

Molly (Martell) Selba

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EDUCATION

University of Florida, Gainesville, FL Expected: May 2021
PhD in Anthropology, Focus in Biological Anthropology
Recipient of a Graduate School Fellowship and a Thompson Earth Systems Institute Science Communication Fellowship

University of Florida, Gainesville, FL December 2017
Master of Art in Anthropology, Focus in Biological Anthropology
Thesis: The Impact of Selection for Facial Reduction in Dogs: Geometric Morphometric (GM) Analysis of Canine Cranial Shape

Johns Hopkins University, Baltimore, MD December 2014
Bachelor of Art in Archaeology and Anthropology; Minor in Museums and Society

AWARDS AND HONORS

Travel Awards:

Anthropology Department 2015-2019
College of Liberal Arts and Sciences 2015-2019
Office of Research 2015-2017

Nominated for the P.E.O Scholars Award, CQ Chapter Fall 2018

- Nominees demonstrate academic excellence and achievement, the ability to make significant contributions in their chosen field of study, and a record of leadership positions in university academics

American Association of Anatomists Short-term Visiting Scholarship, University of Florida Spring 2018

- Received an award of \$1000 to visit Dr. Timothy Smith at Slippery Rock University and learn histological methods as a capstone to a histology independent study

University of Florida Department of Anthropology Poster Contest, Second Place (\$500 prize) Fall 2017

University of Florida Graduate School Fellowship Fall 2015-Present

O. Ruth McQuown Scholarship Award, University of Florida Spring 2017

- Awarded on the basis of academic achievement, commitment to helping others break down barriers, and contribution to the community

Dean's Undergraduate Research Award: The Raymond Westbrook Undergraduate Research Award in Near Eastern Studies, Johns Hopkins University Spring 2014

- Awarded \$2500 to research the effectiveness of Portable X-Ray Fluorescence to Analyze Elemental Biogenic Uptake

SCHOLARSHIP

REFEREED SCHOLARSHIP

Publications

Selba MC, Bryson ER, Rosenberg CL, Heng HG, DeLeon VB. 2020. The Impact of Facial Reduction on Endocranial Shape in Dogs. *Anatomical Record* [Early View]

Selba MC, Oechtering G, Heng HG, DeLeon VB. 2020. The Impact of Selection for Facial Reduction in Dogs: Geometric Morphometric Analysis of Canine Cranial Shape. *Anatomical Record*, 303(2), 330-346*

* Recognized by the press as one of the top 10% downloaded articles in 2018-2019

Selba MC. 2019. The Human Evolution Teaching Materials Project: A Case for the Incorporation of 3D Prints into K-12 Science Curricula. *EvoS Journal: The Journal of the Evolutionary Studies Consortium*, 43-38.

Smith TD, **Martell MC**, Rossie JB, Bonar CJ, DeLeon VB. 2016. Ontogeny and Microanatomy of the Nasal Turbinals in Lemuriformes. *Anatomical Record*, 299(11), 1492-1510.

CONFERENCES

Presentations

The Human Evolution Teaching Materials Project Spring 2018
• Presented at the Southeastern Evolutionary Perspectives Society Annual Meeting in February 2018.

HETMP: The Human Evolution Teaching Materials Project Spring 2018
• Presented at the UF FASA weekly colloquia in January 2018

Refereed Poster Sessions

Selective Breeding in Domestic Dogs: How Selecting for a Short Face Impacted Canine Neuroanatomy Spring 2020
• Accepted for the American Association of Anatomists Annual Meeting in April 2020 (Cancelled due to COVID-19)

The First Annual Human Evolution Summer Teacher Workshop: Spring
2020

Evolution Education in the Southeastern United States
• Accepted for the American Association of Physical Anthropologists Annual Meeting in April 2020 (Cancelled due to COVID-19)

The Human Evolution Teaching Materials Project (An Anatomical Perspective) Spring 2019
• Presented at the American Association of Anatomists Annual Meeting in April 2019.

The Impact of Selection for Facial Reduction in Dogs Spring 2019
• Presented at the American Association of Physical Anthropologists Annual Meeting in March 2019.

The Human Evolution Teaching Materials Project (An Anthropological Perspective) Spring 2018
• Presented at the American Association of Physical Anthropologists Annual Meeting in April 2018.

The Impact of Selection for Facial Reduction in Dogs Spring 2018
• Presented at the American Association of Anatomists Annual Meeting in April 2018.

Relationship of Turbinal Surface Area and Nasal Cavity Volume in Primates Spring 2017
• Presented at the American Association of Physical Anthropologists Annual Meeting in April 2017.

Heterochrony of Nasal Turbinal Development in Primates Spring 2016
• Presented at the American Association of Physical Anthropologists Annual Meeting in April 2016.

**An Investigation of Elemental Biogenic Uptake:
The Examination of Portable X-ray Fluorescence as a Method of Osteological Analysis** Spring 2016
• Presented at the Paleopathology Association Annual Meeting in April 2016.

Ontogeny of Nasal Turbinals in *Lemur catta* Spring 2015
• Presented at the American Association of Physical Anthropologists Annual Meeting in March 2015.

Distribution of Rhomboid Fossa by Sex and Ancestry Spring 2015
• Presented at the Paleopathology Association Annual Meeting in March 2015

INVITED LECTURES

Teacher Institute of Evolutionary Sciences Webinar: A Crash Course on Human Evolution	Spring 2020
Course: Human Anatomy and Embryology Lecture on Forearm Anatomy	Spring 2020
Course: Human Anatomy and Embryology Lecture on Heart Anatomy	Spring 2020
Workshop: 3D Printing at the University of Florida	Fall 2019
Course: Functional Human Neuroanatomy at the University of Florida Lecture on Comparative Neuroanatomy	Fall 2018
Course: Applied Human Anatomy w/ Lab at the University of Florida Lecture on Anatomy and Adaptation	Fall 2018
Course: Digital Anthropology Lecture on Technology and Biological Anthropology	Spring 2018

PROFESSIONAL EXPERIENCE: BIOLOGICAL ANTHROPOLOGY

DeLeon Virtual Morphology Lab , University of Florida <i>Research Assistant/Lab Member</i>	2015-Present
<ul style="list-style-type: none"> Analyzing and segmenting microCT scans in the NSF primate database Creating housing for collection of fetal remains 	
Bone Chemistry Laboratories , University of Florida	Spring 2020
<ul style="list-style-type: none"> Assisted with the inventory of skeletal remains from the Late Pleistocene-Holocene site Niah Cave (Sarawak, Malaysia) 	
The Smithsonian Institution National Museum of Natural History , Museum Support Center <i>Intern, Supervisor: Dr. David Hunt, Physical and Forensic Anthropologist</i>	2014-2015
<ul style="list-style-type: none"> Analyzed and documented the human remains in The Robert J. Terry Anatomical Skeletal Collection. Created a concise and accessible pathology database that documents all of the osteological pathologies and anomalies in the Terry Collection. Assisted in necropsies to supplement the Smithsonian's research and growing comparative collection. 	
Center for Functional Anatomy and Evolution , Johns Hopkins Medical Campus <i>Lab Technician, Supervisor: Dr. Valerie DeLeon</i>	2014-2015
<ul style="list-style-type: none"> Used Amira for post-processing CT scans of juvenile <i>Lemur catta</i> for use in academic research pertaining to ontogeny and dental eruption patterns in strepsirrhines. Assisted in photography of slides depicting human diseases in mouse models. 	
The Office of the Chief Medical Examiner , Baltimore, MD <i>Intern, Supervisor: Dr. William Rodriguez, Forensic Anthropologist</i>	2013-2014
<ul style="list-style-type: none"> Performed analysis on desiccated human remains, attended autopsy rounds, performed dissections, created inventories of remains in storage, and learned to recognize osteological evidence of various pathologies and trauma. 	
The Field School in Medieval Archaeology and Bioarchaeology at Badia Pozzeveri , Lucca, Italy <i>Student Bioarchaeologist</i>	Summer 2013
<ul style="list-style-type: none"> Attended field school cosponsored by Ohio State University and University of Pisa. Faculty sponsors include: Dr. Giuseppe Vercellotti, Dr. Gino Fornaciari, and Dr. Clark Larsen. Participated in six weeks of excavation and in on-site Material Culture, Osteology, and GIS labs. Spent a significant amount of time excavating, handling, and analyzing human remains from burials on site. Presented on fieldwork to the faculty and students in the JHU archaeology department to fulfill the archaeology major's fieldwork component. 	

PROFESSIONAL EXPERIENCE: MUSEUMS

Florida Museum of Natural History , University of Florida <i>Volunteer</i>	Fall 2016-Present
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- Cataloging and accessioning the museum's paleontological collections

The Johns Hopkins Archaeological Museum, Baltimore, MD 2012-2014
Undergraduate Student Assistant

- Accessioned collections into museum database, made and lined boxes to aid in the museum's conservation efforts, and helped create case maps for use at the museum.
- Presented research done at the museum to a variety of student groups including CTY (Center for Talented Youth).

The Visual Resources Collections, The History of Art Department, Johns Hopkins University 2012-2013
Work-Study Student

- Edited photographs from excavations conducted by Johns Hopkins faculty as well as other photos for use in the History of Art Department.

The Libby Museum, Wolfeboro, NH Summer 2012
Museum Staff

- Employee- Accessioned collections into museum database, helped design and assemble several exhibits (writing wall texts, conducting research, etc.), provided tours as a docent, designed a floor plan map for the museum, and helped coordinate the museum's 100th anniversary centennial activities.

EMPLOYMENT EXPERIENCE

Thompson Earth Systems Institute Fall 2019-Present
Scientist in Every Florida School Educator

- Develops lessons plans and does classroom visit in K-12 classrooms across the state of Florida

Marieb/Brady Human Anatomy 9th Edition Fall 2018-Present
Contributor

- Helped edit teaching materials from the 8th Edition

QualQuant Website Fall 2017-Fall 2018
Webmaster

- Updating and maintaining the QualQuant website

Family and Children Services Fall 2017-Fall 2018
Director of Outreach PR

- Developed promotional materials for their 165th anniversary celebration using archived information and photographs

SERVICE

Alpha Epsilon Lambda, University of Florida Spring 2018-Spring 2019
President

- Planning and presiding over Eboard and General Body Meetings, restructuring dues system, and planning outreach events

City of Gainesville Parks, Recreation and Cultural Affairs Department Fall 2017-Present
Tutor

- Helping elementary school students with their homework and planning educational activities

Alpha Epsilon Lambda, University of Florida Spring 2017-Spring 2018
Membership Chair

- Coordinated the application process and inducted new members

Florida Anthropological Student Association (FASA) Fall 2016-Spring 2017
New Graduate Student Liaison

- Helped new graduate students adjust to graduate school life

The Journal of Young Investigators, The Premier Undergraduate Research Journal 2014-2015
Associate Editor in the Psychology and Social Sciences Division

- Reviewed and edited undergraduate research for publication in the Journal of Young Investigators

PEER REVIEW

Anatomical Record
Journal of Zoomorphology

Spring 2020
Fall 2019

TEACHING

COURSES TAUGHT

Teaching Associate: Osteology and Osteometrics Fall 2019-Present

- Facilitated labs totaling 15 students, delivered labs and practical exams, handled grading and attendance

Teaching College Faculty: Comparative Neuroanatomy Fall 2019-Present

- Facilitated class totaling 15 students, delivered lectures and practical exams, handled grading and attendance

Teaching Assistant: Functional Human Neuroanatomy Summer 2019

- Facilitated labs totaling 30 students, delivered labs and practical exams, presented multiple lectures

Teaching Assistant: Introduction to Biological Anthropology Fall 2017-Spring 2018

- Facilitated labs totaling 45 students, delivered labs and practical exams, handled grading and attendance

Teaching Assistant: Human Sexuality and Culture Fall 2016-Spring 2017

- Facilitated breakout sections totaling 80 students, helped students complete their research projects, responsible for grading and attendance

PROFESSIONAL DEVELOPMENT FOR TEACHERS

Workshop: A Comparison of Hominins Using Fossils such as Teeth and Skulls (For Florida Teachers) Fall 2018

- This workshop presented a lesson plan to teachers, which allow them to use 3D printed hominin mandibles to include human evolution into their existing curricula.
- Presented at the Florida Association of Science Teachers Annual Meeting in October 2018.

Workshop: The Human Evolution Teaching Materials Project (For Florida Teachers) Fall 2018

- This workshop presented a lab to teachers that utilized 3D printed hominin crania as a way to introduce the concept of 'splitting and lumping' to middle and high school students.
- Presented at the Florida Association of Science Teachers Annual Meeting in October 2018.

Workshop: A Comparison of Hominins Using Fossils such as Teeth and Skulls (For K-12 Science Teachers) Spring 2018

- This workshop presented a lesson plan to teachers, which allow them to use 3D printed hominin mandibles to include human evolution into their existing curricula.
- Presented at the National Science Teachers Association Annual Meeting in March 2018.

ONGOING PERSONAL TEACHING DEVELOPMENT

Preparing Future Faculty Program Spring 2020

Learning important aspects of being a successful faculty member and preparing accordingly during my training at UF

Course: Engaging Online Learners Spring 2019

Completed the course and awarded a badge for successful completion of all requirements

Course: Designing an Inclusive Course Spring 2019

Completed the course and awarded a badge for successful completion of all requirements

PROFESSIONAL LEARNING FOR TEACHING

TEACHER PROFESSIONAL DEVELOPMENT

Human Evolution Summer Teacher Workshop Summer 2019

- Received \$15,000 to host a 3-day summer teacher workshop to help educators from the Southeastern United States incorporate human evolution into their science curriculum. Worked with over a dozen schools (both in person and virtually) across the United States to help them incorporate human evolution into their science curriculum

iDigFossils 3D Printing and Paleontology for Student Engagement in Science

Summer 2018

- Presented on 3D printing and science education/outreach to 50 teachers from across the country

CLASSROOM OUTREACH

Skype a Scientist

Spring 2020-Present

- Leading virtual visits for homeschool students to talk about archaeology, anthropology, and evolution

Thompson Earth Systems Institute

Fall 2019-Present

- Working as a Science Communication Fellow on the Scientist in Every Florida School Initiative. Completes 2-3 school visits a week to classrooms across the state of Florida.

Human Evolution Teaching Materials Project

Fall 2016-Present

- Created a resource to middle and high school educators to facilitate inclusion of human evolution in science curricula by helping teachers generate 3D models of hominin fossil crania and providing accompanying lesson plans. Funded by SSE.

Center for Precollegiate Education and Training Human Evolution Module

Summer 2017

- Helped present human evolution to AP Biology students through hands-on labs using both morphological and genetic evidence

WEBINARS/WORKSHOPS ATTENDED

SciComm 101 Workshop

Spring 2020

Workshop hosted at the Florida Museum of Natural History

CommSciPaleo Symposium

Spring 2020

Workshop hosted at the Perot Museum in Dallas, TX

Integrate Interactive, 3D Tools in Human Anatomy Courses and Curriculum

Fall 2018

AAA Sponsored Webinar

Enhancing your Professional Portfolio through Educational Research, Part II: Conducting an Educational Research Project – Getting things Organized

Spring 2018

AAA Sponsored Webinar

Enhancing your Professional Portfolio through Educational Research, Part I: Setting up an Educational Research Project – Where do I Start?

Spring 2018

AAA Sponsored Webinar

Bringing Classroom Technology Funding Home

Spring 2017

UF Grants Office

GRANTS

Society for the Study of Evolution Small Grants Program for Local and Regional Outreach Promoting the Understanding of Evolutionary Biology Grant

Spring 2018

- Received a second award in the amount of \$1000 to continue development and implementation of the Human Evolution Teaching Material Project. This grant included monetary support for undergraduate volunteers to help progress HETMP

Society for the Study of Evolution Small Grants Program for Local and Regional Outreach Promoting the Understanding of Evolutionary Biology Grant

Spring 2017

- Received an award in the amount of \$1000 to develop the Human Evolution Teaching Material Project, an outreach initiative which provides resources for middle and high school educators to facilitate the inclusion of human evolution in science curricula

AFFILIATIONS AND MEMBERSHIPS

Sigma Xi: 2018-Present

Florida Anthropological Student Association: 2016-Present

Alpha Epsilon Lambda (Graduate Student Honors Society): 2016-Present

Society for the Study of Evolution: 2017-Present

American Association of Physical Anthropologists: 2014-Present

American Association of Anatomists: 2015-Present

The Southeastern Evolutionary Perspectives Society: 2017-2019

Paleopathology Association: 2014-2016

SKILLS

Language: Proficient in French, Intermediate knowledge of Latin

Software: Microsoft Office, Photoshop CS3, PastPerfect, Adobe Lightroom, ArcGIS, AutoCAD, Adobe Bridge, Sofortbild, Amira, Filemaker, NIS Elements, R, ImageJ, MorphoJ, MeshLab, Wordpress, and Adobe Illustrator

PRESS MENTIONS

https://www.houmatoday.com/news/20190911/nicholls-professor-to-teach-teachers-about-3-d-printing-and-evolution?fbclid=IwAR2_SJo1x-ACZjWG7ZyxnoPyjGXdB9W-J1bBmUOQwOBEAaeClrG62cqddMU

https://www.gainesville.com/news/20190705/teachers-gain-expertise-in-human-evolution-through-uf-workshop?fbclid=IwAR1ZF79zjGv21oYyRF8sFo_VbXiPKK6OjuWOGdbCHADSwb1BF6_oENHEseY

<https://www.palmcoastobserver.com/article/your-town-palm-coast-teacher-selected-for-3d-printing-workshop>

<https://www.floridamuseum.ufl.edu/earth-systems/blog/human-evolution-summer-teacher-workshop-empowers-educators/>

<https://www.thehartwellsun.com/local/teacher-learns-about-navigating-evolution>

<https://www.floridamuseum.ufl.edu/earth-systems/blog/trends-over-time-an-observational-analysis/>

<https://weartv.com/news/local/scientists-visit-escambia-county-students>