Daniel R. Green: Curriculum Vitae

Postdoctoral Researcher
Bidlack Lab
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Education

Ph.D. 2016, Human Evolutionary Biology, Harvard University, "*Reconstructing oxygen isotope seasonality in large herbivores through mineralization modeling, experimentation and optimization*."

M.A. 2012, Human Evolutionary Biology, Harvard University

B.S. 2008, Anthropology–Zoology, History, French and Francophone Studies
Minor in Biology, University of Michigan in Ann Arbor

Publications

Green DR, Green GM, Bidlack FB, Colman AS, Tafforeau P, Smith TM. Synchrotron imaging and Markov Chain Monte Carlo reveal tooth mineralization patterns. *PLoS ONE* 12(10): e0186391, https://doi.org/10.1371/journal. pone.0186391

Green DR, Olack G, Colman AS. Determinants of blood water $\delta^{18}O$ variation in a population of experimental sheep: implications for paleoclimate reconstruction. In Review, *Chemical Geology*.

Green DR, Smith TM, Green GM, Bidlack FB, Tafforeau P, Colman AS. Quantitative reconstruction of seasonality from stable isotopes in teeth. Submitted, *Geochimica et Cosmochimica Acta*.

Green DR, Olack G, Colman AS. Large herbivore phosphate-water $\delta^{18}O$ fractionation through direct blood and enamel measurements. *In preparation.*

Cho S, Huang ZY, **Green DR,** Smith DR, Zhang J (2006) Balancing selection generates trans-species polymorphisms at the complementary sex-determination locus of honey bees. *Genome Research* 16:1366-1375

Posters and presentations

Green DR, Colman AS (2017) How tooth isotope sample number and location affect seasonality reconstruction. *Society of Vertebrate Paleontology annual meeting*, Calgary (presentation).

Green DR, Colman AS, Green GM, Tafforeau P, Bidlack F, Smith TM (2017) New Tooth Growth Model for Studying Ancient Climate. *Goldschmidt annual meeting*, Paris (presentation).

Green DR, Colman AS, Green GM, Tafforeau P, Bidlack F, Smith TM (2015) Seasonal climate reconstruction with isotopes and synchrotron X-rays. *Cleveland Museum of Natural History Paleoecology Symposium*. Cleveland, OH (poster)

Green DR, Green GM, Colman AS, Tafforeau P, Smith TM (2015) Synchrotron x-ray imaging and MCMC support seasonal climate reconstruction. *American Association of Physical Anthropologists annual meeting*, St. Louis, MO (poster)

Green DR, Green GM, Tafforeau P, Weaver J, Colman AS, Smith TM (2014) Synchrotron imaging helps reconstruct mineralization patterns, and ancient climate. *Gordon Conference on Biomineralization*, New London, NH (poster)

Green DR, Green GM, Smith TM, Tafforeau P (2013) Microtomographic assessment of mineralization patterns to inform isotope paleoenvironmental reconstruction. *American Association of Physical Anthropologists annual meeting*, Knoxville, TN (poster)

Green DR, Weaver J, Smith TM (2012) Quantitative Density with micro-Computed tomography: mapping mineralization. *Society of Integrative and Comparative Biology: Division of Vertebrate Morphology annual meeting*. Amherst, MA (presentation)

Green DR, Braun J, Morgan M, Pilbeam D, Tuross N, Smith TM (2010) Integrating carbon and oxygen isotope signals: seasonality in the Siwaliks, Pakistan. *Society of Integrative and Comparative Biology: Division of Vertebrate Morphology annual meeting.* Cambridge, MA (presentation)

Grants

"Inferring toxin exposure timing and magnitude from deciduous teeth." Forsyth Institute Pilot Grant, $7,830 (2017).

"Plio-Pleistocene Seasonal Precipitation through isotopes in Bovid molars, West Turkana." *Leakey Foundation General Grant*, $12,000 (2014)

"Experimental Reconstruction of Seasonal Rainfall for Paleoclimate Research." *Wenner-Gren Foundation Dissertation Grant*, $18,810 (2014)

NSF Graduate Research Fellowship Program, $90,000 (2011-2014)

"Doctoral Dissertation Improvement Grant: Experimental Determination of Tooth Mineralization Patterns in Ungulates for Application to Paleoseasonality Reconstruction." *National Science Foundation Doctoral Dissertation Improvement Grant* #1247426, $19,855 (2012)

"Plio-Pleistocene Seasonal Precipitation through isotopes in Bovid molars, West Turkana." Harvard University *Committee on African Studies Summer Research Grant,* $5,000 (2012)

"Determination of Enamel Mineralization Pattern by Scans of Successive Developmental Stages With Application for Study of Paleoecology." *European Synchrotron Radiation Facility* project award EC1018, est. value $10,000/day (2012)

Research training programs

East Turkana Geological Field School, led by Thure Cerling and Frank Brown. (2011)

Stable Isotope Biogeochemistry and Ecology course, offered by the University of Utah's Stable Isotope Ratio Facility for Ecological Research (SIRFER). (2010)

Teaching

Teaching Assistant: Sophomore Concentration Tutorial (2017)

Teaching Assistant: Sophomore Concentration Tutorial (2015)

Teaching Assistant: Human Evolutionary Anatomy (2012)

Harvard Bok Center Certificate of Distinction in Teaching (2012)

Teaching Assistant: Turkana Basin Institute (TBI) Field School (2011)
TBI subjects included Geology, Ecology, Paleontology, Archaeology, Evolution and Anatomy

Public outreach and mentorship

Wikipedia editor, 40+ articles created with more than 3.5 million pageviews (2011-present)

Mentored undergraduates in lab (2009-present)

Harvard Eliot House Resident Tutor: biology, fellowships (2012-2016)

Harvard Museum of Comparative Zoology Volunteer (2011-13)

Society of Biology Students Co-President, University of Michigan (2007-2008)

Additional skills

Python and HTML; Microsoft and Adobe software

References

Dr. Tanya Smith (Graduate Adviser)
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