

# Evan Thomas Saitta, Ph.D.

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## Appointments & Affiliations

### The Field Museum of Natural History (Chicago, IL)

#### Research, Advising, Outreach, & Fundraising

One of the world's leading natural history museums (40 million+ specimens)

AAM-accredited

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 (Chicago, IL)

#### Research, Teaching, & Outreach

#2 USA Paleontology program (*U.S. News & World Report* 2022)

#24–26 globally in Biological Sciences (*QS World University Rankings by Subject* 2022–2023)

#9–11 World university (*QS World University Rankings* 2021–2024)

Postdoctoral Scholar, Biological Sciences Division, Dept. of Organismal Biology and Anatomy

Oct. 2021–Dec. 2024

Supervisor: Dr. Paul Sereno

### Northwestern University (Evanston, IL)

#### Teaching

#7 USA university (*U.S. News & World Report* 2026)

#30 World university (*Times Higher Education* 2026)

Environmental Science: #44 USA; Earth Science & Geophysics: #40 USA; Paleontology: #35 USA (*EduRank* 2026)

Lecturer, Dept. of Earth, Environmental, and Planetary Sciences

Fall 2026

Course to be taught: EARTH 101 Earth Science for the 21st Century

### 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 (Chicago, IL)

#### Teaching

Adjunct Lecturer, Dept. of Earth and Environmental Sciences

Spring 2022

Course taught: EAES/BIOS 360 Introduction to Paleontology

### Lauer Foundation for Paleontology, Science and Education (Wheaton, IL)

#### Research

501(c)(3) not for profit organization

Research Associate

2026–present

## Education

### The University of Bristol (Bristol, UK)

School of Earth Sciences

#1 Paleontology research group globally (*Center for World University Rankings* 2017)

#2 UK, #16 globally in Earth Sciences (*Shanghai Global Ranking of Academic Subjects* 2019)

#19 globally in Earth Sciences (*QS World University Rankings by Subject* 2016)

Russell Group

Ph.D. in Geology

2015–April 2018 (*viva*), Jan. 2019 (graduation ceremony)

Advisor: Dr. Jakob Vinther

Thesis: “The taphonomy of soft tissues and the evolution of feathers”

M.Sc. (*Distinction*) in Palaeobiology

2014–2015 (submission), Jan. 2016 (graduation ceremony)

Advisor: Dr. Jakob Vinther

Thesis: “The taphonomy of keratin in archosaurs”

### Princeton University (Princeton, NJ)

#1 USA university (*U.S. News & World Report* 2010, 2012–2015, etc.)

Top-13 World university (*QS World University Rankings* 2010–2014, etc.)

Ivy League

B.A. (*Magna Cum Laude*) in Ecology and Evolutionary Biology

2010–2014

Advisor: Dr. James Gould

Thesis: “Paleobiology of North American stegosaurs: Evidence for sexual dimorphism”

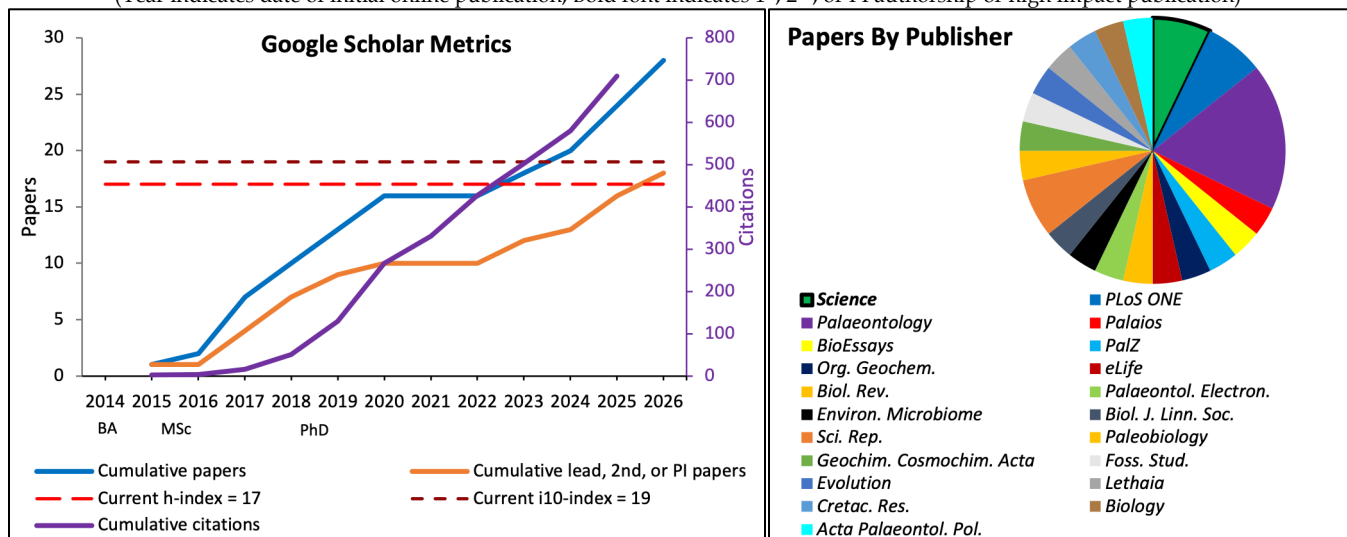
## Independent Research Program Statement

My independent research program centers on sediment-encased maturation. I led the development of this high-temperature, high-pressure experimental taphonomic method during my Ph.D. to simulate long-term, deep-burial diagenesis and produce ‘synthetic fossils’. With this laboratory method, my team and I have published multiple peer-reviewed articles investigating the preservation, alteration, and detectability of biomolecules in the fossil record. I have applied this approach to proteins, pigments, steroids, plant resins, and other tissues, and the work has been covered in the *BBC*, *The New York Times*, *Science*, and elsewhere. My method has formed the basis of awarded research grants (Field Museum, Geological Society of London, Palaeontological Association, Paleontological Society) and pending funding proposals (Leverhulme Trust). I have mentored graduate students using my method in their own projects at the University of Hong Kong, University of California Davis, University of Chicago, and University of Bristol. Ultimately, I plan to expand this experimental framework in three directions: (1) understand how organic fossils would preserve under early Earth conditions, (2) predict how organics and pollutants from modern environments will appear in the future rock record, and (3) aid in the search for extraterrestrial fossils by simulating burial conditions on moons and other planets.

### Publications

*h*-index = 17; *i10*-index = 19

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



28) **Saitta, ET**, Sereno, PC, Vidal, D, Ciudad Real, M, Keillor, TM, Bop, L, Baumgart, SL, Burdick, A, Radermacher, V, Kaye, TG, Dussubieux, L, Maxey, E, Filatov, A, and Chen, X (2026, **Editors' choice**) Dinosaur ‘mummification’: clay templating in a fluvial setting preserves three-dimensional integument renderings after carcass desiccation. *Acta Palaeontologica Polonica* 71(3), 535-579. DOI: 10.4202/app.01349.2026

27) Longrich, NR, Makovicky, PJ, Tokaryk, T, Cooper, DML, **Saitta, ET**, Erickson, GM, Szekely, T and Snively, E (2026, **Cover Story**) Hatchlings of *Tyrannosaurus rex* and the evolution of dinosaur reproductive strategies. *Biology* 15(13), 1090. DOI: 10.3390/biology15131090

Altmetric score: 330

26) **Saitta, ET** (2026) Are we underfitting dinosaur growth models? Accounting for intra- & inter-specific variation. *Cretaceous Research* 186, 106426. DOI: 10.1016/j.cretres.2026.106426

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, **Cover**) Scimitar-crested *Spinosaurus* species from the Sahara caps stepwise spinosaurid radiation. *Science* 391(6787), eadx5486. DOI: 10.1126/science.adx5486

Altmetric score: 2,963

- 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: 2,097
- 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: 116
- 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: 707
- 19) Longrich, NR, and **Saitta, ET** (2024) Taxonomic status of *Nanotyrannus lancensis* (Dinosauria: Tyrannosauroidae) — a distinct taxon of small-bodied tyrannosaur. *Fossil Studies* 2(1), 1–65. DOI: 10.3390/fossils2010001  
Altmetric score: 818
- 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: 405

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: 210

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: 128

5) **Saitta, ET**, Rogers, CS, Brooker, RA, and Vinther, J (2017) Experimental taphonomy of keratin: a structural analysis of early taphonomic changes. *Palaaios* 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: 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: 282

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: 665

## Currently Unpublished Preprints

**Saitta, ET**, Maxey, ER, Antipova, OA, Li, L, Stockdale, MT, Kaye, TG, and Makovicky, PJ (Under Review) **Taphonomic patterns of elemental enrichment: synchrotron x-ray fluorescence of diverse fossils from multiple konservat-lagerstätten, extant organisms, and artificial maturation experiments.** *Research Square*. DOI: 10.21203/rs.3.rs-10693948/v1

Roy, A, **Saitta, ET**, Musa, M, Al-Kindi, S, Kaye, TG, and Pittman, M (2026) **A multi-spectroscopic investigation into the diagenesis of avian polyene pigments: simulated maturation, chemical pathways and palaeontological implications.** *Research Square*. DOI: 10.21203/rs.3.rs-7900994/v1

**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

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## Manuscripts Under Review

Saitta, ET, Maxey, ER, Antipova, OA, Li, L, Stockdale, MT, Kaye, TG, and Makovicky, PJ (Under Review) **Taphonomic overprinting of elemental composition: synchrotron x-ray fluorescence of diverse fossils from multiple konservat-lagerstätten, extant organisms, and artificial maturation experiments.**

Saitta, ET, Latta, H, Kaye, TG, Gnoske, T, Sereno, PC, Vinther, J, Brooker, RA, and Bull, ID (Under Review) **High thermal stability of estrogen through experimental maturation shows promise for fossil sexing.**

Saitta, ET, Ashby, J, Bakker FT, Gnoske, TP, Heller, NE, Malinich, S, Oliveira, G, Pell, R, Stockdale, MT, and van Grouw, H (Under Review) **Museums should curate beyond the natural: anthropogenically altered organisms offer unique insight into evolutionary processes & human culture.**

Saitta, ET, Greidanus, C, Wadleigh, J, Shinya, A, Waldbauer, J, and Kaye, TG (Under Review) **A method for entrapping specimen inclusions within 'synthetic amber' using sediment-encased artificial maturation.**

Roy, A, Saitta, ET, Musa, M, Al-Kindi, S, Kaye, TG, and Pittman, M (Under Review) **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.**

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## Achievements†, Funding\*, & Accepted Proposals

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|------------------------------------------------------------------------------------------------------------------------|----------------------|
| <b>Field Museum – 2027 Science Innovation Award*</b>                                                                   | <b>Starting 2027</b> |
| PIs: Mann, A; Herrera, FA                                                                                              |                      |
| Co-PIs: <u>Saitta, ET</u> ( <i>wrote initial draft of proposal</i> ); So, C; D'Antonio, M                              |                      |
| "Experimental Simulation of Mazon Creek Fossilization"                                                                 |                      |
| Amount: \$55,000                                                                                                       |                      |
| <b>CNPEN Proposal - Brazilian Center for Research in Energy and Materials (Campinas, Brazil)</b>                       | <b>2024</b>          |
| PI: Kerber, BB. Co-Proposers: <u>Saitta, ET</u> , Prado, GMEM, Silva, EP                                               |                      |
| "Can Raman spectroscopy really reveal biosignatures in fossil dinosaurs?"                                              |                      |
| <b>Paleontological Society Norman Newell Early Career Grant*</b>                                                       | <b>2023</b>          |
| "Characterizing the diagenesis of sex hormones"                                                                        |                      |
| <b>The Palaeontological Association Research Grant*</b>                                                                | <b>2022</b>          |
| "Characterizing the diagenesis of sex hormones"                                                                        |                      |
| <b>Honoring Our Professors' Excellence (HOPE) Award†</b>                                                               | <b>2022</b>          |
| University of Illinois Chicago Office of Campus Housing award as nominated by students                                 |                      |
| <b>University of Chicago Fossil Lab Postdoctoral Funding*</b>                                                          | <b>2021-2024</b>     |
| Postdoctoral salary & research funds through the Sereno Fossil Lab, University of Chicago                              |                      |
| <b>Bass Postdoctoral Fellowship*</b>                                                                                   | <b>2018-2020</b>     |
| Postdoctoral salary & research funds through the Negaunee Integrative Research Center, Field Museum of Natural History |                      |
| <b>Paleontological Society Stephen Jay Gould Award*</b>                                                                | <b>2017</b>          |
| Paleontological Society Student Research Grant: "Material properties of keratinous structures"                         |                      |

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|----------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|
| <b>The Daniel Pidgeon Fund*</b><br>The Geological Society of London research grant: "Creating fossils in the lab: sediment-based maturation experiments" | <b>2017</b>                            |
| <b>Bob Savage Memorial Fund*</b><br>University of Bristol palaeobiology graduate student award                                                           | <b>Received four times – 2016-2017</b> |
| <b>Jackson Student Travel Grant*</b><br>Society of Vertebrate Paleontology award to support student travel to their annual meeting                       | <b>2016</b>                            |
| <b>M.Sc. Award: Distinction (University of Bristol)†</b>                                                                                                 | <b>2015</b>                            |
| <b>University of Bristol Alumni Foundation Travel Grant*</b><br>University of Bristol student award to support conference attendance costs               | <b>Received twice – 2015</b>           |
| <b>Magna Cum Laude (Princeton University)†</b>                                                                                                           | <b>2014</b>                            |
| <b>Elected to the Society of Sigma Xi†</b>                                                                                                               | <b>2014</b>                            |
| <b>Senior Thesis Poster Award in Behavior†</b><br>Granted by Princeton University's Department of Ecology and Evolutionary Biology                       | <b>2014</b>                            |
| <b>Office of the Dean of the College Senior Thesis Research Funding*</b><br>Princeton University academic research grant                                 | <b>2013</b>                            |
| <b>Fred Fox Fund*</b><br>Academic research award and grant through the Office of Religious Life at Princeton University                                  | <b>2012</b>                            |

## Pending Funds & Proposals

Leverhulme Trust – Research Project Grant  
 Institution: University of Bristol  
 Principal Applicant: Vinther, J  
 Co-Applicants: Bull, I; Brooker, R  
 Research Assistant: Saitta, ET  
 "Decoding Molecular Signals from Deep Time: Experimental and Predictive Framework"  
 Requested Amount: £481,078

## Teaching

(\*includes training of a graduate student teaching assistant)

|                                                                                                                                                                                                               |                                      |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| <b>Lecturer, Northwestern University</b><br>Lead, sole course instructor: Earth Science for the 21st Century EARTH 101*                                                                                       | <b>Fall 2026</b>                     |
| <b>Adjunct Lecturer, Benedictine University</b> (Lisle, IL)<br>Lead, sole course instructor: Ecology Laboratory BIOL 4364 (2 sections)<br>Section instructor: Principles of Biology Lab BIOL 1199 (1 section) | <b>Fall 2025</b><br><b>Fall 2025</b> |
| <b>Adjunct Lecturer, University of Illinois Chicago</b><br>Lead, sole course instructor: Introduction to Paleontology EAES/BIOS 360*                                                                          | <b>Spring 2022</b>                   |
| <b>Guest Lecturer, University of Chicago</b><br>Dinosaur Science BIOS 23100: "Taphonomy & Footprints" lecture                                                                                                 | <b>Spring 2023</b>                   |
| <b>Postdoctoral Field Teaching Assistant, University of Chicago</b><br>Dinosaur Science BIOS 23100: Week-long dinosaur excavation in Wyoming                                                                  | <b>Summer 2023</b>                   |

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

Fall 2015  
 Spring 2017  
 Spring 2017  
 Fall 2015

## Advising, Training, & Mentoring

|                                                                                                                                                                                    |              |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| <b>Mentoring</b>                                                                                                                                                                   | 2018-present |
| My sediment-encased maturation method has been used* in collaboration with graduate students from:                                                                                 |              |
| <b>University of Hong Kong</b> – Ph.D. student; Two chapters of 2021 thesis                                                                                                        |              |
| <b>University of California Davis</b> – Ph.D. student                                                                                                                              |              |
| <b>University of Chicago</b> – Ph.D. student                                                                                                                                       |              |
| <b>University of Bristol</b> – M.Sci. student; Entire 2023 thesis based on modern, fossil, capsule maturation, & sediment-encased maturation samples I processed & lipid extracted |              |
| <i>*Other students from the Netherlands, UK, &amp; China have also inquired about using my method in their Ph.D. projects</i>                                                      |              |
| <b>Advising</b>                                                                                                                                                                    |              |
| Undergraduate students: summer intern* & volunteer supervising, <b>Field Museum</b>                                                                                                | 2018-2020    |
| <i>*Supported by University of Chicago's Jeff Metcalf Internship Program; became study coauthor &amp; later pursued science in graduate school</i>                                 |              |
| <b>Training</b>                                                                                                                                                                    |              |
| Graduate student teaching assistant training, <b>Northwestern University</b>                                                                                                       | Fall 2026    |
| Graduate student teaching assistant training, <b>University of Illinois Chicago</b>                                                                                                | Spring 2022  |

## Academic Presentations

(Lead presenter only)

|                                                                                                                                                    |         |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>Northwestern University</b>                                                                                                                     |         |
| Department of Earth, Environmental, and Planetary Sciences Seminar Series: Talk                                                                    | 5/2026  |
| Can you predict the past? Molecular & experimental paleontology                                                                                    |         |
| <b>Society of Vertebrate Paleontology annual meeting</b>                                                                                           |         |
| 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 – <i>*abstract accepted but later withdrawn due to registration cost</i>                                               | 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 ( <i>Romer Prize Session</i> )                                                                                  | 10/2018 |
| Molecular stability and mobility: Protein diagenesis in open and closed taphonomic systems                                                         |         |
| Calgary, Alberta, Canada: Talk ( <i>Romer Prize Session</i> )                                                                                      | 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                                                                                                             |         |
| <b>Palaeoproteomics and Archaeology, Society for Techniques and Advances (affiliate of The International Society for Biomolecular Archaeology)</b> |         |
| PAASTA Talk Series: Virtual Talk                                                                                                                   | 7/2024  |
| Eggshell Time Capsules: Ancient Amino Acids                                                                                                        |         |

|                                                                                                                                                                                       |         |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|
| <b>Weizmann Institute of Science</b>                                                                                                                                                  |         |
| Kimmel Center for Archaeological Science Seminar: Virtual Talk                                                                                                                        | 4/2024  |
| Eggshell Time Capsules: Ancient Amino Acids                                                                                                                                           |         |
| <b>The University of Chicago</b>                                                                                                                                                      |         |
| 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                                                                                                                                          | 10/2021 |
| Molecular fossil hunting: analytical and experimental taphonomy                                                                                                                       |         |
| <b>The University of Copenhagen (Denmark)</b>                                                                                                                                         |         |
| Globe Institute: Talk                                                                                                                                                                 | 7/2022  |
| Molecular fossil hunting: analytical and experimental taphonomy                                                                                                                       |         |
| <b>The University of Illinois Chicago</b>                                                                                                                                             |         |
| EAES Departmental Seminar: Talk                                                                                                                                                       | 3/2022  |
| Molecular fossil hunting: analytical and experimental taphonomy                                                                                                                       |         |
| <b>Field Museum of Natural History</b>                                                                                                                                                |         |
| A. Watson Armour Seminar Series: Talk                                                                                                                                                 | 9/2019  |
| Mesozoic molecules: revealing information from fossils through taphonomy                                                                                                              |         |
| <b>Argonne National Laboratory</b>                                                                                                                                                    |         |
| Advanced Photon Source: Coffee Talk                                                                                                                                                   | 8/2019  |
| Exceptional fossils: feathers, soft tissues, and ancient molecules                                                                                                                    |         |
| <b>Palaeontological Association annual meeting</b>                                                                                                                                    |         |
| 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 <i>Stegosaurus mjosi</i> (Ornithischia, Stegosauria) from the Morrison Formation (Upper Jurassic) of western USA         |         |
| <b>International Workshop on Konservat-Lagerstätten</b>                                                                                                                               |         |
| Cork, Ireland: Talk                                                                                                                                                                   | 7/2017  |
| Dinosaur eggshell calcite as a closed system: ‘molecular Konservat-Lagerstätten’                                                                                                      |         |

## Popular Science Articles

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

## Radio & Podcast Appearances

|                                                                                                                                            |        |
|--------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <i>The Primal Biology Show</i><br>Interview discussing my career and insights                                                              | 7/2025 |
| <i>The Best of our Knowledge</i><br>Interview with WMAC Northeast Public Radio discussing Saitta & Kaye (2025, <i>Scientific Reports</i> ) | 6/2025 |
| <i>The Skeptics Guide to the Universe</i><br>Twenty-minute interview on the podcast discussing Saitta <i>et al.</i> (2019, <i>eLife</i> )  | 6/2019 |
| <i>Palaeocast</i><br>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><br>Hour-long interview with Princeton, New Jersey, radio show on my research in general                  | 5/2018 |
| <b>BBC: National &amp; Bristol radio</b><br>Interviews discussing Saitta (2015, <i>PLoS ONE</i> )                                          | 4/2015 |

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## Institutional Advancement & Fundraising

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

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## Peer Reviewer

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|---------------------------------------|-------------------------------------------------------------|
| <i>Nature Ecology &amp; Evolution</i> | <i>Royal Society Open Science</i>                           |
| <i>BMC Evolutionary Biology</i>       | <i>Paleobiology</i>                                         |
| <i>Journal of Proteomics</i>          | <i>Neues Jahrbuch für Geologie und Paläontologie</i>        |
| <i>Biology Letters</i>                | <i>PeerJ; PeerJ Life &amp; Environment</i>                  |
| <i>Cretaceous Research</i>            | <i>Princeton University Press: Remnants of Ancient Life</i> |

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## Editorial Roles

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|-------------------------------------------------------------------------------------------|---------------------|
| <b>Associate Editor, <i>Frontiers in Ecology &amp; Evolution</i>, Paleocology section</b> | <b>2025-present</b> |
|-------------------------------------------------------------------------------------------|---------------------|

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## Public Outreach

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

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## Societies & Groups

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|---------------------------------------------------------------|---------------|
| <b>The Society for the Study of Evolution</b>                 | 2025-present  |
| <b>The Palaeontological Association</b>                       | 2015-present  |
| <b>The Society of Vertebrate Paleontology</b>                 | 2013-Feb 2026 |
| <b>The Paleontological Society</b>                            | 2010-present  |
| <b>DinoSoc</b>                                                | 2014-2017     |
| University of Bristol student paleontology society            |               |
| <b>Bristol University Geology and Geoscience Society</b>      | 2014-2017     |
| <b>myFOSSIL.org</b>                                           | 2015          |
| Beta tester                                                   |               |
| <b>Princeton Undergraduate Geosciences Society</b>            | 2012-2014     |
| <b>University of Bristol Snowsports Club</b>                  | 2015-2018     |
| Snowboard race team                                           |               |
| <b>University of Bristol Athletics and Cross Country Club</b> | 2014-2018     |
| Cross country                                                 |               |
| <b>Princeton University Cannon Dial Elm Club</b>              | 2012-2014     |

## Experience & Networks

### International collaborative research network:

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

### Paleontological (prospecting, quarrying, preparation), geological, environmental, & 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)
- Dinosoc: UK
- Princeton University: geology (Spain, France, Utah, New Mexico, the Catskills, Kentucky, Delaware Water Gap, & Yellowstone National Park) & biology/environmental science (Bermuda & Yellowstone National Park)
  - Bermuda field experience in partnership with the Bermuda Institute of Ocean Sciences
- Independent paleontological field & preparatory lab experience over seven summers: Montana

### 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 & fluorescence microscopy
- High-performance liquid chromatography
- DNA, protein, & lipid extraction (incl. clean lab)
- Qubit fluorometry
- Time-of-flight secondary ion mass spectrometry
- Accelerator mass spectrometry
- Attenuated total reflectance Fourier-transform infrared spectroscopy
- Synchrotron X-ray fluorescence
- Raman spectroscopy
- Portable X-ray fluorescence
- X-ray diffraction
- White light scanning & photogrammetry
- 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

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## 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) & one archaeal phylum (Thaumarchaeota), the majority of which represented novel microbial lineages from class to species levels