

Melissa Doyle Boyd

geologist

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Rutgers University
Department of Earth and Planetary Sciences
Wright-Rieman Laboratories
610 Taylor Rd.
Piscataway, NJ 08854

GOALS

- To continue work in sedimentology, stratigraphy, and paleoenvironmental reconstruction at the post-doctoral level
- To continue to expand my knowledge in geochemistry, magnetostratigraphy, and computer modeling

RESEARCH INTERESTS

- Field geology
- Paleoclimate
- Sedimentology
- Stratigraphy
- 3D Outcrop Modeling
- Geochronology
- Isotope geochemistry

SKILLS

- MATLAB
- R Programming
- ArcGIS Pro
- Illustrator
- Photoshop
- Seismic Unix
- Kingdom
- Tephra preparation
- Remote sensing (drone & handheld LiDAR)
- Blender
- Agisoft Metascan
- Blender
- Fusion360
- Adobe Aero

LANGUAGES

- French
- Swahili

CONTACT



EDUCATION

Rutgers University 2019 -present

New Brunswick, NJ

Doctor of Philosophy in Geological Science

- Dissertation Title: *Paleoenvironments of the Turkana Basin, Northern Kenya: Climate, Tectonics, and Landscape Change*
- Advisor: Craig S. Feibel

Rutgers University

New Brunswick, NJ

2015

Bachelor of Science in Evolutionary Anthropology

High Honors

- Honors Thesis: *The Circumstances of the Accumulation, Burial, and Preservation of Specimens of Australopithecus anamensis at Kanapoi, northern Kenya*
- Advisor: Craig S. Feibel

Rutgers University

New Brunswick, NJ

2012

Bachelor of Science in Geological Sciences

- Honors Thesis: *A Paleoenvironmental Reconstruction of the Geology of Central Anatolia*
- Minor: English Literature

FIELD AND RESEARCH EXPERIENCE

Paleo Primate Project Gorongosa Project Geologist

2022 - present

Mozambique, Gorongosa National Park

- Field work covering the structure, stratigraphy, and depositional environments of the southern terminus of the East African Rift
- Geochronology (U-Pb carbonate, Ar-Ar basalt), stable isotopes

Turkana Miocene Project Graduate Collaborator

2020 - present

Northern Kenya

- Member of Earth, DEI, and Media teams
- Stratigraphic sections, mapping, and facies analysis of Miocene age deposits in the Turkana Basin, including Lothagam, Topernawi, Locherangan, Napudet, and Buluk

West Turkana Paleo Project Project geologist

2018 - present

Northern Kenya

- Facies and depositional environment analyses involving the sedimentology, stratigraphy, and paleontology of the Lomekwi Member of the Nachukui Formation

Rutgers University Paleoenvironmental Research Lab

Graduate Research Assistant

2016 - present

- Tephra sample preparation, ostracod picking and preparation, generating Bayesian age models, general computing, and lab social media

FIELD AND RESEARCH EXPERIENCE, CONTINUED

Field Assistant

2014 to 2018

- Turkana Basin, Kenya
 - **Hominin Sites and Paleolakes Drilling Project**
 - **West Turkana Archaeological Project**
 - **Turkana Cyclostratigraphy Project**

South Dakota School of Mines & Technology

Taşkesti, Turkey - Geology Field School

2012

- Six-week field school involving preparation of stratigraphic columns, structural cross sections, geologic maps, and completion of formal reports.

TEACHING EXPERIENCE

Oxford University-Gorongosa Paleo-Primate Field School

Gorongosa National Park, central Mozambique

Instructor

Summer **2022 - 2023**

- Lectures on the evolution of the East African Rift, geologic processes, depositional environments, basic field geology
- Informal instruction on stratigraphy, structural geology, & recognizing evidence of depositional processes at the field site

Origins Field School, Turkana Basin Institute Turkwel

Lothagam, Kenya

Summer **2023**

Instructor

- Field Geology Module

Rutgers University

Instructor

- Geology 201: Earthquakes and Volcanoes
- Rutgers IT: Introduction to UNIX
- Rutgers IT: Advanced UNIX

2020 - 2021

2012 - 2015

2012 - 2015

Adjunct

- Anthropology 111: Extinction

2015

Teaching Assistant

- Geology 201: Earthquakes and Volcanoes
- Geology 100: Planet Earth
- Geology 303: Paleontology Lab
- Geology 103: Introduction to Geology Lab
- Anthropology 201: Evolution & Human Behavior
- Physics 194: Physics for the Sciences II
- Physics 193: Physics for the Sciences

2024 -

2017 - 2020

2017 - 2019

2016, 2019

2016 - 2018

2011 - 2012

2011 - 2012

Guest Lecturer

- Anthropology 394: Geological Context in Paleoanthropology
- "Kanapoi: A Problem in Complex Lithostratigraphy"
- Anthropology 213, Environment and Human Evolution
- "Cenozoic World"

2015

2015

GRANTS, HONORS, AND AWARDS

- Albert Fellows Dissertation Research Grant, Rutgers Center for Human Evolutionary Studies, **2020**
- Rutgers Graduate Assistantship, **2020 - 2022**
- Rutgers Earth & Planetary Sciences Teaching Assistantship, **2016 - 2020**
- Rutgers Earth & Planetary Sciences Excellence in Teaching Award, **2018**
- The William & Grace Sparks Graduate Student Research Award, **2018**
- GSA Travel Grant, **2016, 2018**
- TA/GA Professional Development Award, **2018**
- TA/GA Professional Development Award, **2017**
- Army Women's Foundation, **2016**
- National Military Family Association, **2016**
- School of Arts and Sciences Excellence Award, **2015**
- Bigel Endowment Award for Undergraduate Research in Anthropology, **2015**
- Rutgers School of Arts and Sciences Paul Robeson Scholar, **2014 - 2015**
- Steven K. Fox Award, Department of Earth and Planetary Sciences, **2012**

PUBLICATIONS, ABSTRACTS, AND PRESENTATIONS

- Bobe, R., Aldeias, V., Alemseged, Z., Anemone, R.L., Archer, W., Aumaître, G., Bamford, M.K., Biro, D., Bourlès, D.L., **Boyd, M.D.**, Braun, D.R., Capelli, C., Coelho, J.d'O., Habermann, J.M., Head, J.J., Keddadouche, K., Kupczik, K., Lebatard, A.-E., Lüdecke, T., Macôa, A., Martínez, F.I., Mathe, J., Mendes, C., Paulo, L.M., Pinto, M., Presnyakova, D., Püschel, T.A., Regala, F.T., Sier, M., Ferreira da Silva, M.J., Stalmans, M., Carvalho, S., The first Miocene fossils from coastal woodlands in the southern East African Rift, *ISCIENCE* (2023), doi: <https://doi.org/10.1016/j.isci.2023.107644>.
- "Middle and Late Miocene paleoclimates from clumped isotopes of soil carbonates, Turkana Basin, East Africa" [Talk]. AGU 2021 Annual Meeting, 13-17 December 2021, New Orleans, LA. Authors: Saslaw, Mae, Henkes, Gregory A., Beck, Catherine C., Liutkus-Pierce, Cynthia, Feibel, Craig S., Rowan, Christian M., and **Boyd, Melissa D.**
- "Analyzing Coastal Geomorphology at The Rutgers University Marine Field Station with Remote Sensing Technology" [Poster]. NEGSA 2021 Annual Meeting, 14-15 March 2021, Hartford, CT (online). Authors: Williams, Rachel G., Neitzke Adamo, Lauren, and **Boyd, Melissa D.**
- "Facies Associations and Depositional Environments of the Lomekwi Member, West Turkana, Kenya" [Poster]. AGU 2018 Annual Meeting, 10-14 December 2018, Washington, D.C. Authors: **Boyd, Melissa D.**, Feibel, Craig S., Manthi, Frederick Kyalo, Ward, Carol V. and Plavcan, J. Michael.
- "Using Facies and Grain-size Analyses to Assess Feasibility of a Bentonite to Tephra Correlation in the Kaitio Member, West Turkana, Kenya" [Poster]. AGU 2018 Annual Meeting, 10-14 December 2018, Washington, D.C. Authors: Beck, Catherine C., van der Lubbe, Jeroen, Feibel, Craig S., Joordens, Josephine J., **Boyd, Melissa K.**, Cohen, Andrew S., and Campisano, Christopher J.
- "A Synthesis of Multi-proxy Paleoenvironmental Reconstruction Methods: The Depositional Environments of the Lomekwi Member, Nachukui Formation, West Turkana" [Poster]. GSA 2018 Annual Meeting, 4-7 November 2018, Indianapolis, IN. Authors: **Boyd, Melissa D.**, Feibel, Craig S., Manthi, Frederick Kyalo, Ward, Carol V. and Plavcan, J. Michael.

- “Facies Analysis and Depositional Environments of the Lomekwi Member, Nachukui Formation, West Turkana” [Poster]. AFQUA: The African Quaternary Environments, Ecology and Humans 2nd International Conference and Workshops, 14-22 July 2018, Nairobi, Kenya. Authors: **Boyd, Melissa D.**, Feibel, Craig S., Manthi, Frederick Kyalo, Ward, Carol V. and Plavcan, J. Michael.
- “Why Lomekwi? Geology and Depositional Context of the Lomekwi 3 Archaeological Site in Kenya: A Sedimentary Facies Analysis” [Poster]. GSA 2016 Annual Meeting, 25-28 September 2016, Denver, CO. Authors: **Boyd, Melissa D.**, Feibel, Craig S., Manthi, Frederick Kyalo, Ward, Carol V. and Plavcan, J. Michael.
- “The Circumstances of the Accumulation, Burial, and Preservation of the Australopithecus anamensis Specimens at Kanapoi in Kenya” Poster presentation for Rutgers Anthropology Honors Symposium
- “Teaching Physics I and II Using the Investigative Science Learning Environment” 2012. Poster presentation for Rutgers University’s Teaching Assistant Program

PROFESSIONAL DEVELOPMENT

- **ICP Spectroscopy Principles and Applications**, Rutgers course **2023**
 - Principles and applications of inductively coupled plasma-mass spectrometry and spectroscopy
 - Self-designed project using multi-element ICP-OES analysis of Miocene oyster carbonate
- **Advanced Sequence Stratigraphic Applications** for Exploration and Production **2020**
 - Short Course, AAPG ACE
- **Sequence Stratigraphy Basics** Short Course, AAPG ACE **2020**
- **Detrital Zircon Geochronology** **2018**
 - U-Pb Data Acquisition, Reduction, Analysis, and Archiving Course, GSA, Phoenix
- **Radiocarbon dating and age-models** course, AFQUA, Nairobi **2018**
 - R-programming
- **Geoscience Data Analysis** Short Course, University of Arizona **2016**
 - MATLAB

OUTREACH AND ACTIVITIES

- Rutgers Earth and Planetary Sciences Graduate Student Organization **2021 - 2022**
 - Treasurer and Social Chair
- The Turkana Miocene Project Diversity, Equality, and Inclusion Committee **2020 - present**
- Rutgers EPS Support, Inclusion, Diversity, and Equity (S.I.D.E.) Committee **2020 - present**
- Volunteer, Rutgers Geology Museum **2019 - 2020**
- Member, [500 Women Scientists](#) **2018 - present**
- Judge, Rutgers Aresty Undergraduate Research Symposium **2016 - present**
- [Center of Human Evolutionary Studies \(CHES\)](#) **2015 - present**
- Rutgers Quaternary Studies Association (QSA) **2014 - present**
- Rutgers Undergraduate Anthropology Club **2012 - 2015**

PROFESSIONAL AFFILIATIONS

- Geological Society of America
- American Geophysical Union
- [Society for Sedimentary Geology](#)
- [Association for Women Geoscientists](#)
- [Sigma Delta Epsilon](#)
- [Earth Science Women’s Network](#)
- American Association of Petroleum Geologists