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Education

Ph.D. Spring 2021 (expected) - University of Texas, Austin, Texas

Dissertation Research: Testing environmental tolerance in modern and fossil species using data from the climatically diverse clade, Rodentia, and by sampling and describing understudied high elevation and low latitude paleoenvironments (Advisor: E.C. Kirk)

M.A. Summer 2017 - University of Texas, Austin, Texas

M.A. Thesis: “The internal nasal morphology of *Rooneyia viejaensis* and euarchontans: using μ CT scan data to understand and predict patterns of nasal fossa evolution in primates” (Advisor: E.C. Kirk)

B.S. Spring 2015 - University of Michigan, Ann Arbor, Michigan

Highest Honors in Anthropology; Honors Thesis: “Sacrum and Sacroiliac joint changes relative to primate locomotion” (Advisor: L. MacLatchy)

Minor in Paleontology

GPA: 3.8, Major GPA: 4.0

Field School, Turkana Basin Institute, Kenya; Stony Brook University (Spring 2013)

Coursework in Geology, Paleontology, Ecology, Archaeology, and Biological Anthropology

Field School, Centre ValBio, Madagascar; Stony Brook University (Fall 2012)

Coursework in Ecology, Conservation Biology, and Primatology

Research: “The extent of cathemerality in Red-bellied Lemurs, *Eulemur rubriventer* in Ranomafana National Park” (Advisor: P. Wright)

Presentations

Texas Academy of Science 2020 Annual Meeting (2/2020)

- “The role of topography and elevation in shaping middle Eocene mammalian diversity in North America”

Society of Integrative and Comparative Biology 2020 Annual Meeting (1/2020)

- “Ecogeographic variation and phylogenetic signature in rodent respiratory turbinates”

American Association of Physical Anthropologists 88th Annual Meeting (3/2019)

- “Olfactory system anatomy in *Homunculus* and the ecological importance of olfactory cues among stem platyrrhines” (Winner of the Anatomy in Anthropology Prize)

Texas Association of Biological Anthropologists Annual Meeting (11/2018)

- “Contextualizing the mammalian fauna of Carter Mountain in Wyoming”
- Co-Author on “A new middle Eocene vertebrate fossil locality from the Canoe Formation of Southwest Texas”

Society of Vertebrate Paleontology 78th Annual Meeting (10/2018)

- “Contextualizing the mammalian fauna of the Fantasia locality on Carter Mountain in Wyoming”
- Co-Author on “Early Bird: A new middle Eocene vertebrate fossil locality from the Canoe Formation of Southwest Texas”

American Association of Physical Anthropologists 87th Annual Meeting (4/2018)

- “Patterns of relative olfactory turbinal surface area through Euarchonta”

New Directions in Anthropology, Austin, TX (3/2018)

- “Sampling biases in the fossil record: the utility of basin-margin sites in understanding speciation patterns”

Texas Association of Biological Anthropologists Annual Meeting (11/2017)

- “Internal nasal anatomy of *Rooneyia viejaensis*: implications for crown primate olfactory systems”

American Association of Physical Anthropologists 86th Annual Meeting (4/2017)

- “Internal nasal morphology of *Rooneyia viejaensis*: implications for crown primate olfactory system anatomy”

Society of Vertebrate Paleontology 76th Annual Meeting (10/2016)

- Invited Symposium: “Advances in Middle Eocene Paleoecology: Evolutionary and Ecological Dynamics in a Post-Greenhouse World”
- “Reduction in the Olfactory System in Primates: New Insights from the Nasal Fossa of the Duchesnean Primate *Rooneyia viejaensis*”
- Co-author on “A New Primate partial cranial specimen from the late Middle Eocene of the Tornillo Basin, Texas”

American Association of Physical Anthropologists 85th Annual Meeting (3/2016)

- Co-author on “An Eocene primate frontal from the Devil’s Graveyard Formation, Texas”

University of Michigan Honors Research Symposium

- “Sacral joint morphology in hominoid primates” (5/2015)

American Association of Physical Anthropologists 84th Annual Meeting (3/2015)

- “Scaling relationships among sacral and pelvic articular surfaces in hominoid primates”

The University of Anatanarivo, Madagascar (11/2012)

- “Abiotic factors as predictors of cathemeral activity in red-bellied lemurs (*Eulemur rubriventer*)”

Publications

Lundeen, I. K., Kay, R. F., *in prep.* The first description of nasal turbinal anatomy in a fossil anthropoid reveals *Homunculus patagonicus* converged on pitheciid olfactory sensitivity.

Kirk, E. C., Lundeen, I. K., 2020. New observations of the nasal fossa and interorbital region of *Shoshonius cooperi* based on micro-computerized tomography. *The Journal of Human Evolution*.

Lundeen, I. K., 2020. Making *scents* of olfactory anatomy in lorises and pottos. In: (Eds.) Nekaris, A-I. K., Burrows, A. M., *Behaviour, Ecology and Evolutionary Biology of Lorises and Pottos*. Cambridge University Press, Cambridge.

Lundeen, I. K., Kirk, E. C., 2019. Internal nasal morphology of *Rooneyia viejaensis* and extant Euarchonta: using μ CT scan data to understand and infer patterns of nasal fossa evolution in primates. *The Journal of Human Evolution*. 132, 137-173.

External Grants/Fellowships

Natural History Museum of Los Angeles County Collections Study Award (\$1000, 5/2019)
Geological Society of America Student Research Grant (\$2500, 4/2019)
R.J. Stanton & J.R. Dodd Student Research Award, Paleontological Society (\$1200, 4/2019)
American Society of Mammalogists, Grant-in-Aid of Research (\$1500, 4/2019)
Texas Academy of Science Research Award (\$1750, 3/2019)
Theodore Roosevelt Memorial Grant, American Museum of Natural History (\$1400, 5/2017)
Evolving Earth Foundation Student Research Grant (\$3000, 4/2017)
Stephen Jay Gould Award, Paleontological Society (\$800, 4/2017)
Geological Society of America Student Research Grant (\$2500, 4/2017)

Internal Grants/Fellowships

University of Texas, Graduate School Summer Fellowship (5/2019)
Scientist in Residence Fellowship, UT Austin (8/2018-6/2019)
University of Texas, Department of Anthropology Summer Research Award (4/2018)
University of Texas, Graduate Student Association Professional Development Award (4/2018)
University of Texas, Department of Anthropology Professional Development Award (11/2016)
University of Texas Graduate Recruitment Fellowship (8/2015-5/2016)

Awards/Honors

Texas Academy of Science Graduate Student Oral Paper Competition, 1st place (2/2020)
American Association of Physical Anthropology, Anatomy in Anthropology Prize (3/2019)
Texas Association of Biological Anthropologists, Best Graduate Poster (11/2017)
American Association of Physical Anthropologists Pollitzer Student Travel Award (2/2017)
Society of Vertebrate Paleontology Jackson Student Travel Award (9/2016)
Virginia L. Voss Memorial Award for excellence in writing (5/2015)
American Association of Physical Anthropologists Committee on Diversity Undergraduate Research Travel Award (3/2015)
University of Michigan Anthropology Undergraduate Research Award (3/2015)
Darien Chamber of Commerce Scholarship Award (5/2014)
University of Michigan Anthropology Honors Research Fellowship (5/2014-8/2014)

Research Experience

- Comparison of basin-margin and basin-center paleoenvironments of the middle Eocene of northwestern Wyoming (PI); Advisor: Dr. E. Christopher Kirk (08/2016 – ongoing); Funding: Paleontological Society, Geological Society of America, The Evolving Earth Foundation, AMNH Theodore Roosevelt Grant, UT Austin Summer Research Award
- Description of Late Bridgerian fauna from Big Bend National Park in West Texas; Co-PI: Dr. E. C. Kirk (12/2015-ongoing); Funding: Texas Academy of Science, Paleontological Society, Geological Society of America, American Society of Mammalogists
- Comparative study of the internal nasal anatomy of extant glirans; Collaboration with Dr. Mary Silcox and Dr. Ornella Bertrand (10/2018 – ongoing)
- Description of the turbinates of a Miocene fossil primate from Patagonia, *Homunculus patagonicus*, in comparison with other platyrrhines; Collaboration with Dr. Richard Kay (1/2018 – ongoing)
- Comparative study of the internal nasal anatomy of extant and fossil primates; Advisor: Dr. E. C. Kirk (9/2015 – ongoing)
- Description of cranial anatomy of *Esthonyx*, a tillodont from the Early Eocene of the Great Divide Basin, Wyoming PI: Dr. Robert Anemone (10/2018-ongoing)
- Description of a Middle Eocene fauna from the Devil's Graveyard Formation, Brewster County, West Texas; PI: Dr. E. C. Kirk (12/2015-ongoing)
- Ear endocast morphology of *Rooneyia viejaensis* as a predictor of hearing frequency limits and locomotion; PI: Dr. Thomas Macrini (7/2016 – ongoing)
- Description of the form and function of *Proconsul major* postcranial material from Miocene of Uganda (in prep); PI: Dr. Laura MacLatchy (1/2015-ongoing)
- Description of turtle cranial material from Pisdura Formation, Cretaceous of India; PI: Dr. Jeff Wilson (1/2015 – 4/2015)
- Undergraduate Honors Thesis: Examining the evolution of the sacrum and sacroiliac joint in primates in relation to changes in locomotion patterns in early hominoid primates; Advisor: Dr. L. MacLatchy (1/2014-5/2015); Funding: University of Michigan
- Middle Cretaceous biodiversity of the Cloverly Formation, Bighorn Basin, Wyoming; PI: Dr. Michael D'Emic (6/2013-ongoing)
- Comparative study of body mass estimation techniques in Miocene mammals from Lothagam field site, Turkana, Kenya; Advisor: Dr. Mikael Fortelius (1/2013-4/2013)
- Nocturnal studies of *Eulemur rubriventer* during October and November in Ranomafana National Park, Madagascar. Advisor: Dr. Patricia Wright (9/2012-12/2012)

Teaching Experience

Undergraduate courses at UT Austin:

- "Introduction to Biological Anthropology" (Fall 2016-2019, 6 semesters)
- "Introduction to Biological Anthropology (Web-based)" (Fall 2019)
- "Primate Anatomy" (Fall 2017, 2018)

Scientist in Residence Fellow at Anderson High School, Austin, TX (2018-2019 Academic Year)

Instructor for UT Austin Summer Pre-College Program, "Sports Anatomy" (Summer 2017)

Teaching Assistant for UT Austin Summer Pre-College Program courses; “Human Anatomy” and “Sports Anatomy” (Summer 2016)

Teaching Assistant for Hominid Origins course taught by Dr. Laura MacLatchy through the Michigan Math and Science Scholars Program (Summer 2016)

Teaching English and Spanish to native Quechua speakers in Mollepata, Peru (Summer 2012)

Mentorship

UT Austin Intellectual Entrepreneurship Pre-Graduate School Interns

Alicia Smith (Fall 2019)

Avery Shepherd (Fall 2018)

Jessica Johnson (Spring 2018)

Elise Harais (Fall 2017)

American Association of Physical Anthropologists Committee on Diversity Graduate Mentorship

Spring 2016, 2018, and 2019

Research Assistants

Alicia Smith (Summer 2019)

Elise Harais (Summer 2017-Spring 2019)

Alysha Deem (Spring 2019)

Kelsey Radican (Spring 2019)

Ethan Pienczack (Spring 2019)

Catarina Garza (Spring 2019)

Pamela Hernandez (Spring 2019)

Melanie Montoya (Spring 2019)

Jocelyn Rogers (Spring 2019)

Daniel Agee (Summer-Fall 2018)

Clay Taylor (Fall 2017)

Field Assistants (2+ weeks)

Elise Harais (Summer 2017, 2018)

Jess Hicks (Summer 2017)

David Ledesma (Summer 2017, 2018)

Professional Memberships

Society for Integrative and Comparative Biology (2019 – present)

American Society of Mammalogists (2019 – present)

Texas Academy of Science (2019 – present)

Geological Society of America (2016 – present)

Paleontological Society (2016 – present)

Texas Association of Biological Anthropologists (2016 – present)
American Association of Physical Anthropologists (2015 – present)
Society of Vertebrate Paleontology (2015 – present)

Outreach

Scientist, Letters to a Pre-Scientist (8/2019 – present)
Invited speaker, 29th Annual Fossil Fest (11/2019)
Scientist in Residence, Anderson High School, Austin, TX (8/2018-5/2019)
Invited panelist, Women of Excellence at the University of Texas (4/2019)
Invited speaker, Paleontological Society of Austin (7/2018)
Outreach volunteer, Darwin Day, Austin, TX (2/2016-2018)
Science Fair judge, Brykerwoods Elementary School, Austin, TX (1/2017)
Outreach volunteer, UT Austin “Hot Science, Cool Talks” (10/2016-ongoing)
Outreach volunteer, Earth Science Career Day, University of Texas (9/2015-2017)

Technical Experience

ArcGIS and ERDAS for cartography, spatial enhancement, and classification (2017)
Avizo digital modeling and segmentation for comparative anatomical studies (9/2015-ongoing)
Photogrammetric modeling of Mesozoic dinosaur and reptile material and 3D visualization in Visual SFM; Advised by Dr. Adam Rountrey and Dr. Jeff Wilson (1/2015-7/2015)
Vertebrate Paleontology Fossil Preparation Lab – mechanical preparation, molding, casting, museum preparation, and long-term storage; advised by Dr. William Sanders (8/2013-5/2015)
Department of Anthropology Collections – organizing osteological and fossil material; creating digital archive of osteological material, fossil casts, and publications (8/2013-5/2014)

Field Work

Eocene of Northwest Wyoming (Principal Investigator) – prospecting in early Middle Eocene deposits in the Absaroka Range (US Forest Service; Summers 2016-2018)
Eocene of Hot Springs County, WY (Co-PI) – prospecting the Middle Eocene Aycross Formation in the Southwest Absaroka range foothills (Bureau of Land Management; Summer 2018)
Eocene of West Texas (Co-PI) – excavating microfauna from Middle Eocene quarry in Tornillo Basin in Big Bend National park (Winters 2015, 2017)
Eocene of South Central WY – prospecting in Early Eocene of the Great Divide Basin; PI: Bob Anemone (Summer 2017)
Triassic of Northwest WY – prospecting Chugwater Fm.; PI: Keegan Melstrom (Summer 2017)

Eocene of West Texas - surface collection of vertebrate fossils in the Devil's Graveyard Fm.; PI: Dr. E.C. Kirk (Winters 2015-2016)

Cretaceous of the Big Horn Basin, Wyoming – excavating for dinosaurs, mammals, fish, and other reptiles; PI: Dr. Michael D'Emic (Summers 2013-2017)

Turkana Basin Institute, Turkana, Kenya – learned paleontological field survey/excavation methods and geological field techniques (Spring 2013)

Madagascar – Primate behavioral fieldwork in Ranomafana National Park, Ranomafana, Madagascar (Fall 2012)