

Evan Thomas Saitta

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 University of Illinois Chicago** 2022-present
Adjunct Lecturer, Department of Earth and Environmental Sciences
Course taught: EAES 360 Introduction to Paleontology
- The University of Chicago** 2021-present
Postdoctoral Scholar, Biological Sciences Division, Department of Organismal Biology and Anatomy
Supervisor: Dr. Paul Sereno
- The Field Museum of Natural History**
Research Associate, Integrative Research Center, Life Sciences Section 2020-present
Postdoctoral Researcher, Integrative Research Center, Earth Sciences Section 2018-2020
Supervisor: Dr. Peter Makovicky

Education

- University of Bristol (UK)**
Ph.D. in Geology 2015-2018 (viva), Jan. 2019 (graduation ceremony)
Advisor: Dr. Jakob Vinther
Thesis: The taphonomy of soft tissues and the evolution of feathers
- M.Sc. in Palaeobiology (*Distinction*) 2014-2015 (submission), Jan. 2016 (graduation ceremony)
Advisor: Dr. Jakob Vinther
Thesis: The taphonomy of keratin in archosaurs
- Princeton University** 2010-2014
B.A. in Ecology and Evolutionary Biology (*Magna Cum Laude*)
Advisor: Dr. James Gould
Thesis: Paleobiology of North American stegosaurs: Evidence for sexual dimorphism

Publications

(Year indicates date of initial online publication)

- 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: <https://doi.org/10.1038/s41598-020-76078-2>
- 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*, 1-43. doi: <https://doi.org/10.1093/biolinnean/blaa105>
Altmetric score: 107
- 14) Liang, R, Lau, MCY, Saitta, ET, Garvin, ZK, 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: <https://doi.org/10.1186/s40793-020-00355-w>
Altmetric score: 41
- 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: <https://doi.org/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: <https://doi.org/10.1111/brv.12552>
Altmetric score: 68
- 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: <https://doi.org/10.7554/eLife.46205.001>
Altmetric score: 280
- 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: <https://doi.org/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: <https://doi.org/10.1111/pala.12386>

Altmetric score: 193

8) Saitta, ET, Clapham, C, and Vinther, J (2018) Experimental subaqueous burial of a bird carcass and compaction of plumage. *Paläontologische Zeitschrift*, 1-6. doi: <https://doi.org/10.1007/s12542-018-0411-y>

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

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: 153

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: 37

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: 68

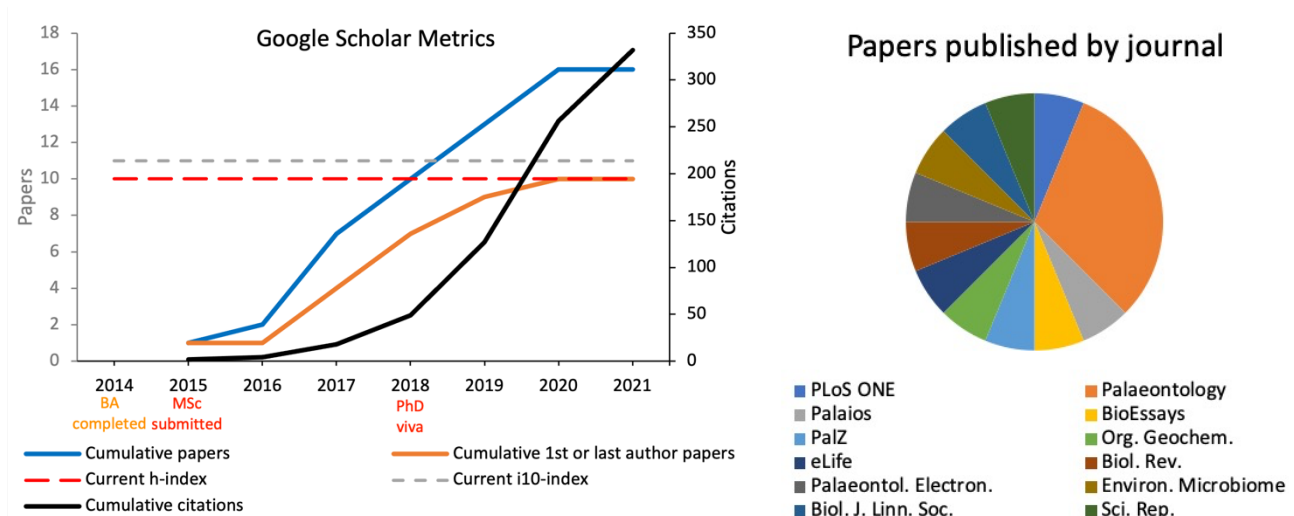
3) Smithwick, F, Mayr, G, Saitta, ET, Benton, M and Vinther, J (2017) On the purported presence of fossilised collagen fibres in an ichthyosaur and a theropod dinosaur. *Palaeontology* 60(3), 409-422. doi: 10.1111/pala.12292

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: 139

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: 538



Preprints

(* indicates subsequent formal publication)

Roy, A, Pittman, M, Kaye, T and Saitta, E (2020) Sediment-encased pressure-temperature maturation experiments chemically simulate natural diagenesis of melanin. *Research Square*. doi: 10.21203/rs.3.rs-106894/v1

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

Saitta, ET, Vinther, J, Crisp, MK, Abbott, GD, Kaye, TG, Pittman, M, Bull, I, Fletcher, I, Chen, X, Collins, MJ, Sakalauskaite, J, Mackie, M, Dal Bello, F, Dickinson, MR, Stevenson, MA, Donohoe, P, Heck, PR, Demarchi, B and Penkman, KEH (2020) Non-avian dinosaur eggshell calcite contains ancient, endogenous amino acids. *bioRxiv*. doi: <https://doi.org/10.1101/2020.06.02.129999>

* Saitta, ET, Liang, R, Lau, CY, Brown, CM, Longrich, NR, Kaye, TG, Novak, BJ, Salzberg, S, Donohoe, P, Dickinson, M, Vinther, J, Bull, ID, Brooker, RA, Martin, P, Abbott, GD, Knowles, TDJ, Penkman, K, and Onstott, TC (2018) Life inside a dinosaur bone: a thriving microbiome. *bioRxiv*. doi: <https://doi.org/10.1101/400176>

R Packages

'Momocs'. Authors: Vincent Bonhomme, Sandrine Picq, Julien Claude with suggestions and contributions from Cedric Gaucherel, Sarah Ivorra, Ricardo Kriebel, Neus Martinez, Marcelo Reginato, Evan Saitta, Norbert Telmon, Asher Wishkerman. 2015.

Achievements and Grants

Paleontological Society Stephen Jay Gould Award	2017
The Daniel Pidgeon Fund	2017
■ The Geological Society research grant	
Bob Savage Memorial Fund	Received four times - 2016-2017
■ University of Bristol palaeobiology graduate student award	
Jackson Student Travel Grant	2016
■ Society of Vertebrate Paleontology award to support student travel to their annual meeting	
M.Sc. Award: Distinction (University of Bristol)	2015
University of Bristol Alumni Foundation Travel Grant	Received twice - 2015
■ University of Bristol student award to support conference attendance costs	
Magna Cum Laude (Princeton University)	2014
Elected to the Society of Sigma Xi	2014
Senior Thesis Poster Award in Behavior	2014
■ Granted by Princeton University's Department of Ecology and Evolutionary Biology	
Office of the Dean of the College Senior Thesis Research Funding	2013
■ Princeton University academic research grant	
Fred Fox Fund	2012
■ Academic research award and grant through the Office of Religious Life at Princeton University	

Teaching Assistance

Geobiology (University of Bristol)	Spring 2017
Geology 1: Evolution of Earth and Life (University of Bristol)	Spring 2017
Evolution of the Biosphere (University of Bristol)	Fall 2015
Environmental Geoscience: Climate and Ecology (University of Bristol)	Fall 2015

Academic Presentations

(Lead presenter only)

Society of Vertebrate Paleontology annual meeting	
■ * Virtual Conference: Poster (abstract accepted but later withdrawn due to scheduling conflict)	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 Session)	10/2018
○ Molecular stability and mobility: Protein diagenesis in open and closed taphonomic systems	
■ Calgary, Alberta, Canada: Talk (Romer 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	
Palaeontological Association annual meeting	
■ London, UK	12/2017
○ Talk: Approaching sexual dimorphism in non-avian dinosaurs and other extinct taxa	
○ Poster: Life inside a dinosaur bone: a thriving microbiome	
■ Lyon, France	12/2016

- 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
- Cardiff, UK 12/2015
 - Poster: The taphonomy of keratin in archosaurs
 - Talk: Evidence for sexual dimorphism in the plated dinosaur *Stegosaurus mjosi* (Ornithischia, Stegosauria) from the Morrison Formation (Upper Jurassic) of western USA
- International Workshop on Konservat-Lagerstätten**
- Cork, Ireland: Talk 7/2017
 - Dinosaur eggshell calcite as a closed system: 'molecular Konservat-Lagerstätten'
- Argonne National Laboratory**
- Advanced Photon Source: Coffee Talk 8/2019
 - Exceptional fossils: feathers, soft tissues, and ancient molecules
- Field Museum of Natural History**
- A. Watson Armour Seminar Series 9/2019
 - Mesozoic molecules: revealing information from fossils through taphonomy
- The University of Chicago**
- Evolutionary Morphology Seminar Series 10/2021
 - Molecular fossil hunting: analytical and experimental taphonomy

Popular Science Articles

- The Conversation* 11/2017
 - "How some dinosaur discoveries might be wishful scientific thinking"
- The Science Breaker* (partner with Université de Genève) 11/2019
 - "Long-dead dinosaurs support new life"

Advising

- Summer intern & volunteer supervising (Field Museum) 2018-2020

Radio and Podcast Appearances

- The Skeptics Guide to the Universe* 6/2019
 - Twenty-minute interview on the podcast discussing Saitta *et al.* (2019, *eLife*)
- Palaeocast* 6/2019
 - Hour-long interview on the podcast discussing Saitta *et al.* (2019, *eLife*)
- These Vibes Are Too Cosmic* 5/2018
 - Hour-long interview with Princeton, New Jersey, radio show on my research in general
- BBC Radio: National and Bristol** 4/2015
 - Interviews discussing Saitta (2015, *PLoS ONE*)

Institutional Advancement

- Field Encounters** 11/2018
 - Talk given to Field Museum donors entitled "Creating synthetic fossils in the lab"
- Sue Celebration** 1/2019
 - Presented my work to Field Museum members and donors
- Field Museum Donor Private Meeting** 6/2019
 - Talk given to museum donors at a small breakfast meeting
- Field Museum Private Collections Tour** 8/2019
 - Showcased oversized fossil collections to Chairman's Circle member
- Field Museum Members' Night** 5/2019
 - Discussed my work with Field Museum members
- Field Museum Pop-up** 6/2019
 - Informal meet and greet with Field Museum board members at downtown 'dig site' pop-up

Public Outreach

- Gloucester Museum "Dinosaurs" Talks and Workshops** 9/2017
 - Feathers and colour in dinosaurs
- Bristol Dinosaur Project** 2015
 - Educational outreach program directed at children
- Jurassic Quest** 7/2014
 - Educational day directed at young children involving fossil displays

The Billings Clinic

7/2013

- Presented to TV/print media and the public about use of CT scanner for undergraduate thesis

Princeton Undergraduate Research and Public Service Symposium

2013

- Alumni Day showcase of independent research

Peer Reviewer

BMC Evolutionary Biology

Journal of Proteomics

Biology Letters

Neues Jahrbuch für Geologie und Paläontologie

PeerJ

Princeton University Press

Societies and Groups

The Society of Vertebrate Paleontology

2013-present

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

Princeton Undergraduate Geosciences Society

2012-2014

myFOSSIL.org (Beta tester)

2015

Princeton University Varsity Track and Field

2010-2014

University of Bristol Athletics and Cross Country Club

2014-2018

University of Bristol Snowsports Club

2015-2018

Experience

Paleontological (prospecting and quarrying), geological, and biological field experience:

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

Laboratory experience:

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

Analytical experience:

- Museum collections research (fossil and modern reptiles, birds, fish, invertebrates, plants)
- R-based morphometrics, statistics, and data analysis
- Fossil bone histology
- CT scanning
- Decay and maturation experiments
- Scanning electron microscopy
- Energy-dispersive X-ray spectroscopy
- Pyrolysis-gas chromatography-mass spectrometry
- Laser stimulated fluorescence imaging
- Amino acid racemization analysis
- DNA and protein extraction
- Time-of-flight secondary ion mass spectrometry
- Radiocarbon analysis
- Attenuated total reflectance Fourier-transform infrared spectroscopy
- Synchrotron X-ray fluorescence
- Raman spectroscopy

Museum collections experience and 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