Levi Raskin

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Education

Graduating 2024	Haverford College, Biology and Anthropology double major at Bryn Mawr College via Haverford-Bryn Mawr Bi-College consortium
Graduated 2020	Illinois Mathematics and Science Academy, high school diploma

Relevant Coursework

Summer 2023	Statistical Rethinking, taught by Richard McElreath on GitHub
Spring 2023	UPenn Anthropology 6020 Evolutionary Anthropology, listed as undergraduate course on transcript, but took as a graduate course
Spring 2023	Bryn Mawr Biology B216 Genomics
Spring 2023	Bryn Mawr Biology B236 Evolution
Fall 2022	Bryn Mawr Biology B215 Biostatistics with R

Grants, Fellowships, and Awards

Summer 2023	Bryn Mawr College Summer Science Research Program Stipend
Spring 2023	Barry Goldwater Scholar
Fall 2023	Louis Green Fund: $1500
Spring 2022	Pauline Adams Fund for Excellence in Anthropology: $4500
Spring 2022	Deborah Lafer-Scher International Internship: $1800
Spring 2022	Hurford Center Breaking the Rules Fellowship: $3200
Spring 2022	Frederica de Laguna Fund: $700

Manuscripts in prep

Raskin, Levi Y.; Šešelj, Maja; and Bitarello, Bárbara D. (in prep). The effect of trait redundancy on parsimony-inferred tree topologies from a hominin character matrix. Intending to submit to *Proceedings of the Royal Society B* by the end of 2023.

Published Abstracts

Raskin, Levi Y.; Šešelj, Maja; and Bitarello, Bárbara D. (2024). The effect of trait redundancy on parsimony-inferred tree topologies from a hominin character matrix. Pending the approval of the Paleoanthropology Society.

Raskin, Levi Y.; O'Hara, Mackie C.; Erskine, Amy I.; and Šešelj, Maja. (2024). Moving great ape osteobiographies forward: digitally linking macro and micro data and media at the individual level. American Association of Biological Anthropologists.

Raskin, Levi Y.; Reeves, Jonathan S.; Douglass, Matthew J.; and Braun, David R. (2023). Least-effort knapping as a baseline to study social transmission in the Early Stone Age [Poster]. Society for American Archaeology.

Reeves, Jonathan S.; **Raskin, Levi Y.**; Douglass, Matthew J.; and Braun, David R. (2023). Establishing baselines for stone tool variation across the Early Pleistocene: A least effort approach [Presentation]. Society for American Archaeology.

Presentations

Spring 2024	*The effect of trait redundancy on parsimony-inferred tree topologies from a hominin character matrix.* Pending approval for the annual meeting of the Paleoanthropology Society, Los Angeles, CA.
Spring 2024	*Moving great ape osteobiographies forward: digitally linking macro and micro data and media at the individual level*. Annual Meeting of the American Association of Biological Anthropologists, Los Angeles, CA.
Summer 2023	*Developing imaging techniques for perikymata*. Summer Science Research Poster Session, Bryn Mawr, Pennsylvania.
Spring 2023	*Least-effort knapping as a baseline to study social transmission in the Early Stone Age*. Annual Meeting of the Society for American Archaeology, Portland, OR.
Fall 2022	*Least-effort handaxes*. Koobi Fora Training and Research Project Workshop, Washington, D.C.
Fall 2022	*Are handaxes the first culture?* Hurford Center for Arts and Humanities Breaking the Rules Fellow talk.
Spring 2020	*Phylotechnical tree at Olduvai Gorge*. IMSAloqium Student Investigation Showcase, Aurora, Illinois.

Research Experience

2023 – ongoing

Computational Biology lab research – member of the Bitarello computational biology lab at Bryn Mawr College.
Research projects hosted in this lab:

- Improving existing and developing novel phylogenetic comparative methods for small clades. Currently focusing on improving the power of Blomberg's K to small clades using machine learning and bootstrapping. Ongoing, co-advised by Professor Maja Šešelj.
- Developed a phylogenetic signal statistic for count data. Completed and intend to disseminate in the articles coming from my senior thesis research (ideally *Systematic Biology* or *Bioinformatics*).
- Devised a novel method to test the phylogenetic information content of traits in a character matrix for my UPenn grad class final paper. Spent Summer and Fall 2023 improving the idea. Preparing to submit to *Proceedings of Royal Society B* by the end of 2023, co-advised by Professor Maja Šešelj. Plan on presenting this work at the Paleoanthropology Society and Society of Systematic Biology meetings in 2024.

- Dr. Bitarello and I jointly came up with an idea to use approximate Bayesian computation to search character matrix space to find the most informative and least homoplastic hominin character matrix. Ongoing.
- Building a molecular phylogenetic tree for Requiem sharks to better understand the evolutionary history of euryhalinity in bull sharks and how they relate to *Glyphis sp.* (freshwater) and sandbar sharks (saltwater). Ongoing.

2022 – ongoing — Senior thesis research – testing the phylogenetic information content of great ape perikymata (a roughly weekly growth increment). Mentored by Professors Šešelj and Bitarello. I started collecting data for this research summer of 2022, after completing a literature review for class Fall 2021 and a project proposal Spring 2022.

2022 – ongoing — Koobi Fora Research and Training Project research – experimental archaeology research into social transmission in the Early Pleistocene using 3D geometric morphometrics and a novel application of elliptical Fourier analysis I developed with Jonathan Reeves (PI, Max Planck Institute for Evolutionary Anthropology), Matthew Douglass (U. Nebraska-Lincoln), and David Braun (George Washington University).

2021 – present — Anthropology research – research with Professor Šešelj into dental enamel microstructure, osteology, mandibular development, and life history.

2019 – 2020 — High School research – research at the University of Chicago Alemseged lab. 2D morphometrics of Oldowan and Acheulean tool typologies from Olduvai Gorge.

Fieldwork Experience

2022 — Excavation at a 1.5 Ma Acheulean site in Koobi Fora, Kenya, led by Dr. Jonathan Reeves as part of the Koobi Fora Field School.

2021 — Excavation at the ancestral Wichita site of Etzanoa, near Arkansas City, Kansas. Led by Dr. Donald Blakeslee and Dr. Crystal Dozier.

Collections Experience

2023 — Field Museum of Natural History (Chicago, Illinois) – 3D scanning great ape specimens for senior thesis research. Scans are, or will be, available on MorphoSource. Noticed poor treatment of specimens by past researchers since I had last been in the collection, communicated with FMNH mammals curator, and storage policies have improved to prevent misuse of specimens by researchers.

2022 — Field Museum of Natural History (Chicago, Illinois) – dental mold making of great ape specimens for senior thesis research.

Workshops

2022 — Intro to GIS using R (University of Reading). Learned how to integrate R and GIS for spatial analysis.

2022 — Koobi Fora Research and Training Project Workshop (George Washington University). Presented my research on the Acheulean industry and received feedback on my study design and research.

2021	TOOTH workshop (University of Zurich). Learned how to do dental occlusal wear and fingerprinting.

Teaching and Mentoring Experience

Fall 2023 – ongoing	*Biostatistics with R* (teaching assistant, Bryn Mawr College). Occasionally solo-taught lab; helped plan class, assignments, and exam questions; and offered between 2 and 6 office hours a week. Office hours attended by 3 students per session on average.
Summer 2023	Helped design and write an R package for teaching biostatistics (Bryn Mawr College).
Spring 2023 – ongoing	Mentoring fellow undergraduate at University of Hartford via the Goldwater Ambassadors program.
Fall 2022	*Introduction to Biological and Archaeological Anthropology* (teaching assistant, Bryn Mawr College).

Service

Fall 2022 – ongoing	Helping plan the "Inclusivity in Fieldwork" workshop with Yale's Paleoarchaeology Laboratory to develop more ethical fieldwork practices drawing from a diversity of disciplines which do fieldwork.
Fall 2021 – ongoing	I advocate for bike safety and safe cycling infrastructure with the Bicycle Coalition of Greater Philadelphia.

Professional Memberships

American Association of Biological Anthropologists (AABA)

Society for American Archaeology (SAA)

Paleoanthropology Society

Languages

English (first language), R (second language), German (acceptable), Latin (beginning writing and reading), Spanish (learning)

Other experience

3D printing, 3D modeling, and computer aided design

Head of Manufacturing at Forte3D where we 3D printed cellos from carbon fiber nylon, 2022.
Worked at Fast Radius where I ran Carbon M2 and L1 resin 3D printers, 2020-2021.
Designed and built my own fully custom 3D printer over Winter, 2020 drawing from three years of experience building, modifying, and fixing Creality, Prusa, AnyCubic, Artillery, and FormLabs 3D printers.
Worked in the Illinois Mathematics and Science Academy makerspace from 2017 to 2020 and served on its student planning board from 2018-2020.
Experienced with Autodesk Fusion 360 since 2017.
Experienced with Autodesk Inventor (including assemblies and sheet metal parts) since 2013.

Coding languages

Beginning git scripting, started learning Spring 2023 and mostly use GitHub for version controlling and collaboration.
Beginning bash scripting, started learning Spring 2023.
Self-taught R and R markdown in Winter of 2021. Took Biostatistics with R Fall 2022 which helped cement what I self-taught and served as a teaching assistant for the class Fall 2023.
Experience modifying and writing Marlin v1.x and v2.x firmware for 3D printers (based on C).