-Mail: evansaitta@gmail.com

Website: <https://evansaitta.blog/>

Google Scholar: <https://scholar.google.com/citations?user=umU9KBMAAAAJ&hl=en&oi=ao>

ResearchGate: https://www.researchgate.net/profile/Evan_Saitta

Appointments

The Field Museum of Natural History	Research, Advising, Outreach, & Fundraising
Research Associate, Negaunee Integrative Research Center, Life Sciences Section	2020-present
Bass Postdoctoral Researcher, Negaunee Integrative Research Center, Earth Sciences Section	June 2018-June 2020
Supervisor: Dr. Peter Makovicky	
The University of Chicago	Research, Teaching, & Outreach
Postdoctoral Scholar, Biological Sciences Division, Dept. of Organismal Biology and Anatomy	Oct. 2021-Dec. 2024
Supervisor: Dr. Paul Sereno	
Benedictine University (Lisle, IL)	Teaching
Adjunct Lecturer, Biological Sciences	Fall 2025
Courses taught: BIOL 4364 Ecology Laboratory; BIOL 1199 Principles of Biology Lab	
The University of Illinois Chicago	Teaching
Adjunct Lecturer, Dept. of Earth and Environmental Sciences	Spring 2022
Course taught: EAES/BIOS 360 Introduction to Paleontology	

Education

The University of Bristol, UK School of Earth Sciences	#1 Paleontology research group globally (<i>Center for World University Rankings</i> 2017) #2 UK, #16 globally in Earth Sciences (<i>Shanghai Global Ranking of Academic Subjects</i> 2019) #19 in Earth Sciences globally (<i>QS World University Rankings by Subject</i> 2016) Russell Group
Ph.D. in Geology	2015-April 2018 (<i>viva</i>), Jan. 2019 (graduation ceremony)
Advisor: Dr. Jakob Vinther	
Thesis: "The taphonomy of soft tissues and the evolution of feathers"	
M.Sc. (<i>Distinction</i>) in Palaeobiology	2014-2015 (submission), Jan. 2016 (graduation ceremony)
Advisor: Dr. Jakob Vinther	
Thesis: "The taphonomy of keratin in archosaurs"	
Princeton University, USA	#1 U.S. university (<i>U.S. News & World Report</i> 2010, 2012-2015, etc.) Ivy League
B.A. (<i>Magna Cum Laude</i>) in Ecology and Evolutionary Biology	2010-2014
Advisor: Dr. James Gould	
Thesis: "Paleobiology of North American stegosaurs: Evidence for sexual dimorphism"	

Publications

h-index = 17; *i10*-index = 17

(Year indicates date of initial online publication; Bold font indicates 1st, 2nd, or PI authorship or high impact journal)

25) Sereno, PC, Vidal, D, Myhrvold, NP, Johnson-Ransom, E, Ciudad Real, M, Baumgart, SL, Sánchez Fontela, N, Green, TL, Saitta, ET, Adamou, B, Bop, LL, Keillor, TM, Fitzgerald, EC, Dutheil, DB, Laroche, RAS, Demers-Potvin, AV, Simarro, Á, Gascó-Lluna, F, Lázaro, A, Gamonal, A, Beightol, CV, Reneleau, V, Vautrin, R, Bertozzo, F, Granados, A, Kinney-Broderick, G, Mallon, JC, Lindoso, RM, and Ramezani, J (2026) Scimitar-crested *Spinosaurus* species from the Sahara caps stepwise spinosaurid radiation. *Science*. 391. DOI:10.1126/science.adx5486

Altmetric score: 2,514

24) Sereno, PC, Saitta, ET, Vidal, D, Myhrvold, N, Ciudad Real, M, Baumgart, SL, Bop, LL, Keillor, TM, Erickson, M, and Derstler, K (2025) Duck-billed dinosaur fleshy midline and hooves reveal terrestrial clay-template "mummification". *Science* 391(6780), 1-15. DOI:10.1126/science.adw3536

Altmetric score: 2,145

- 23) Prado, GMEM, Salvato, RCJPS, Becker-Kerber, B, Silva, EP, Pinheiro, FL, Osés, GL, Galante, D, Rodrigues, F, Dias, JJ, de Souza Carvalho, I, [Saitta, ET](#), Lino, LM, and Anelli, LE (2025) Fossil fish provide evidence of geomelanin preservation with implications on the visual accuracy of an extinct fish species. *Lethaia* 58(3), 1–17. DOI:10.18261/let.58.3.7
- 22) [Saitta, ET](#), and Kaye, TG (2025) Experimental maturation of pine resin in sediment to investigate the formation of synthetic copal and amber. *Scientific Reports* 15, 7627. DOI:10.1038/s41598-025-89448-5
Altmetric score: 44
- 21) [Saitta, ET](#), Balaji, L, Mitchell, JS, and Makovicky, PJ (2025) Feather evolution following flight loss in crown group birds: relaxed selection and developmental constraints. *Evolution* 79(5), 737–751. DOI:10.1093/evolut/qpaf020
Altmetric score: 126
- 20) Myhrvold, NP, Baumgart, SL, Vidal, D, Fish, FE, Henderson, DM, [Saitta, ET](#), and Sereno, PC (2024) Diving dinosaurs? Caveats on the use of bone compactness and pFDA for inferring lifestyle. *PLoS ONE* 19(3), e0298957. DOI:10.1371/journal.pone.0298957
Altmetric score: 725
- 19) Longrich, NR, and [Saitta, ET](#) (2024) Taxonomic status of *Nanotyrannus lancensis* (Dinosauria: Tyrannosauroida) – a distinct taxon of small-bodied tyrannosaur. *Fossil Studies* 2(1), 1–65. DOI:10.3390/fossils2010001
Altmetric score: 830
- 18) [Saitta, ET](#), Vinther, J, Crisp, MK, Abbott, GD, Wheeler, L, Presslee, S, Kaye, TG, Bull, I, Fletcher, I, Chen, X, Vidal, D, Sanguino, F, Buscalioni, AD, Calvo, J, Sereno, PC, Baumgart, SL, Pittman, M, Collins, MJ, Sakalauskaite, J, Mackie, M, Dal Bello, F, Dickinson, MR, Stevenson, MA, Donohoe, P, Heck, PR, Demarchi, B, and Penkman, KEH (2023) Non-avian dinosaur eggshell calcite can contain ancient, endogenous amino acids. *Geochimica et Cosmochimica Acta* 365, 1–20. DOI:10.1016/j.gca.2023.11.016
Altmetric score: 141
- 17) Roy, A, Pittman, M, Kaye, TG, and [Saitta, ET](#) (2023) Sediment-encased pressure-temperature maturation experiments elucidate the impact of diagenesis on melanin-based fossil color and its paleobiological implications. *Paleobiology* 49(4), 712–732. DOI:10.1017/pab.2023.11
- 16) Mayr, G, Kaye, TG, Pittman, M, [Saitta, ET](#), and Pott, C (2020) Reanalysis of putative ovarian follicles suggests that Early Cretaceous birds were feeding not breeding. *Scientific Reports* 10, 19035. DOI:10.1038/s41598-020-76078-2
Altmetric score: 44
- 15) [Saitta, ET](#), Stockdale, MT, Longrich, NR, Bonhomme, V, Benton, MJ, Cuthill, IC, and Makovicky, PJ (2020) **Invited Review:** An effect size statistical framework for investigating sexual dimorphism in non-avian dinosaurs and other extinct taxa. *Biological Journal of the Linnean Society* 131(2), 231–273. DOI:10.1093/biolinnean/blaa105
Altmetric score: 296
- 14) Liang, R, Lau, MCY, [Saitta, ET](#), Garvin, ZK, and Onstott, TC (2020) Genome-centric resolution of novel microbial lineages in an excavated *Centrosaurus* dinosaur fossil bone from the Late Cretaceous of North America. *Environmental Microbiome* 15, 8. DOI:10.1186/s40793-020-00355-w
Altmetric score: 200
- 13) [Saitta, ET](#), and Vinther, J (2019) A perspective on the evidence for keratin protein preservation in fossils: an issue of replication versus validation. *Palaeontologia Electronica* 22.3.2E, 1–30. DOI:10.26879/1017
- 12) Roy, A, Pittman, M, [Saitta, ET](#), Kaye, TG, and Xu, X (2019) Recent advances in amniote palaeocolour reconstruction and a framework for future research. *Biological Reviews* 95(1), 22–50. DOI:10.1111/brv.12552
Altmetric score: 70
- 11) [Saitta, ET](#), Liang, R, Lau, MCY, Brown, CM, Longrich, NR, Kaye, TG, Novak, BJ, Salzberg, SL, Norell, MA, Abbott, GD, Dickinson, MR, Vinther, J, Bull, ID, Brooker, RA, Martin, P, Donohoe, P, Knowles, TDJ, Penkman, KEH, and Onstott, T (2019) Cretaceous dinosaur bone contains recent organic material and provides an environment conducive to microbial communities. *eLife* 8, e46205. DOI:10.7554/eLife.46205.001
Altmetric score: 404

10) **Saitta, ET**, Fletcher, I, Martin, P, Pittman, M, Kaye, TG, True, LD, Norell, MA, Abbott, GD, Summons, RE, Penkman, K, and Vinther, J (2018) Preservation of feather fibers from the Late Cretaceous dinosaur *Shuvuuia deserti* raises concern about immunohistochemical analyses on fossils. *Organic Geochemistry* 125, 142–151. DOI:10.1016/j.orggeochem.2018.09.008

9) **Saitta, ET**, Kaye, TG, and Vinther, J (2018) Sediment-encased maturation: a novel method for simulating diagenesis in organic fossil preservation. *Palaeontology* 62(1), 135–150. DOI:10.1111/pala.12386

Altmetric score: 209

8) **Saitta, ET**, Clapham, C, and Vinther, J (2018) Experimental subaqueous burial of a bird carcass and compaction of plumage. *Paläontologische Zeitschrift* 92(4), 727–732. DOI:10.1007/s12542-018-0411-y

Altmetric score: 29

7) Parry, LA, Smithwick, F, Norden, K, **Saitta, ET**, Lozano-Fernandez, J, Tanner, A, Bernard Caron, J, Edgecombe, GD, Briggs, DEG, and Vinther, J (2017) Soft-bodied fossils are not simply rotten carcasses – towards a holistic understanding of exceptional fossil preservation. *BioEssays* 40(1), 1700167. DOI:10.1002/bies.201700167

Altmetric score: 252

6) **Saitta, ET**, Gelernter, R, and Vinther, J (2017) Additional information on the primitive contour and wing feathering of paravian dinosaurs. *Palaeontology* 61(2), 273–288. DOI:10.1111/pala.12342

Altmetric score: 129

5) **Saitta, ET**, Rogers, CS, Brooker, RA, and Vinther, J (2017) Experimental taphonomy of keratin: a structural analysis of early taphonomic changes. *Palaios* 32(10), 647–657. DOI:10.2110/palo.2017.051

Altmetric score: 36

4) **Saitta, ET**, Rogers, C, Brooker, RA, Abbott, GD, Kumar, S, O'Reilly, SS, Donohoe, P, Dutta, S, Summons, RE, and Vinther, J (2017) Low fossilization potential of keratin protein revealed by experimental taphonomy. *Palaeontology* 60(4), 547–556. DOI:10.1111/pala.12299

Altmetric score: 69

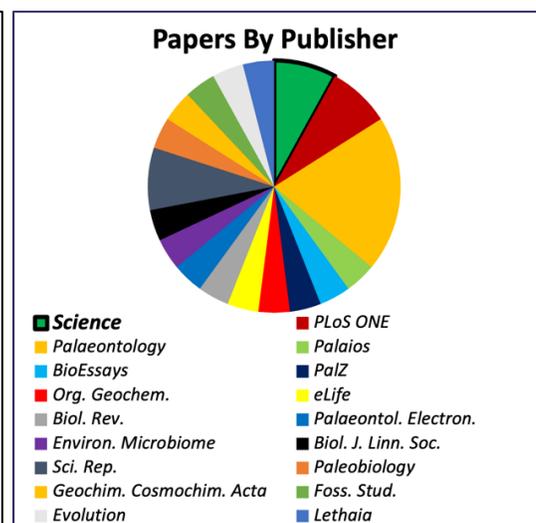
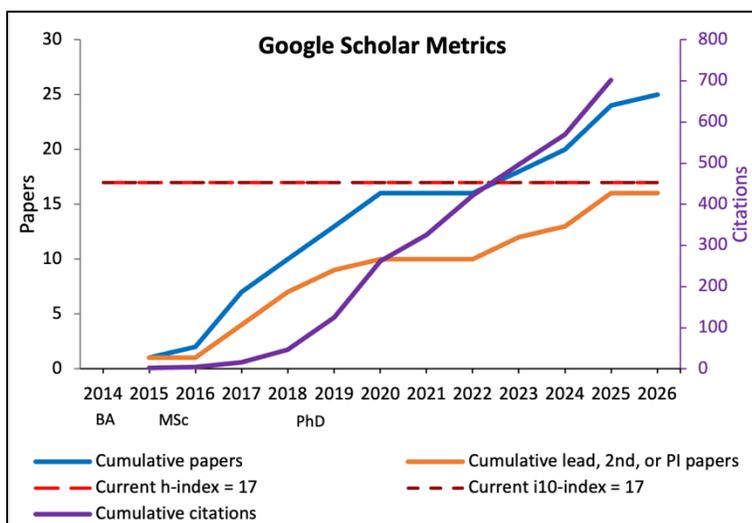
3) Smithwick, F, Mayr, G, **Saitta, ET**, Benton, M, and Vinther, J (2017) On the purported presence of fossilised collagen fibres in an ichthyosaur and a theropod dinosaur. *Palaeontology* 60(3), 409–422. DOI:10.1111/pala.12292

2) Mayr, G, Pittman, M, **Saitta, E**, Kaye, T, and Vinther, J (2016) Structure and homology of *Psittacosaurus* tail bristles. *Palaeontology* 59(6), 793–802. DOI:10.1111/pala.12257

Altmetric score: 279

1) **Saitta, ET** (2015) Evidence for sexual dimorphism in the plated dinosaur *Stegosaurus mjosi* (Ornithischia, Stegosauria) from the Morrison Formation (Upper Jurassic) of western USA. *PLoS ONE* 10(4), e0123503. DOI:10.1371/journal.pone.0123503

Altmetric score: 668



Unpublished Preprints

Saitta, ET (2025) **Museums should curate beyond the natural: domestic breeds offer unique insight into evolutionary processes & human culture.** *EcoEvoRxiv*. DOI:10.32942/X2VK88

Saitta, ET, Bonhomme, V, Lukens, M, Vidal, D, Longrich, NR, Richmond, DR, and Stockdale, MT (2025) **The function and evolution of stegosaur osteoderms and hypothesized sexual dimorphism in *Hesperosaurus*.** *bioRxiv*. DOI:10.1101/2025.04.10.648273

Saitta, ET (2020) **The Society of Vertebrate Paleontology's publication policy is inconsistent with scientific epistemology.** *PaleorXiv*. DOI:10.31233/osf.io/xmkhb

Manuscripts Under Review

Roy, A, Saitta, ET, Musa, M, Al-Kindi, S, Kaye, TG, and Pittman, M. **A multi-spectroscopic investigation into the diagenesis of avian polyene pigments: simulated maturation, chemical pathways and palaeontological implications.**

Saitta, ET (Under review) **Distributions of sexual size dimorphism: significance thresholds, systematic errors, & scaling.**

Saitta, ET (Under review) **Are we underfitting dinosaur growth models? Methodologies reflect interpretations of paleobiology.**

Longrich, NR, Makovicky, PJ, Tokaryk, T, Cooper, DML, Saitta, ET, Erickson, GM, Szekeley, T and Snively, E (Under review) **Hatchlings of *Tyrannosaurus rex* and the evolution of dinosaur reproductive strategies.**

Achievements†, Funding*, & Accepted Proposals

CNPEM Proposal - Brazilian Center for Research in Energy and Materials (Campinas, Brazil) PI: Kerber, BB. Co-Proposers: <u>Saitta, ET</u> , Prado, GMEM, Silva, EP "Can Raman spectroscopy really reveal biosignatures in fossil dinosaurs?"	2024
Paleontological Society Norman Newell Early Career Grant* "Characterizing the diagenesis of sex hormones"	2023
The Palaeontological Association Research Grant* "Characterizing the diagenesis of sex hormones"	2022
Honoring Our Professors' Excellence (HOPE) Award† University of Illinois Chicago Office of Campus Housing award as nominated by students	2022
University of Chicago Fossil Lab Postdoctoral Funding* Postdoctoral salary & research funds through the Sereno Fossil Lab, University of Chicago	2021-2024
Bass Postdoctoral Fellowship* Postdoctoral salary & research funds through the Negaunee Integrative Research Center, Field Museum of Natural History	2018-2020
Paleontological Society Stephen Jay Gould Award* Paleontological Society Student Research Grant: "Material properties of keratinous structures"	2017
The Daniel Pidgeon Fund* The Geological Society research grant: "Creating fossils in the lab: sediment-based maturation experiments"	2017
Bob Savage Memorial Fund* University of Bristol palaeobiology graduate student award	Received four times - 2016-2017
Jackson Student Travel Grant* Society of Vertebrate Paleontology award to support student travel to their annual meeting	2016

M.Sc. Award: Distinction (University of Bristol)†	2015
University of Bristol Alumni Foundation Travel Grant* University of Bristol student award to support conference attendance costs	Received twice – 2015
Magna Cum Laude (Princeton University)†	2014
Elected to the Society of Sigma Xi†	2014
Senior Thesis Poster Award in Behavior† Granted by Princeton University’s Department of Ecology and Evolutionary Biology	2014
Office of the Dean of the College Senior Thesis Research Funding* Princeton University academic research grant	2013
Fred Fox Fund* Academic research award and grant through the Office of Religious Life at Princeton University	2012

Pending Funds & Proposals

National Science Foundation - Life and Environments Through Time Institution: Field Museum of Natural History PI: Herrera, FA Co-PI: <u>Saitta, ET</u> “Experimental & Molecular Study of Plant Fossilization from Fossil Lake Lagerstätte” Requested Amount: \$794,906	Status: Pending 2026
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R Packages

Bonhomme, V., Picq, S., Gaucherel, C., & Claude, J. (2014). **Momocs: Outline Analysis Using R**. *Journal of Statistical Software*, 56(13), 1–24. DOI:10.18637/jss.v056.i13. **Acknowledgement:** “We are very grateful to (in alphabetical order): Sean Asselin, Laurent Bouby, Matt Bulbert, Simon Cramer, Julia Cooke, April Dinwiddie, Carl Lipo, Cedric Gaucherel, Catherine Girard, QGouil (GitHub), Christian Steven Hoggard, Sarah Ivorra, Glynis Jones, Nathalie Keller, Ricardo Kriebel, Remi Laffont, Fabien Lafuma, Matthias Mace, Stas Malavin, Neus Martinez, Ben Marwick, Sabrina Renaud, Marcelo Reginato, Evan Saitta, Bill Sellers, David Siddons, Eleanor Stillman, Theodore Stammer, Tom Stubbs, Norbert Telmon, Jean-Frederic Terral, Bill Venables, Daniele Ventura, Michael Wallace, Asher Wishkerman, John Wood for their helpful ideas and bug reports”. <https://cran.r-project.org/web/packages/Momocs/refman/Momocs.html>

Teaching

Adjunct Lecturer, Benedictine University (Lisle, IL) Lead, sole course instructor: Ecology Laboratory BIOL 4364 (2 sections) Section instructor: Principles of Biology Lab BIOL 1199 (1 section)	Fall 2025 Fall 2025
Adjunct Lecturer, University of Illinois Chicago Lead, sole course instructor: Introduction to Paleontology EAES/BIOS 360	Spring 2022
Guest Lecturer, University of Chicago Dinosaur Science BIOS 23100: “Taphonomy & Footprints” lecture	Spring 2023
Postdoctoral Field Teaching Assistant, University of Chicago Dinosaur Science BIOS 23100: Week-long dinosaur excavation in Wyoming	Summer 2023

Graduate Teaching Assistant/Demonstrator, University of Bristol
Geobiology EASC20024
Geology 1: Evolution of Earth and Life EASC10001
Evolution of the Biosphere EASC30008 (*Master's level course*)
Environmental Geoscience: Climate and Ecology EASC10002

Spring 2017
Spring 2017
Fall 2015
Fall 2015

Advising, Training, & Mentoring

Mentoring **2018-present**
My sediment-encased maturation method has been used in collaboration with Ph.D. students from:
University of Hong Kong - 2 thesis chapters
University of California Davis
University of Chicago

Advising **2018-2020**
Undergraduate students: summer intern* & volunteer supervising, **Field Museum**
*Supported by University of Chicago's Jeff Metcalf Internship Program; became study coauthor & later pursued science in graduate school

Training **Spring 2022**
Graduate teaching assistant training, **University of Illinois Chicago**

Academic Presentations

(Lead presenter only)

Society of Vertebrate Paleontology annual meeting

Minneapolis, Minnesota, USA: Talk & Poster **10/2024**
Talk - Exceptional preservation of integumental structures in hadrosaur 'mummies' via clay templating
Poster - 'Synthetic fossils': experiments make taphonomy a better science

Cincinnati, Ohio, USA: Poster **10/2023**
Sexing dinosaurs: Possible detection of trace sex hormones in fossils as old as the Jurassic and the thermal stability of estrogen

*Virtual Conference: Poster - *abstract accepted but later withdrawn due to registration cost **11/2021**
Relaxing selective pressures on complex structures: feather evolution after flight loss in recent birds

Virtual Conference: Poster **10/2020**
Non-avian dinosaur eggshell calcite contains ancient, endogenous amino acids

Brisbane, Australia: Talk **10/2019**
Sexual dimorphism in non-avian dinosaurs and other extinct taxa: the importance of effect size statistics in paleontology

Albuquerque, New Mexico, USA: Talk (*Romer Prize Session*) **10/2018**
Molecular stability and mobility: Protein diagenesis in open and closed taphonomic systems

Calgary, Alberta, Canada: Talk (*Romer Prize Session*) **8/2017**
Creating fossils in the lab: replicating fossilization using sediment-based maturation

Salt Lake City, Utah, USA: Talk **10/2016**
The taphonomy of keratin in archosaurs

Palaeoproteomics and Archaeology, Society for Techniques and Advances (affiliate of The International Society for Biomolecular Archaeology)

PAASTA Talk Series: Virtual Talk **7/2024**
Eggshell Time Capsules: Ancient Amino Acids

Weizmann Institute of Science

Kimmel Center for Archaeological Science Seminar: Virtual Talk **4/2024**
Eggshell Time Capsules: Ancient Amino Acids

The University of Chicago

Darwinian Sciences Cluster Retreat: Poster **9/2023**
Sexing dinosaurs: Possible detection of trace sex hormones in fossils as old as the Jurassic and the thermal stability of estrogen

Evolutionary Morphology Seminar Series: Talk Molecular fossil hunting: analytical and experimental taphonomy	10/2021
The University of Copenhagen (Denmark) Globe Institute: Talk Molecular fossil hunting: analytical and experimental taphonomy	7/2022
The University of Illinois Chicago EAES Departmental Seminar: Talk Molecular fossil hunting: analytical and experimental taphonomy	3/2022
Field Museum of Natural History A. Watson Armour Seminar Series: Talk Mesozoic molecules: revealing information from fossils through taphonomy	9/2019
Argonne National Laboratory Advanced Photon Source: Coffee Talk Exceptional fossils: feathers, soft tissues, and ancient molecules	8/2019
Palaeontological Association annual meeting London, UK Talk – Approaching sexual dimorphism in non-avian dinosaurs and other extinct taxa Poster – Life inside a dinosaur bone: a thriving microbiome	12/2017
Lyon, France Poster – Primitive contour feathers in paravian dinosaurs and the evolution of avian plumage Informal talk (‘Friends of the Rotten’ discussion meeting) – Taphonomy 2.0: Experimental P/T maturation using sediment as a taphonomic filter to investigate soft tissue preservation	12/2016
Cardiff, UK Poster – The taphonomy of keratin in archosaurs Talk – Evidence for sexual dimorphism in the plated dinosaur <i>Stegosaurus mjosi</i> (Ornithischia, Stegosauria) from the Morrison Formation (Upper Jurassic) of western USA	12/2015
International Workshop on Konservat-Lagerstätten Cork, Ireland: Talk Dinosaur eggshell calcite as a closed system: ‘molecular Konservat-Lagerstätten’	7/2017

Popular Science Articles

<i>The Conversation</i> “Fossilized dinosaur eggshells can preserve amino acids, the building blocks of proteins, over millions of years” “Did male and female dinosaurs differ? A new statistical technique is helping answer the question” “How some dinosaur discoveries might be wishful scientific thinking” Contributor to Longrich, NR “Dinosaur bones: hidden life revealed inside them”	4/2024 1/2022 11/2017 7/2019
<i>The Science Breaker</i> (partner with Université de Genève) “Long-dead dinosaurs support new life”	11/2019

Radio & Podcast Appearances

<i>The Primal Biology Show</i> Interview discussing my career and insights	7/2025
<i>The Best of our Knowledge</i> Interview with WMAC Northeast Public Radio discussing Saitta & Kaye (2025, <i>Scientific Reports</i>)	6/2025
<i>The Skeptics Guide to the Universe</i> Twenty-minute interview on the podcast discussing Saitta <i>et al.</i> (2019, <i>eLife</i>)	6/2019
<i>Palaeocast</i> Hour-long interview on the podcast discussing Saitta <i>et al.</i> (2019, <i>eLife</i>)	6/2019

<i>These Vibes Are Too Cosmic</i> Hour-long interview with Princeton, New Jersey, radio show on my research in general	5/2018
BBC Radio: National and Bristol Interviews discussing Saitta (2015, <i>PLoS ONE</i>)	4/2015

Institutional Advancement & Fundraising

Field Museum Giving Day Ambassador Helped with grassroots fundraising for “Nurturing Future Scientists”	10/2019
Field Museum Private Collections Tour Showcased oversized fossil collections to Chairman’s Circle member	8/2019
Field Museum Donor Private Meeting Talk given to museum donors at a small breakfast meeting	6/2019
Field Museum Pop-up Informal meet and greet with Field Museum board members at downtown ‘dig site’ pop-up	6/2019
Field Museum Members’ Night Discussed my work with Field Museum members	5/2019
Sue Celebration Presented my work to Field Museum members and donors	1/2019
Field Encounters Talk given to Field Museum donors entitled “Creating synthetic fossils in the lab”	11/2018

Public Outreach

Fossil Crates Live! Expert guest on members-only Zoom call series hosted by Dr. Brian Curtice	3/2025
Sereno Fossil Lab Open Houses Engaged southside community in monthly open houses for the newly opened Fossil Lab at the University of Chicago	2024
Southside Science Festival Presenter at a booth for a University of Chicago science communication event for local community	9/2023
Dinosaurs of the Sahara Assisted Sereno Lab in preparing displays and specimens for public exhibit at the Cleveland Great Lakes Science Center	5/2023
Gloucester Museum “Dinosaurs” Talks and Workshops Feathers and colour in dinosaurs	9/2017
Bristol Dinosaur Project Educational outreach program directed at children	2015
Jurassic Quest Educational day directed at young children involving fossil displays	7/2014
The Billings Clinic Presented to TV/print media and the public about use of CT scanner for undergraduate thesis	7/2013
Princeton Undergraduate Research and Public Service Symposium Alumni Day showcase of independent research	2013

Peer Reviewer

Nature Ecology & Evolution
BMC Evolutionary Biology
Journal of Proteomics
Biology Letters
Cretaceous Research

Royal Society Open Science
Paleobiology
Neues Jahrbuch für Geologie und Paläontologie
PeerJ; PeerJ Life & Environment
Princeton University Press: Remnants of Ancient Life

Editorial Roles

Associate Editor, *Frontiers in Ecology & Evolution*, Paleocology section 2025-present

Societies & Groups

The Society for the Study of Evolution	2025-present
The Society of Vertebrate Paleontology	2013-Feb 2026
The Palaeontological Association	2015-present
The Paleontological Society	2010-present
DinoSoc University of Bristol student paleontology society	2014-2017
Bristol University Geology and Geoscience Society	2014-2017
myFOSSIL.org Beta tester	2015
Princeton Undergraduate Geosciences Society	2012-2014
University of Bristol Snowsports Club Snowboard race team	2015-2018
University of Bristol Athletics and Cross Country Club Cross country	2014-2018
Princeton University Cannon Dial Elm Club	2012-2014
Princeton University Varsity Track and Field Non-recruited 'walk-on' pole vaulter & sprinter	2010-2014

Newly Described Taxa

Spinosaurus mirabilis (Sereno *et al.* 2026, *Science*)
Cretaceous, Niger - Dinosaur

Novel microbial community within buried dinosaur bone (Liang *et al.* 2020, *Environmental Microbiome*)
Modern, Canada - 46 genomes from six bacterial phyla (Actinobacteria, Proteobacteria, Nitrospira, Acidobacteria, Gemmatimonadetes, Chloroflexi) and one archaeal phylum (Thaumarchaeota), the majority of which represented uncultivated, novel microbial lineages from class to species levels

Experience & Networks

International collaborative research network:

- USA
- Germany
- China
- United Kingdom
- Ireland
- India
- Canada
- Spain
- Argentina
- Denmark
- Italy
- Brazil
- Niger
- France
- Belgium

Paleontological (prospecting, quarrying, preparation), geological, & biological field experience:

- University of Chicago: Wyoming
- Field Museum: Montana, Utah, Missouri, & Argentina
- Royal Tyrell Museum: Dinosaur Provincial Park, Alberta (Canada)
- Royal Tyrell Museum Field Station (preparatory lab): Dinosaur Provincial Park, Alberta (Canada)
- Independent paleontological field & preparatory lab experience over seven summers: Montana
- Princeton University: geology (Spain, France, Utah, New Mexico, the Catskills, Kentucky, Delaware Water Gap, & Yellowstone National Park) & biology (Bermuda & Yellowstone National Park)
- Dinosoc: UK

Laboratory experience:

- Princeton University
- University of Bristol (UK)
- University of York (UK)
- University of Newcastle (UK)
- University of Copenhagen (Denmark)
- Foundation for Scientific Advancement
- Field Museum
- Northwestern University
- Argonne National Laboratory
- University of Chicago

Analytical experience:

- Specimen-based research (fossil & modern reptiles, birds, fish, invertebrates, plants)
- R-based morphometrics, statistics, & data analysis
- Fossil bone histology & thin sectioning
- Hospital & micro-CT scanning
- Decay & maturation experiments
- Light microscopy
- Electron microscopy
- Energy-dispersive X-ray spectroscopy
- Pyrolysis-gas chromatography-mass spectrometry
- Laser stimulated fluorescence imaging
- Amino acid racemization analysis
- DNA, protein, & lipid extraction
- Time-of-flight secondary ion mass spectrometry
- Radiocarbon analysis
- Attenuated total reflectance Fourier-transform infrared spectroscopy
- Synchrotron X-ray fluorescence
- Raman spectroscopy
- Portable X-ray fluorescence
- X-ray diffraction
- White light scanning
- Laser ablation-inductively coupled plasma-mass spectrometry
- Magnetic resonance imaging
- Laser diffraction particle size analysis

Museum collections experience & research visits:

- Field Museum of Natural History
- American Museum of Natural History
- Senckenberg Naturmuseum Frankfurt (Germany)
- Paläontologische Museum München (Germany)
- Smithsonian National Museum of Natural History
- Yale Peabody Museum
- Carnegie Museum of Natural History
- Dinosaur National Monument
- Denver Museum of Nature and Science
- Sauriermuseum Aathal (Switzerland)
- Natural History Museum of Utah
- Wyoming Dinosaur Center
- Brigham Young University Museum of Paleontology
- Museum of Western Colorado
- Virginia Museum of Natural History
- Black Hills Institute of Geologic Research
- Utah Field House of Natural History State Park Museum
- Houston Museum of Natural Science
- Natural History Museum, London (UK)
- Chicago Botanic Garden