



KATRINA E. JONES

Interdisciplinary Centre for Ancient Life
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- 2021-** **Presidential Fellow**
Royal Society University Research Fellow
Interdisciplinary Centre for Ancient Life
Department of Earth and Environmental Sciences
University of Manchester
- 2018-20** **Research Associate**
2017-18 **American Association for Anatomy Postdoctoral Fellow**
2015-17 **Postdoctoral scholar**
Museum of Comparative Zoology
Department of Organismic and Evolutionary Biology
Harvard University

EDUCATION

- 2014** **Ph.D. Functional Anatomy and Evolution**
Johns Hopkins University
Thesis: *Allometry of the thoracolumbar region in running mammals.*
Advisor: Kenneth D. Rose.
Honors: Phi Beta Kappa
- 2008** **M. Sci. Earth Sciences**
University of Cambridge
Thesis: *Morphometric Analysis of Cranial Morphology in Pinnipeds (Mammalia, Carnivora).*
Advisor: Anjali Goswami.
- 2007** **B.A. (Hons). Natural Sciences**
University of Cambridge

PUBLICATIONS

1. **Jones, K. E.**, Dickson, B. V., Angielczyk, K. D., and Pierce, S. E. *In review.* Adaptive landscapes challenge “lateral-to-sagittal” paradigm for mammalian vertebral evolution. *Current Biology*.
2. **Jones, K. E.**, Gonzalez, S, Angielczyk, K. D., and Pierce, S. E. 2020. Regionalization of the axial skeleton predates functional adaptation in the forerunners of mammals. *Nature Ecology and Evolution*. 4(3), 470-478.
3. Rose, K. D., Holbrook, L. T., Kumar, K., Rana, R. S., Ahrens, H. E., Dunn, R. H., Folie, A., **Jones, K. E.**, and Smith, T. 2019. Anatomy, relationships, and paleobiology of *Cambaytherium*

(Mammalia, Perissodactyla, Anthracobunia) from the early Eocene of western India. *Journal of Vertebrate Paleontology*. 39 (Sup1), 1-147.

4. **Jones, K. E.**, Angielczyk, K. D., and Pierce, S. E. 2019. Stepwise shifts underlie evolutionary trends in morphological complexity of the mammalian vertebral column. *Nature Communications*. 10.
5. **Jones, K. E.**, Angielczyk, K. D., Polly, P. D., Head, J. J., Fernandez, V., Lungmus, J., Tulga, S. and Pierce, S. E. 2018. Fossils reveal the complex evolutionary history of the mammalian regionalized spine. *Science*. 1249-1252.
6. **Jones, K. E.**, Benitez, L., Angielczyk, K. D., and Pierce, S. E. 2018. Adaptation and constraint in the evolution of the mammalian backbone. *BMC Evolutionary Biology*. 18(1), 172.
7. **Jones, K. E.** and Holbrook, L. 2016. The evolution of lateral accessory articulations in the lumbar region of perissodactyls. *Journal of Vertebrate Paleontology*. Early view: e1224892
8. Oliver, J. D., **Jones, K. E.**, Hautier, L., Loughry, W. J., and Pierce, S. E. 2016. Vertebral bending mechanics and xenarthrous morphology in the nine-banded armadillo (*Dasypus novemcinctus*). *Journal of Experimental Biology*. 219: 2991-3002.
9. **Jones, K. E.** 2016. New insights on equid locomotor evolution from the lumbar region of fossil horses. *Proceedings of the Royal Society B: Biological Sciences*. 283(1829).
10. **Jones, K. E.** 2015. Preliminary data on the effect of osseous anatomy on ex vivo joint mobility in the equine thoracolumbar region. *Equine Veterinary Journal*. 48(4):502-8.
11. **Jones, K. E.** and Pierce, S. E. 2015. Axial allometry in a neutrally buoyant environment: effects of the terrestrial-aquatic transition on vertebral scaling. *Journal of Evolutionary Biology*. 29(3):594-601.
12. **Jones, K. E.** 2015. Evolutionary allometry of lumbar shape in Felidae and Bovidae. *Biological Journal of the Linnean Society*. 116(3):721-740.
13. **Jones, K. E.** 2015. Evolutionary allometry of the thoracolumbar centra in felids and bovids. *Journal of Morphology*. 267(7):818-831.
14. **Jones, K. E.**, Goswami, A. and Smaers, J. 2015. Impact of the terrestrial-aquatic transition on disparity and rates of evolution in the carnivoran skull. *BMC Evolutionary Biology*. 15(1):8.
15. Rose, K. D., Holbrook, L., Rana, R., Kumar, K., **Jones, K.**, Ahrens, H., Missiaen, P., Sahni, A., and Smith, T. 2014. Early Eocene fossils suggest the mammalian order Perissodactyla originated in India. *Nature Communications*. 5: 5570.
16. **Jones, K. E.** and German, R. Z. 2014. Ontogenetic allometry of the thoracolumbar spine during post-natal growth. *Evolution and Development*. 16 (2): 110-120.
17. **Jones, K. E.**, Rose, K. D. and Perry, J. M. G. 2014. Body size and premolar evolution in the Early-Middle Eocene euprimates of Wyoming. *American Journal of Physical Anthropology*. 153 (1): 15-28.

18. **Jones, K. E.**, Ruff, C. B. and Goswami, A. 2013. Biomechanics of the pinniped jaw: Mandibular evolution without mastication. *Anatomical Record*. 296(7):1049-1062.
19. **Jones, K. E.** and Goswami, A. 2010. Quantitative analysis of the influences of phylogeny and ecology on phocid and otariid pinniped (Mammalia; Carnivora) cranial morphology. *Journal of Zoology*. 280(3):297-308.
20. **Jones, K. E.** and Goswami, A. 2010. Morphometric analysis of cranial morphology in pinnipeds (Mammalia, Carnivora): convergence, ecology, ontogeny, and dimorphism. In: Goswami A. and Friscia A., editors. *Carnivoran Evolution: New Views on Phylogeny, Form and Function*. Cambridge University Press. p342-373.

AWARDS & GRANTS

2020	University Research Fellowship The Royal Society, London. 5-year fellowship.	£714,508
2020	Independent Research Fellowship (Declined) Natural Environment Research Council UK. 5-year fellowship.	£719,449
2020	College for Life Sciences Fellowship (Cancelled due to COVID19) Institute for Advanced Study, Berlin. 6-month residency.	€17,400
2017	Putnam Expedition Grant Museum of Comparative Zoology, Harvard University	\$2450
2017	American Association for Anatomy Postdoctoral Fellowship American Association for Anatomy. 1-year fellowship.	\$20,000
2015	Named post-doctoral researcher National Science Foundation, Division of Earth sciences. Co-wrote grant with PIs.	\$466,766
2014	Alfred Sherwood Romer Prize Society of Vertebrate Paleontology. Pre-doctoral research prize.	\$750
2013	Grant-in-aid of Research. American Society of Mammalogists	\$1500
2013	Theodore Roosevelt Grant. American Museum of Natural History	\$1500
2013	Grant-in-aid of Research. Sigma-Xi	\$1000
Conference travel grants		
	Harvard Faculty of Arts and Sciences Postdoctoral travel award.	\$750
	American Society of Mammalogists Travel Award.	\$300
	American Association for Anatomy Travel Award (three times).	\$350
	Society of Integrative and Comparative Biology, Charlotte Magnum Award.	
	JHU Graduate Student Association Travel Award (twice).	\$500
	SVP Jackson School of Geosciences Student Member Travel Grant.	\$400

INVITED PRESENTATIONS

2020	University of Southern California, Los Angeles.
2019	Brown University. Providence, RI.
2019	Concord Field Station. Cambridge, MA.
2018	Northeast Ohio Medical University. Rootstown, OH.
2018	University of California, Berkeley. Berkeley, CA.
2017	University at Buffalo. Buffalo, NY.
2017	New York Institute of Technology. Long Island, NY.
2015	The Field Museum of Natural History, Chicago, IL. A. Watson Armour Seminar.
2014	Hull York Medical School. York, UK.

INVITED SYMPOSIA

1. Jones, K. E., Gonzalez, S., Angielczyk, K. D., and Pierce, S. 2019. Deciphering the origins and functional implications of mammalian axial regionalization. **Symposium: The axial skeleton: diversity, patterning and function**, *International Congress on Vertebrate Morphology*. Prague, Czech Republic.
2. Jones, K. E., Angielczyk, K. D., and Pierce, S. 2016. A deep-time perspective on the evolution of the mammalian backbone. **Symposium: The Integrative Paleontologist: deep-time approaches to current problems**, *Canadian Society of Zoologists*. London, Ontario.

CONFERENCE PRESENTATIONS

1. Jones, K. E., Dickson, B. V., Angielczyk, K. D., and Pierce, S. 2020. Evolving on their own landscape: unravelling functional trade-offs in synapsid axial evolution. *Society of Vertebrate Paleontology, virtual meeting*.
2. Jones, K. E., Angielczyk, K. D., and Pierce, S. 2019. The evolution of mammalian vertebral complexity. *Society of Integrative and Comparative Biology Northeast Regional*. Boston, MA.
3. Jones, K. E., Gonzalez, S., Angielczyk, K. D., and Pierce, S. 2018. Piecing together the mammal backbone. *Society of Integrative and Comparative Biology Northeast Regional*. Providence, RI.
4. Jones, K. E., Benitez, L., Angielczyk, K. D., and Pierce, S. 2017. A quantitative approach to synapsid vertebral evolution and implications for mammalian locomotor diversification. *Society of Vertebrate Paleontology*. Calgary.
5. Jones, K. E., Polly, P.D., Head, J., Angielczyk, K. D., and Pierce, S. 2016. Evolutionary increases in vertebral regionalization within the mammalian lineage: evidence from fossil synapsids. *International Congress on Vertebrate Morphology*. Washington DC.
6. Jones, K. E., Polly, P. D., Head, J., Fernandez, V., Angielczyk, K. D., and Pierce, S. E. 2015. The evolution of axial regionalization in mammals: Insights from the synapsid fossil record. *Society of Vertebrate Paleontology*, Dallas.

7. **Jones, K. E.** 2014. The axial skeleton: A missing puzzle piece in the evolution of cursorial locomotion in horses. *Society of Vertebrate Paleontology, Romer Prize Session*. Berlin.
8. **Jones, K. E.**, Goswami, A. and Ruff, C. 2013. Seals, skulls, and sexual dimorphism. *American Society of Mammalogists*. Philadelphia.
9. **Jones, K. E.** and Rose, K. D. 2011. Premolar evolution in the earliest euprimates of Wyoming. *Society of Vertebrate Paleontology, Las Vegas*.
10. **Jones, K. E.** and Goswami, A. 2010. Discordant morphological disparity and taxonomic diversity in pinniped versus fissiped carnivorans. *Society of Vertebrate Paleontology*, Pittsburgh.
11. **Jones, K. E.** and Weishampel, D. 2010. Understanding conflicting topologies: The role of character complexes in tree incongruency. *The Annual Symposium of Paleontology and Comparative Anatomy*. Cambridge, UK.
12. **Jones, K. E.** and Goswami, A. 2008. Morphometric analysis of cranial morphology in pinnipeds (Mammalia, Carnivora): Disparity, dimorphism, ecology and ontogeny. *The Annual Symposium of Paleontology and Comparative Anatomy*. Dublin, Ireland.

TEACHING EXPERIENCE

Vertebrate Evolution. *Harvard University*. Undergraduate/graduate level.

2016-20 Two 90-minute lectures: Placental mammal evolution

Geometric Morphometrics. *Analytical Paleobiology workshop, University of Florida*.

2018 Co-taught 3-day intensive workshop as part of NSF-Funded advanced methods workshop for paleobiology graduate students. Interactive lectures and labs in 'R' language.

How to Build an Animal. *Harvard University*. Undergraduate level.

2017 Assisted in developing new course including designing lecture outlines, topic research, and lab ideas.

Gross Anatomy (Cadaver-based). *JHU*. Medical students.

2014 Full-time lab instructor
 2013 Guest instructor, exam grading, tutoring
 2012 Guest instructor, exam grading, tutoring
 2011 Full-time lab instructor
 2010 Prosections

Gross Anatomy (Cadaver-based). *JHU*. Physical and Medical Rehabilitation Residents

2012-14 Prosections

Gross Anatomy (Cadaver-based). *Towson University/CCBC*. P.A. students.

2012-14 One 90-minute lecture. Small group lab presentations.

Undergraduate summer Anatomy (Cadaver-based). *JHU*. One month intensive course.
2011 & 2010 Dissections, small group lab presentations, tutoring, grading

Comparative Anatomy through Dissection. *JHU*. Graduate seminar.
2012 Co-designed comparative anatomy class for graduate students.

Mammalian Evolution. *JHU*. Undergraduate level.
2010 One 60-minute lecture, led review sessions, exam grading

MENTORSHIP

PhD thesis committee member

2021- Anne Kort, Department of Earth and Atmospheric Sciences, Indiana University

Undergraduate Honors theses

2020 Arianna Romero, Organismic and Evolutionary Biology, Harvard University

2018 Sarah Gonzalez, Organismic and Evolutionary Biology, Harvard University

2017 Lorena Benitez & Katie Gibson, Organismic and Evolutionary Biology, Harvard University

SERVICE

Reviewed for: *Evolution*, *Journal of Evolutionary Biology*, *Agence Nationale de la Recherche (France)*, *The Leverhulme Trust (UK)*, *Biological Reviews*, *Journal of Mammalian Evolution*, *Royal Society Open Science*, *Ecology Letters*, *Communications Biology*, *Evolution Letters*, *The American Naturalist*, *Scientific Reports*, *Systematic Biology*, *The Anatomical Record*, *PeerJ*.

Committee Experience

2020- **Co-Chair, SVP Communications Committee.** Responsible for social media, press releases, and media relations for the society.

2016-17 **Co-chair, FASPDA Advocacy committee.** Harvard Faculty of Arts and Sciences Postdoctoral Association.
Represented needs of over 1200 postdocs and research associates.

2010-11 **Vice-President, Graduate Student Association.** *JHU*.
Planned and implemented graduate student networking events, represented students at administrative meetings.

2007-08 **President, Time Truck.** Department of Earth Sciences, Cambridge.
Coordinated student-run science outreach program.

2006-07 **Secretary, Trinity Hall JCR.** University of Cambridge.

Science Communication

2014 - 20 **SVP Communications Committee member.** Twitter officer for Social Media Task Force. Writing press releases for featured abstracts.

2015 **'The Brainscoop' YouTube Channel.** Contributed to three episodes of a popular science YouTube channel which has over 100,000 views.

2013-15 **SICB Student Journalist.** Published articles for a popular science audience.

Outreach Activities

2020 **National Fossil Day Virtual Event.** Museum of Comparative Zoology.
2015-19 **'I Heart Science Day' Volunteer.** Museum of Comparative Zoology.
2015-16 **Life Sciences Outreach.** Harvard University.
2012-13 **MINDS volunteer.** Mentoring to Inspire Diversity in Science, Baltimore, MD.
2011-13 **Science Day volunteer.** Johns Hopkins University.
2007-08 **Time Truck volunteer.** University of Cambridge.

FIELDWORK & MUSEUM EXPERIENCE

2017 **Nova Scotia, Canada.** Harvard paleontological expedition.
2015 **Petrified Forest National Park, Arizona.** Vertebrate Evolution field school.
2010-14 **National Museum of Natural History** at the Smithsonian Institute, Washington DC. Research Student Appointment.
2009- 13 **Bighorn Basin, Wyoming.** JHU paleontological expedition.
2006 **Crowsnest Pass, Alberta.** Geological mapping of sedimentary deposits.

PROFESSIONAL MEMBERSHIPS

2008- Society of Vertebrate Paleontology
2009- American Association of Anatomists
2012-15 Society of Integrative and Comparative Biology
2012-14 Sigma-Xi
2012-14 American Society of Mammologists

CONFERENCE POSTERS

1. **Jones, K. E.,** Gonzalez, S., Angielczyk, K. D., and Pierce, S. 2019. Vertebral regionalization facilitates functional diversification of the mammalian axial skeleton. *American Association of Anatomists*. Orlando, FL.
2. Peacock, B. R., **Jones, K. E.,** Sennikov, A. G., Smith, R. M. H., Pierce, S. E., and Angielczyk, K. D. 2018. Vertebral osteology of *Hipposaurus boonstrai* (Biamosuchia, Therapsida) from the middle Permian of South Africa, with implications for the evolution of Archosauromorpha. *Society of Vertebrate Paleontology*. Albuquerque, New Mexico.
3. Benitez, L., **Jones, K. E.,** and Pierce, S. 2017. Vertebral anatomy and locomotor evolution in mammals: A geometric morphometric approach. *Society of Integrative and Comparative Biology*. Portland, OR.
4. **Jones, K. E.** 2015. Evolutionary allometry of the thoracolumbar region in quadrupedal mammals. *American Association of Anatomists*. Boston.
5. **Jones, K. E.** and Wood, A. 2013. Lumbar morphology of *Arenahippus* and *Mesohippus*, and implications for the evolution of equid locomotion. *Supplement to the Journal of Vertebrate Paleontology*, P145. Los Angeles.

6. **Jones, K. E** and German, R. Z. 2013. The influence of locomotion and modularity on craniocaudal patterns of vertebral growth. *FASEB J.* 27:755.10. *American Association of Anatomists*. Boston.
7. **Jones, K. E** and German, R. Z. 2013. Differential vertebral growth produces variations in adult thoracolumbar proportions in half-bounding mammals. *Society of Integrative and Comparative Biology*. San Francisco.
8. **Jones, K. E.** and Ruff, C. B. 2011. Male-male combat drives bite force dimorphism in the absence of mastication. *FASEB J.* 25:867.1. *American Association of Anatomists*. Washington DC.
9. **Jones, K. E.** and Ruff, C. B., Goswami, A. 2010. Novel adaptations of the pinniped (Mammalia: Carnivora) jaw anatomy to aquatic prey-capture. *American Association of Anatomists*. Anaheim, CA.
10. **Jones, K. E.** and Goswami, A. 2008. Morphometric analysis of cranial morphology in pinnipeds (Mammalia, Carnivora): Disparity, dimorphism, ecology and ontogeny. *Supplement to the Journal of Vertebrate Paleontology*. 28 (3):97A. Cleveland.