# Mark A. Wright

Dept. of Organismic and Evolutionary Biology, Harvard University
ORCID: https://orcid.org/0000-0002-9468-3863
Contact: markwright@g.harvard.edu
Location: Los Angeles, CA (90066)

## Education

2019–Present **Ph.D. Candidate**, Harvard University, Dept. Organismic and Evolutionary Biology
-Expected Graduation: May 2025
-Primary Advisor: Stephanie E. Pierce

2016–2018 **M.Sc. Evolutionary Biology**, Erasmus Mundus (MEME) Joint-Degree Programme
-Univ. Montpellier (France) Primary Advisor: Lionel Hautier
-Univ. Groningen (Netherlands) Primary Advisor: Rampal S. Etienne

2011–2015 **B.S. Biology**, Oakland University, Dept. Biological Sciences
-Honors College, Dean's List, Summer Research Program in Biology

## Teaching Experience

2023–2024 **Pedagogy Fellow**, Dept. Organismic and Evolutionary Biology, Harvard University
-Designed and instructed a first year graduate student seminar (*OEB 399*)
-Pedagogy consultant for graduate student TAs, including teaching observations
-Professional development workshops at Derek Bok Center for Teaching and Learning

2021–2024 **Teaching Fellow**, Dept. Organismic and Evolutionary Biology, Harvard University
-*OEB 399: Topics in Organismic and Evolutionary Biology* (Fall 2023 and Spring 2024)
-*LIFESCI 2: Evolutionary Human Physiology and Anatomy* (Fall 2022, two sections)
-*OEB 207: The Fishy Aspects of the Human Body* (Spring 2022, return to in-person)
-*OEB 207: The Fishy Aspects of the Human Body* (Spring 2021, virtual instruction)

2021 (Fall) **Foundations of Teaching in STEM**, Derek Bok Center for Teaching and Learning
-Six week seminar cultivating teaching practices for collegiate science and engineering

2013–2015 **Teaching Assistant**, Dept. of Biological Sciences, Oakland University
-*BIO 206: Human Cadaveric Anatomy Laboratory* (four consecutive semesters)

## Publications

**Wright MA**, Martinez Q, Ferreira-Cardoso S, Lebrun R, Bubourguier B, Delsuc F, Fabre PH, Hautier L (2024). Sniffing out morphological convergence in the turbinal complex of myrmecophagous placentals. *Anatomical Record*. https://doi.org/10.1002/ar.25603

**Wright MA**, Cavanaugh TJ, Pierce SE (2024). Volumetric versus element-scaling mass estimation and its application to Permo-Triassic tetrapods. *Integrative Organismal Biology*. https://doi.org/10.1093/iob/obae034

Martinez Q, **Wright MA**, Bubourguier B, Ito K, van de Kamp T, Hamann E, Zuber M, Ferreira G, Blanc R, Fabre PH, Hautier L, Amson E (2024). Disparity of turbinal bones in placental mammals. *Anatomical Record*. https://doi.org/10.1002/ar.25552

Sarasa JL, Okamoto AS, **Wright MA**, Pierce SE, Capellini TD (2024). Lions & sea lions & bears, oh my: Utilizing museum specimens to study the ossification sequence of carnivoran taxa. *BMC Zoology*. https://doi.org/10.1186/s40850-024-00201-3

Martinez Q, Okrouhlík J, Šumbera R, **Wright MA**, Araújo R, Braude S, Hildebrandt TB, Holtze S, Ruf I, Fabre PH (2023). Mammalian maxilloturbinal evolution does not reflect thermal biology. *Nature Communications*. https://doi.org/10.1038/s41467-023-39994-1

**Wright MA**, Sears KE, Pierce SE (2022). Comparison of hindlimb muscle architecture properties in small-bodied, generalist mammals suggest similarity in soft tissue anatomy. *Journal of Mammalian Evolution*. https://doi.org/10.1007/s10914-022-09608-6

Bishop PJ, **Wright MA**, Pierce SE (2021). Whole-limb scaling of muscle mass and force-generating capacity in amniotes. *PeerJ*. https://doi.org/10.7717/peerj.12574

## Service and Outreach

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| 2023 (Fall) | **National Fossil Day**, Harvard Museum of Natural History (1,161 visitors)<br>-Invited public talk discussing digitization methods in paleobiology (~60 attendees)<br>-Led an open table of "hidden gems" from the vertebrate paleontology collections |
| 2021–2022 | **Executive Board (Guide)**, Harvard Graduate Students Union, UAW Local 5118<br>-Co-supervised a paid staff of five labor organizers for the graduate students union<br>-Planned outreach efforts to members to ensure awareness of contractual rights |
| 2020–2022 | **Organismic and Evolutionary Biology Anti-Racism Reading Group**, Harvard University<br>-Coordinated ecology & evolution focused antiracism community group discussions |
| 2020–2021 | **Mutual Aid Organizer**, Harvard Graduate Students Union, UAW Local 5118<br>-Connected unhoused undergraduate students during the pandemic onset with hosts<br>-Coordinated food and grocery deliveries to immunocompromised students |
| 2019 (Spring) | **I <3 Science**, Harvard Museum of Natural History (1,473 visitors)<br>-Led an interactive specimen table for the public discussing fossil preparation |
| 2013–2015 | **Anatomical Society**, Oakland University<br>-Hosted weekly seminars with invited speakers on current topics in anatomy |
| 2013–2014 | **TEDx Oakland University**, Oakland University<br>-Assisted in planning and hosting the first annual TEDx conference on campus |
| 2013–2014 | **Global Medical Brigades**, Oakland University<br>-Fundraised and brought medications to a rural community in Jinotega, Nicaragua<br>-Triaged patients speaking in Spanish during a 3-day clinic serving over 1,000 people |

## Conference Presentations

2024 **Wright MA**, Pierce SE. Ex Vivo Experimental Analysis of the Impact of Soft Tissues on 3D Hip Joint Mobility in Two Contrasting Amniotes. *Anatomy Connected*, Toronto (Canada). Poster.

2023 **Wright MA**, Pierce SE. Evolutionary Dynamics of the Synapsid Pelvis and Femur Provides Insight into the Origin of Mammalian Limb Posture. *International Congress of Vertebrate Morphology (ICVM)*, Cairns (Australia). Oral Presentation.

2023 **Wright MA**, Pierce SE. A Hip New Perspective on the Synapsid "Sprawling-to-Upright" Transition. *Society for Integrative and Comparative Biology (SICB) Annual Meeting*, Austin, TX (United States). Poster.

2022 **Wright MA**, Pierce SE. Volumetric Reconstructions More Precisely Estimate Mass Across Terrestrial Amniotes. *SICB Annual Meeting*. Recorded oral presentation.

2020 **Wright MA**, Cavanaugh TJ, Pierce SE. Estimating Body Mass in Non-Mammalian Synapsids: A Tale of Two Methods. *Society of Vertebrate Paleontology Annual Meeting*. Virtual poster.

2020 **Wright MA**, Cavanaugh TJ, Pierce SE. Volumetric Body Dimension Estimates of Dimetrodon milleri. *UMOVE Student Research Symposium*, Lowell, MA (United States). Poster.

2019 **Wright MA**, Sears KE, and Pierce SE. Inferring Muscular Architecture in the Hindlimb of Early Mammals by Comparing Extant Species. *ICVM*, Prague (Czech Republic). Oral presentation.

2019 **Wright MA**, Pierce SE. Functional Morphology of the Hip Joint during Mammalian Evolution. *SICB Annual Meeting*, Tampa, FL (United States). Oral presentation.

2018 **Wright MA**, Pierce SE. Transitional Moments in Synapsids Evolution. *SICB Northeast Regional Meeting*, Providence, RI (United States). Oral presentation.

2018 **Wright MA**, Ferreira-Cardoso S, Delsuc F, Hautier L. A Study of Inner Rostrum Morphology Among Ant-Eating Mammals. *Joint Congress on Evolutionary Biology*, Montpellier (France). Poster.

## Work Experience

2018–2019 **Research Assistant**, Harvard University, Dept. of Organismic and Evolutionary Biology
-Assisted in maintenance and inventory of general biological laboratory operations
-Assisted in training and collection of x-ray recordings of live lizards and opossums
-Live animal care and husbandry (axolotls and tiger salamanders)

2015–2016 **Quality Technician**, Plastipak Holdings, Inc., Global Business & Technology Center
-Quality assurance testing on water bottles, food containers, preforms, and more

2015 **Crew Member**, Tropical Smoothie Cafe, Rochester, Michigan
-Ensure customer satisfaction using point-of-sale system; prepared food and smoothies

2013–2015 **Resident Assistant**, Oakland University, University Housing
-Conducted weekly security rounds of university dormitories and apartments
-Hosted educational programs to foster personal and professional development
-Organized events with campus/community partners to promote diversity and inclusion

2012–2013 **Orientation Assistant**, Oakland University, Orientation and New Student Programs
-Assisted in preparations for first year, transfer, and parent orientation programs
-Helped train staff of 20 student employees throughout the summer
-Presented regularly to over 200 incoming first year students

2012 **Student Success Coach**, Oakland University, First Year Advising Center
-Mentored 12 students who had been conditionally admitted to the university

## Scholarships, Grants, and Awards

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|---|---|---|
| 2024 | Derek Bok Center for Teaching & Learning Teaching Certificate | |
| 2023 | International Congress of Vertebrate Morphology Travel Award | $ 800 |
| 2023 | Robert A. Chapman Memorial Scholarship for Vertebrate Locomotion | $ 3,400 |
| 2023 | Charlotte Mangum Student Support Program, SICB | Lodging |
| 2023 | Harvard GSAS Professional Development Fund | $ 2,500 |
| 2022 | Burke Museum Vertebrate Paleontology Collection Study Grant | $ 1,650 |
| 2022 | Robert A. Chapman Memorial Scholarship for Vertebrate Locomotion | $ 3,750 |
| 2022 | Harvard University Certificate of Distinction in Teaching (Spring 2022) | |
| 2021 | Museum of Comparative Zoology Wetmore Colles Grant | $ 399 |
| 2021 | Harvard University Certificate of Distinction in Teaching (Spring 2021) | |
| 2021 | Robert A. Chapman Memorial Scholarship for Vertebrate Locomotion | $ 2,400 |
| 2020 | Robert A. Chapman Memorial Scholarship for Vertebrate Locomotion | $ 2,250 |
| 2019 | Charlotte Mangum Student Support Program, SICB | Lodging |
| 2018 | Groningen University Fund, University of Groningen | € 1,000 |
| 2017 | Marco Polo Grant, University of Groningen | € 1,350 |
| 2017 | Erasmus+ Grant, University of Groningen | € 1,350 |
| 2013 | J. Alford Jones Memorial Scholarship, Oakland University | $ 1,000 |
| 2011–2015 | Presidential Scholarship, Oakland University | $ 50,000 |
| 2011–2015 | Geographic Region Award, Oakland University | $ 8,000 |
| 2011–2012 | Educational Scholarship, Order of the Eastern Star of Michigan | $ 1,450 |

## Skills Summary

**Laboratory**

- Dissections: human cadaveric experience and animals ranging from dogfish to opossums
- 3D Digitization: CT scanning (bones, fossils, soft tissues), LED surface scanning, photogrammetry
- Tissue Staining: PMA, Alizarin red and Alcian blue, Ruthenium Red
- Live animal handling and husbandry ranging from axolotls to tegu lizards to freshwater fishes
- General Laboratory Skills including light microscopy, pipetting, titration, DNA extraction, centrifugation, gel electrophoresis, and hot wire cutting

**Software**

- Microsoft Office Suite (Excel, Word, PowerPoint)
- Image Editing: Adobe Illustrator and Photoshop, GIMP
- Animation and 3D Modeling: Blender, Materialise (Mimics, 3-Matic), Autodesk (Maya, Mudbox, 3DS Max, Meshmixer), MeshLab, MeshTools
- Motion Capture: SIMM, OpenSim
- Miscellaneous: RealityCapture (for photogrammetry), ImageJ (image analysis)

**Coding**

- Highly proficient in R via R Studio (near-daily use)
- Occasional coding in Python
- Past exposure to front end web development (HTML, CSS, JavaScript), C#, State, Mathematica

**Languages**

- French (intermediate): four semesters of coursework, lived experience in France (one year)
- Spanish (intermediate): ten semesters of coursework, triaged patients at a clinic in Nicaragua