

Carrie S. Mongle

Interdepartmental Doctoral Program
in Anthropological Sciences
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EDUCATION

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| Present | <p>Stony Brook University, Stony Brook, NY
Ph.D. Candidate in the Interdepartmental Doctoral Program in Anthropological Sciences
“Modeling hominin variability: The alpha taxonomy of <i>Australopithecus africanus</i>”
Committee: FE Grine, JB Smaers, JG Fleagle, JB Rossie, WH Kimbel, PD Polly
Anticipated defense: May 2019</p> |
| 2015 | <p>Stony Brook University, Stony Brook, NY
M.A., Anthropology; Advisor: Frederick Grine</p> |
| 2012 | <p>University of Virginia, Charlottesville, VA
BA, Archaeology with Distinction</p> |

EXTERNAL RESEARCH AWARDS (\$38,370)

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| 2016 | <p>National Science Foundation Doctoral Dissertation Improvement Grant (\$21,875): “Modeling hominin variability: the alpha taxonomy of <i>Australopithecus africanus</i>” NSF BCS 1613401</p> |
| 2016 | <p>Wenner-Gren Foundation Dissertation Fieldwork Grant (\$10,360): “Modeling hominin variability: the alpha taxonomy of <i>Australopithecus africanus</i>”</p> |
| 2015-2016 | <p>Wenner-Gren Foundation Research Grant (\$6,135): “The phylogenetic relationships of <i>Australopithecus sediba</i>”
Project collaborator, PI David Strait</p> |

PEER-REVIEWED ARTICLES

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| 2018 | <p>Fernández PJ, Mongle CS, Leakey L, Orr CM, Patel BA, Almecija S, Tocheri MW, Jungers WL. Functional morphology and evolution of the hominin forefoot. <i>Proc Natl Acad Sci.</i> 35: 8746-8751.</p> |
| 2017 | <p>Grine FE, Marean CW, Faith JT, Black W, Mongle CS, leRoux S, duPlessis A. Further human fossils from the Middle Stone Age deposits at Die Kelders Cave 1, Western Cape Province, South Africa. <i>J Hum Evol.</i> 109:70-78.</p> |

- 2017 Smaers JB, **Mongle CS**. 2017. On the accuracy and theoretical underpinnings of the multiple variance Brownian motion approach for estimating variable rates and inferring ancestral states. *Biol J Linn Soc Lond*. 121:229-238.
- 2016 Smaers JB, **Mongle CS**, Kandler A. 2016. A variable variance Brownian motion framework for the estimation of ancestral states and variable rates. *Biol J Linn Soc Lond*. 118:78-94.
- 2015 **Mongle CS**, Wallace IJ, Grine FE. 2015a. Cross-sectional structural variation relative to midshaft along hominine diaphyses. I. The forelimb. *Am J Phys Anthropol* 158:386–397.
- 2015 **Mongle CS**, Wallace IJ, Grine FE. 2015b. Cross-sectional structural variation relative to midshaft along hominine diaphyses. II. The hind limb. *Am J Phys Anthropol* 158:398–407.
- 2014 Wallace IJ, Nesbitt A, **Mongle CS**, Gould ES, Grine FE. 2014. Age-related variation in limb bone diaphyseal structure among Inuit foragers from Point Hope, northern Alaska. *Arch Osteoporos* 9:202.
- 2014 Wallace IJ, Demes BB, **Mongle CS**, Pearson OM, Polk JD, Lieberman DE. 2014. Exercise-Induced Bone Formation Is Poorly Linked to Local Strain Magnitude in the Sheep Tibia. *PLoS One* 9:e99108

FORTHCOMING PEER-REVIEWED ARTICLES & CHAPTERS

- In revision* **Mongle CS**, Koenig A, Samonds KE, Smaers JB, Borries C. Costly teeth: gestation length in primates suggests that dentition is *not* expensive to produce. *Am J Phys Anthropol*.
- In revision* **Mongle CS**, Strait DS, Grine FE. Phylogenetic implications of new craniodental character data for *Ardipithecus ramidus*. *J Hum Evol*.
- In revision* Grine FE, Leakey MG, Gathago PN, Brown FH, **Mongle CS**, Jungers WL, Leakey LN. Complete permanent mandibular dentition of early *Homo* from the upper Burgi Member of the Koobi Fora Formation, Ileret, Kenya. *J Hum Evol*.
- In review* Strait DS, **Mongle CS**, Grine FE. The systematics of the robust Australopiths. In: Wood BA, Constantino P (eds). *The Forgotten Lineage(s): Paleobiology of Paranthropus*.
- In press* Márquez S, Pagano AS, **Mongle CS**, Albertine KH, Laitman JT. The Nasal Complex of a Semiaquatic Artiodactyl, the Moose (*Alces alces*): Is it a Good Evolutionary Model for the Ancestors of Cetaceans? *Anat Rec*.
- In prep* **Mongle CS**, Nesbitt A, Smaers J, Grine FE. Evidence that developmental processes shape macroevolutionary patterns.

NON PEER-REVIEWED PUBLICATIONS

- 2017 **Mongle CS**, Nishimura AC, Kling KJ, Lamb AR, Ekanayake-Weber M, de Vries D. Anthropologists get jazzed for science in New Orleans. *Evol Anthropol* 26:193-195. [News and Reviews]

- 2016 | Perlman RF, Nishimura AC, **Mongle CS**, Kling K, Guevara EE, Arslanian K. 2016. Life's a peach for anthropologists in Atlanta. *Evol Anthropol* 25:81–83. [News and Reviews]
- 2014 | Thompson NE, Cassalet S, Holowka NB, Perlman RF, **Mongle, CS**. 2014. Anthropology stampede in Calgary. *Evol Anthropol* 23: 85-87. [News and Reviews]

Book reviews

- 2018 | **Mongle, CS**. The Quarterly Review of Biology: *Evolution's Bite: A Story of Teeth, Diet, and Human Origins*. By Peter Ungar. Princeton (New Jersey): Princeton University Press. \$27.95. 248p. ISBN: 9780691160535. 2017.

PUBLISHED CONFERENCE ABSTRACTS

- 2018 | **Mongle CS**, Strait DS, Grine FE. Phylogenetic implications of new craniodental character data for *Ardipithecus ramidus*. *Am J Phys Anthropol*. [Session Chair; Poster Presentation]
- 2018 | **Mongle CS**, Nesbitt A, Smaers JB, Grine FE. Evidence that developmental processes bias multiple scales of variation and generate a line of least resistance for the evolution of the primate dentition. Northeastern Regional Vertebrate Evolution Symposium [Podium Presentation]
- 2018 | Strait DS, **Mongle CS**, Grine FE. The systematics of robust australopiths. *Am J Phys Anthropol*. [Invited Symposium: The Forgotten Lineage(s): Paleobiology of Paranthropus]
- 2017 | **Mongle CS**, Nesbitt A, Smaers JB, Grine FE. The developmental cascade biases rates of evolutionary change in the dentition. *Am J Phys Anthropol*. [Poster Presentation; **Awarded AAPA-AAA Prize**]
- 2017 | Fernandez PF, **Mongle CS**, Patel BA, Tocheri MW, Jungers WL. Functional morphology and evolution of the early hominin forefoot. *Am J Phys Anthropol*. [Podium Presentation]
- 2016 | **Mongle CS**, Koenig A, Samonds K, Smaers JB, Borries C. 2016. Expensive tissues and gestation length in primates. *Am J Phys Anthropol* S159:233. [Podium Presentation]
- 2015 | **Mongle CS**, Nesbitt A, Grine FE. 2015. A re-examination of maxillary shape variation and the attribution of Early Pleistocene fossils to the genus *Homo*. *Am J Phys Anthropol* S60:228. [Poster Presentation]
- 2014 | **Mongle CS**, Wallace, IJ, Grine FE. 2014. Diaphyseal Cross-sectional Variation in Extant Hominoid Humeri: Implications for Incomplete Hominid Fossils. *Am J Phys Anthropol* 153: 188-189. [Poster Presentation]
- 2014 | Wallace IJ, Demes B, **Mongle CS**, Pearson OM, Polk JD, et al. 2014. Exercise-Induced Bone Formation Is Poorly Linked to Local Strain Magnitude in the Sheep Tibia. *Am J Phys Anthropol* 153: 264. [Poster Presentation]

TEACHING APPOINTMENTS

- 2018 | **Instructor**, Mapping Trait Evolution (Workshop)
35-hour course for researchers detailing how phylogenetic comparative methods can be used to map trait evolution.
Transmitting Science
- 2017 | **Course Director**, Human Gross Anatomy (ANAT-5001)
Lecture and laboratory instruction for dissection-based gross anatomy lab for occupational therapy graduate students
1 Semester; SUNY Downstate Medical Center
- 2016 | **Laboratory Instructor**, Research Skills (ANP 204)
1 Semester, Stony Brook University
- 2012-2015 | **Laboratory Instructor**, Human Anatomy (ANP 300)
Laboratory instruction for model-based anatomy lab for undergraduate students.
5 Semesters; Stony Brook University
- 2014 | **Teaching Assistant**, Human Gross Anatomy (HBA 561)
Laboratory instruction for dissection-based gross anatomy lab for PA/PT/RT graduate students
1 Semester; Stony Brook University
- 2012 | **Teaching Assistant**, How People Eat (ANP 260)
1 Semester; Stony Brook University

INVITED TALKS & SEMINARS

- 2018 | “From micro to macro: exploring multiple scales of variation and their links with evolution”, New York Institute of Technology College of Osteopathic Medicine, Old Westbury, NY
- 2017 | “Hominins, Humans, and the Paleolithic Era”, University of Virginia, Charlottesville, VA

INVITED WORKSHOPS

- 2018 | **Invited Participant**, Diffeomorphism Workshop. Paul Sabatier University, Toulouse, France.
- 2015 | **Invited Participant**, AVAToL – Next Generation Phenomics for the Tree of Life Workshop. Sponsored by the National Science Foundation, Division of Environmental Biology, "Assembling, Visualizing, and Analyzing the Tree of Life" (DEB-1208256).
- 2014 | **Invited Attendee**, Turkana Basin Institute Human Evolutionary Workshop: *Homo habilis*. Hosted by Richard Leakey.

AWARDS

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| 2017 | Outstanding Instructor in Anatomy Award , SUNY Downstate Medical Center |
| 2017 | Anatomy in Anthropology Award for Innovative Anthropological Research , American Association of Anatomists and American Association of Physical Anthropologist |

INTERNAL FUNDING (\$56,250)

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| 2012 –
2018 | W. Burghardt Turner Fellowship , \$50,000, Stony Brook University |
| 2014 –
2018 | NSF AGEP-T FRAME Fellowship , Stony Brook University |
| 2018 | Graduate Student Organization Travel Grant , \$500, Stony Brook University |
| 2018 | IDPAS Conference Travel Award , \$300, Stony Brook University |
| 2016 | NSF AGEP Conference Travel Award , \$600, Stony Brook University |
| 2016 | Turner Conference Travel Award , \$600, Stony Brook University |
| 2015 | Turner Summer Research Grant , \$3,500, Stony Brook University |
| 2014 | NSF AGEP Conference Travel Award , \$500, Stony Brook University |
| 2014 | Turner Conference Travel Award , \$1200, Stony Brook University |
| 2014 | IDPAS Research Grant , \$500, Stony Brook University |
| 2013 | Turner Conference Travel Award , \$550, Stony Brook University |

PROFESSIONAL SERVICE

Ad-hoc Referee: Journal of Human Evolution

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| 2018-2019 | PhD Admissions Committee , Department of Anthropology, Stony Brook University |
| 2017-2018 | Executive Committee , Department of Anthropology, Stony Brook University |
| 2014-2015 | Masters Admissions Committee , Department of Anthropology, Stony Brook University |
| 2016 | Teaching Assistant Committee , Department of Anthropology, Stony Brook University |

COMMUNITY OUTREACH

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| 2016 | STEP Anatomy Course.
Instructor for cadaver-based anatomy introduction course to historically underrepresented and economically disadvantaged high school students. |
| 2015-2016 | Center for Inclusive Education Mentor
Mentor for junior graduate students in the Center for Inclusive Education Community of Student Mentors program, Stony Brook University. |

SUPERVISED UNDERGRADUATE RESEARCH

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| 2018 | Mazza C, Kim C, Zhou L, Soumounou Y, Brassaragh D, Chen M. Methodological standardization for dental topographic analysis: The effect of scan resolution. Stony Brook Undergraduate Research Symposium [Poster Presentation]. Supervised by F. Grine and C. Mongle. |
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DEVELOPED SOFTWARE

Smaers JB, **Mongle CS**. Evomap: R package for evolutionary mapping of continuous traits. Github: JeroenSmaers/evomap. doi: 10.5281/zenodo.1253030.

TECHNICAL SKILLS

Programming Proficiency: R, BayesTraits, MrBayes, TNT, BEAST

Analytical: Phylogenetic comparative methods (e.g. OU models, macroevolutionary rate estimation), phylogenetic inference (Bayesian & parsimony), geometric morphometrics, multivariate statistics, Bayesian statistics

3D Visualization: Avizo, Geomagic

ADDITIONAL PROFESSIONAL PREPARATION

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| 2017-2018 | Research Assistant , Department of Anthropology, Stony Brook University |
| 2016 | Research Assistant , Department of Anatomy, Stony Brook University
“Evolutionary Rates in Crocodylomorpha”, PI Alan Turner |
| 2015 | Scientists Teaching Science Pedagogy Course , STEM Education Solutions |
| 2010-2012 | Research Assistant , Chaco Research Archive, University of Virginia |
| 2011 | Research Assistant , National Museum of Archeology, Portugal |

2011

| **Survey Crew**, National Park Service, Chaco Canyon, New Mexico

PROFESSIONAL MEMBERSHIPS

2012-Present American Association of Physical Anthropologists

POPULAR AND SCIENTIFIC MEDIA *(selected from 19 total)*

- **BBC** <https://www.bbc.com/news/science-environment-45183651>
- **SmithsonianMag** <https://www.smithsonianmag.com/smart-news/researchers-suggest-big-toe-was-last-part-foot-evolve-180970012/>
- **NY Post** <https://nypost.com/2018/08/16/big-toes-were-the-last-piecc-of-humans-to-evolve/>
- **Futurity** <https://www.futurity.org/bipedal-walking-primates-foot-bones-1839432/>
- **NewsWise** <http://www.newswise.com/articles/view/698961/?sc=rsla>
- **ArsTechnica** <https://arstechnica.com/science/2018/08/the-road-to-bipedalism-wasnt-straight-and-narrow/>