

Zachary S. Klukkert

Curriculum Vitae – *web version*

November 2019

Johns Hopkins University School of Medicine
Center for Functional Anatomy and Evolution
1830 East Monument Street, Baltimore MD, 21205 USA
zklukkert@jhmi.edu // z.klukkert@gmail.com
www.zklukkert.com

EDUCATION

Ph.D. Physical Anthropology, City University of New York Graduate Center, 2019.

M.A. Physical Anthropology, University of Arkansas, 2008.

B.S. Biological Anthropology, University of New Mexico, 2004.

PROFESSIONAL APPOINTMENTS

2019 – 2020 Research Postdoctoral Fellow. Johns Hopkins University School of Medicine Center for Functional Anatomy and Evolution.

2014 – 2015 Adjunct Assistant Professor. Department of Anthropology, Tulane University.

PUBLICATIONS

Peer-Reviewed Journal Articles

2014 Tallman M, Amenta N, Delson E, Frost SR, Ghosh D, **Klukkert ZS**, Morrow A, and Sawyer GJ. Evaluation of a new method of fossil retrodeformation by algorithmic symmetrization: crania of papionins (Primates, Cercopithecidae) as a test case. PLoS ONE, 9(7): e100833.

2013 Rosenberger AL, **Klukkert ZS**, Cooke SB, and Rímoli R. Rethinking *Antillothrix*: the mandible and its implications. American Journal of Primatology, 75(8): 825-836.

2012 **Klukkert ZS**, Teafora MF, and Ungar PS. A dental topographic analysis of chimpanzees. American Journal of Physical Anthropology 148: 276-284.

Book Chapters

2016 Cooke SB, Gladman JT, Halenar LB, **Klukkert ZS**, and Rosenberger AL. The paleobiology of the recently extinct platyrrhines of Brazil and the Caribbean. In Ruiz-Garcia M and

- Shostell JM (Eds.) Phylogeny, Molecular Population Genetics, Evolutionary Biology and Conservation of the Neotropical Primates. Nova Science Publishers, Inc., Hauppauge NY. p. 41-89.
- 2012 **Klukkert ZS**, Dennis JC, M'Kirera F, and Ungar PS. Dental topographic analysis of the molar teeth of primates. In Bell LS (Ed.) Forensic Microscopy for Skeletal Tissues: Methods and Protocols. Humana Press, New York NY. p. 145-152.

GRANTS AND FELLOWSHIPS

- 2019 American Association of Anatomists Conference Travel Grant. City University of New York Graduate Center.
- 2017 Exploration Fund Grant, The Explorers Club. City University of New York Graduate Center.
- 2015 Ralph W. Stone Fellowship, National Speleological Society. City University of New York Graduate Center.
- 2013 Provost's Digital Incubator Grant, City University of New York Graduate Center.
- 2009 NYCEP Integrated Graduate Education and Research Traineeship (IGERT) Fellowship, NSF IGERT grant DGE 0333415. City University of New York Graduate Center.

INVITED TALKS

- 2019 **Klukkert ZS**. Functional Signals in Platyrrhine Primate Jaw Shape and Implications for the Primate Fossil Record. Fordham University, New York, NY, October 30.
- 2018 **Klukkert ZS**. Underwater Cave Paleontology: Methods and Promise in the Dominican Republic and Madagascar. Midwest meetings of the National Speleological Society Cave Diving Section (NSS-CDS), St. Robert, MO, October 2018.

CONFERENCE PARTICIPATION

Papers Presented

- 2019 **Klukkert ZS**, Halenar-Price LB, Almonte J, Shevchuk O, Lehman P, and Cooke SB. Newly-discovered craniomandibular remains preserve the first known incisors of the extinct Dominican monkey *Antillothrix bernensis*. American Association of Anatomists, Orlando, FL, April 2019.
- 2019 **Klukkert ZS**. Functional correlates of jaw shape diversity in platyrrhine sclerocarpic harvesters. American Association of Physical Anthropologists, Cleveland, OH, March 2019.
- 2019 Godfrey LR, **Klukkert ZS**, Lewis ME, Rahantaharivao NJ, Ranivoharimanana L, Faina P, Scroxton N, and Burns SJ. Night and day: Subfossil faunal representation in neighboring

- Malagasy caves illustrates interaction and exclusion by predator and prey. American Association of Physical Anthropologists, Cleveland, OH, March 2019.
- 2018 **Klukkert ZS.** Jaw muscle positions facilitate gape-specific feeding strategies in platyrrhines. American Association of Physical Anthropologists, Austin, TX, April 2018.
- 2017 **Klukkert ZS.** Canine tooth robusticity mitigates stress in the jaw. American Association of Physical Anthropologists, New Orleans, LA, April 2017.
- 2016* **Klukkert ZS.** Tooth size and diet among the extinct primates of the Caribbean. American Association of Physical Anthropologists, Atlanta, GA, April 2016. *abstract accepted, did not attend.
- 2016 Shearer BM, Halenar LB, **Klukkert ZS**, Pagano AS, Reidenberg JS, and Tang CY. New insights into *Alouatta* vocal tract anatomy and functional morphology via CT and MRI. American Association of Physical Anthropologists, Atlanta, GA, April 2016.
- 2014 **Klukkert ZS.** Canine bending strength and fracture in durophagous platyrrhines. American Association of Physical Anthropologists, Calgary AB (CA), April 2014.
- 2012 Rosenberger AL, **Klukkert ZS**, Cooke SB, and Rímoli R. Rethinking *Antillothrix*: the mandible and its implications. International Primatological Society Meetings. Cancun, QR (MX), August 2012.
- 2012 **Klukkert ZS** and Harrison T. Jaw shape diversity in platyrrhine sclerocarpic foragers. American Association of Physical Anthropologists, Minneapolis, MN, April 2012.
- 2011 **Klukkert ZS** and Rosenberger AL. A new angle on the anterior dentition of platyrrhines: A preliminary report. American Association of Physical Anthropologists, Portland, OR, April 2011.
- 2010 **Klukkert ZS**, Ungar PS, and Teaford MF. Dental topographic analysis of chimpanzees. American Association of Physical Anthropologists, Albuquerque, NM, April 2010.
- 2010 Robinson C and **Klukkert ZS.** Revisiting shrinkage: A test of the long-term integrity of dental molds. American Association of Physical Anthropologists, Albuquerque, NM, April 2010.
- 2008 **Klukkert ZS.** Chimpanzee molar teeth from the outside in. University of Arkansas, Kansas, University in Missouri-Columbia and University of Kentucky (ARKUMOKY) annual paleoanthropology conference. University of Missouri-Columbia, Columbia, MO, October 2008.
- 2007 **Klukkert ZS.** Digitally “patching” surface anomalies in laser-scanned dental casts for topography studies. University of Arkansas, Kansas, and University of Missouri-Columbia (ARKUMO) annual paleoanthropology conference. University of Arkansas, Fayetteville, AR, October 2007.

Campus Talks

- 2007 **Klukkert ZS.** Dental topography in the genus *Pan* – a work in progress. GIS Day event, Center for Advanced Spatial Technologies (CAST), University of Arkansas, Fayetteville, AR, November 2007.

TEACHING EXPERIENCE

Johns Hopkins University School of Medicine

Gross Anatomy – Co-Instructor Fa. 2019

Tulane University

Primate Adaptation & Evolution – Adjunct Assistant Professor Sp. 2015

Primate Behavior & Ecology – Adjunct Assistant Professor Fa. 2014

Brooklyn College, City University of New York

Caribbean Paleobiology Field School – Co-Instructor Sp. 2015

Human Evolutionary Anatomy – Co-Instructor Fa. 2013

Introduction to Physical Anthropology – Instructor Sp. 2013

Forensic Science/Forensic Anthropology – Instructor Fa. 2012

Mount Sinai School of Medicine

Gross Anatomy – Dissection Lab Teaching Assistant Fa. 2012

University of Arkansas

Introduction to Biological Anthropology Lab – Lab Instructor Fa. 2007, Sp. 2008

El Estación Biológica de Ometepe (Nicaragua)

Primate Behavior & Ecology Field School – Teaching Assistant Wi. 2004

RESEARCH EXPERIENCE

Research in Museum Collections

- 2019 – present Museo Nacional de Historia Natural de Santo Domingo. Santo Domingo, Dominican Republic.
- 2018 – present Université d'Antananarivo, Mention Bassins sédimentaires, Evolution, et Conservation (BEC). Antananarivo, Madagascar.
- 2012 – 2018 Museo del Hombre Dominicano. Santo Domingo, Dominican Republic.
- 2010 – 2018 American Museum of Natural History Mammals Collection. New York, NY.
- 2014 National Museum of Natural History Mammals Collection. Washington, D.C.
- 2013 Field Museum of Natural History Mammals Collection. Chicago, IL.

Field Expedition Research

- 2016 – present Paleontology research in Madagascar.
 Role: Collaborator on several NSF and National Geographic - funded projects.
 Tasks: Direct and participate in underwater cave site operations in and around Tsimanampesotse National Park, including collection of fossils and speleothems, survey and mapping site, scouting prospective new sites (SCUBA/cave diving); Assist in documentation and curation of fossils at the University of Antananarivo collected from underwater cave sites.

- 2016 – present Paleontology research in the Dominican Republic.
Tasks: Plan and carry out research expeditions; direct and participate in underwater cave site operations throughout the Dominican Republic, including collection of fossils and speleothems, survey and mapping site, scouting prospective new sites (SCUBA/cave diving); Assist in documentation and curation of fossils at the Dominican Museum of Man (2012-2018) and the Natural History Museum of the Dominican Republic (2019-present) collected from underwater cave sites.
- 2010 NYCEP Internship project in Uganda.
Tasks: Sample material properties of foods eaten by wild primates Kibale National Park, record feeding behavior by wild primates. Supervisor: Jessica Rothman.
- 2003 Primate Behavior and Ecology Field Schools: 1) La Suerta Biological Field Station, Costa Rica; 2) Ometepe Biological Field Station, Isla de Ometepe, Nicaragua.
Tasks: Collect behavior data from wild primates. Instructors: Lynn Bell (Costa Rica), Paul Garber (Nicaragua).

SERVICE & OUTREACH

Service to Profession

Journal Manuscript Review. American Journal of Physical Anthropology.

Volunteer service

- 2017 – 19 Member, Science Committee, National Speleological Society – Cave Diving Section (NSS-CDS).
- 2016 – 17 Chair, Nomination Committee, National Speleological Society – Cave Diving Section (NSS-CDS).
- 2014 – 15 Mentoring Scientist, Animal Sciences, Senior Division (High School). The Greater New Orleans Science and Engineering Fair, New Orleans, LA.

Web-Based Contributions

- 2018 **Klukkert ZS.** Paleontology in the flooded caves of Madagascar. Shearwater Research Invited Community Blog [*web*], <https://www.shearwater.com/monthly-blog-posts/paleontology-flooded-caves-madagascar/>.
- 2016 **Klukkert ZS.** Paleontology in the flooded caves of Madagascar. Madagascar Cave Diving Association research page [*web*], <https://www.madacaves.com/research>.

- 2016 **Klukkert ZS.** Project *Antillothrix*: Paleobiology in flooded Dominican caves. XDEEP Exploration Support Program report [web], <http://www.xdeep.eu/project-antillothrix-2016-sd-9.html>.
- 2015 **Klukkert ZS.** The monkeys of the Antilles. “Project *Antillothrix*” public homepage [web], <https://www.antillothrix.com/monkeys-of-the-antilles>.
- 2015 **Klukkert ZS.** Antillean biogeography. “Project *Antillothrix*” public homepage [web], <https://www.antillothrix.com/antillean-biogeography>.
- 2015 **Klukkert ZS.** Lost mammals of Hispaniola. “Project *Antillothrix*” public homepage [web], <https://www.antillothrix.com/lost-mammals-of-hispaniola>.

Social media outreach

2016 – 2018 “Project *Antillothrix*” Facebook page manager: facebook.com/ProjectAntillothrix.

MEDIA COVERAGE

- 2019 “When Whales Walked” two-hour special broadcast [television]. Shining Red Productions, Inc., Twin Cities Public Broadcasting Service (PBS-TPT). Air date: June 19, 2019.
- 2017 Herrera M. Espeleobuzos Conquistan Manantiales Dominicanos. 7días.com.do [web]. Retrieved from: http://www.7dias.com.do/elpais/2017/09/04/i233692_espeleobuzos-conquistan-manantiales-dominicanos.html#.Wa33bEGB6Ec.
- 2017 Dax M. Underwater Caves are Earth’s Final Frontier. Outside Magazine Online [web]. Retrieved from: <https://www.outsideonline.com/2171946/underwater-caves-earths-final-frontier>.
- 2016 Montanari S. Underwater Paleontology and the Monkeys of the Caribbean. Forbes Science [web]. Retrieved from: <https://www.forbes.com/sites/shaenamontanari/2016/08/22/underwater-paleontology-and-the-monkeys-of-the-caribbean/#28c7d979290c>.

RELATED SPECIALIZED SKILLS

Software

3D Surface Acquisition: Agisoft Photoscan/Metashape (Photogrammetry); Breuckmann OPTOCAT (white-light laser scanner); NextEngine ScanStudio (laserscanner); Volume Graphics (MicroCT).

3D Modeling: Amira; Avizo; Geomagic Studio; Solidworks.

3D Geometric Morphometrics (3DGM): Landmark Editor; Morphologika 2.0.

Finite Element Analysis: Solidworks Simulation.

Geographic Information Systems: ArcGIS; IDRISI.

Field Research

Technical SCUBA diving training and certifications: Full Cave Diver (NSS-CDS; PSAI; IANTD); Advanced Nitrox and Decompression (IANTD); Cave Decompression Procedures (NSS-CDS); Side-Mount Configuration in an Overhead Environment (PSAI); Multi-Stage Diving in an Overhead Environment (PSAI).

Vertical caving/rope work: Trained by the National Speleological Society Vertical Section.

LANGUAGES

English:	Native
Spanish:	Conversational, can read/write with a dictionary
French:	Can read with a dictionary

<full CV with references available upon request>