

**ABIGAIL S. GANCZ**

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**RESEARCH INTERESTS:**

Human Microbiome Adaptation & Evolution, Paleoepidemiology, Human-Environmental Interactions, Ancient DNA

**EDUCATION:**

**PhD in Anthropology, Penn State College of Liberal Arts, 2019 – present**

**MA in Anthropology, Penn State College of Liberal Arts 2019 – 2022**

**Bachelor of Science in Public Health, University of North Carolina, Chapel Hill 2015 – 2019**

Majors: Biostatistics & Anthropology (*Highest Distinction*)

Senior Honors Thesis (*Highest Honors*): “Evaluating the Utility of Portable X-ray Fluorescence to the Discrimination of Human Remains from Commingled Contexts”, supervised by Dr. D.L. Hutchinson

**PROFESSIONAL EXPERIENCE:**

**Laboratory and Field Work:**

Graduate Assistant at Bioarchaeology Laboratory, Pennsylvania State University, State College; Osteological analysis **2019 – 2020**

Researcher at Mogou Bioarcheological Field Project, Lanzhou, China; Paleopathology & paleodemography analysis **2019**

Research Assistant at Osteology Lab, Research Labs of Archaeology, University of North Carolina, Chapel Hill; Osteological and stable isotope analysis **2018 – 2019**

Research Assistant at Digital Imaging Lab, Research Labs of Archaeology, University of North Carolina, Chapel Hill; Artifact processing, identification, and 3D modeling **2015 – 2019**

Field Assistant at Archaeological excavation of the Smith Mountain Site, Dr. Joseph Gingerich (Ohio University), Penhook, VA **2017, 2018**

Photogrammetry Specialist at the 2017 Tlingit Sharing Our Knowledge Conference, Sitka, Alaska; Collaboration with Smithsonian team on 3D modeling, education, and public outreach **2017**

Spatial Analysis Summer Intern; Hunter-Gatherer Social Behavior During the North American Pleistocene Project; National Museum of Natural History, Smithsonian Institute; Lithic and spatial analysis of the Shawnee Minisink Site, PA **2017**

Intern at Repatriation Office, Department of Anthropology at National Museum of Natural History, Smithsonian Institute, Washington DC; Development of digital models **2016**

Field Assistant at archaeological excavation of the Omrit site, Dr. Jennifer Gates-Foster (University of North Carolina, Chapel Hill), Kibbutz Kfar Szold, Israel **2016**

Student Research Assistant at Biology Laboratories of George Washington University at Washington DC; DNA Extraction, analysis, laboratory techniques **2014**

### **Teaching Experience:**

Teaching Assistant for ANTH 1: Introduction to Anthropology, Pennsylvania State University **Spring 2021**

Teaching Assistant for ANTH 411: Skeletal Forensics, Pennsylvania State University **Fall 2020**

### **Work Experience:**

Instructor of Laser Cutting and Advanced Laser Cutting, The Rivet, State College, PA; instruction of students in fabrication techniques **2021 – ongoing**

Photogrammetry Specialist at National Museum of Natural History, Smithsonian Institute, Washington DC; Development of digital 3D models for Office of Repatriation **2018**

Residential Technology Advisor at ResNET Information Technology Services at the University of North Carolina, Chapel Hill; Instruction and technological assistance **2017 – 2019**

Student Instructor the BeAM Makerspaces at the University of North Carolina, Chapel Hill; Project leadership and instruction of students, faculty and staff in digital fabrication techniques including 3D printing, woodshop, and electronics **2016 – 2019**

### **SKILLS AND LANGUAGES:**

#### **Technological:**

Bioinformatic

Processing & Analysis of ancient DNA and microbiome data, NGS data, amplicon data

3D Modeling and Photogrammetry	Agisoft Photoscan, Blender, Autodesk Fusion 360, MeshMixer, MeshLab, NextEngine 3D Software
Fabrication	Aspire (CNS Routing Shopbot Software), Cura, Universal Laser System User Interface, Vinyl Master Professional
Statistical Software	R Studio, Statistical Analysis Software (SAS)
GIS Programs	ArcGIS, GoogleEarth
Design	Adobe Photoshop, Adobe Illustrator, Adobe Bridge
Data Management	Microsoft Excel, Microsoft Access

**Methodological:**

Stable Isotope Analysis	Collagen extraction for stable isotope analysis and preparation of samples for mass spectrometry as practiced at the Bioarchaeology and Biochemistry Laboratory directed by Dr. Laurie Reitsema at UGA
Digitalization	Accurate and high-resolution 3D modeling using digital cameras and scanners of targets including active excavations, features, and artifacts
Osteological Analysis	Paleopathological and osteometric analysis of skeletal collections

**Languages:**

Hebrew	Fluent reading, writing, speaking
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**PROFESSIONAL EXPERIENCE:**

PSU Anthropology Hill Fellowship; \$1288	<b>2023</b>
Penn State Global Graduate Student Travel Grant; \$1500	<b>2023</b>
PSU RGSO Dissertation Support; \$2000	<b>2023</b>
AABA William S. Pollitzer Student Travel Award; \$500	<b>2021</b>
Millennium Café Pitch Competition Finalist; \$25	<b>2020</b>
Pennsylvania Space Grant Consortium Graduate Research Fellowship; \$5000	<b>2020</b>

AAPA William S. Pollitzer Student Travel Award; \$500	<b>2020</b>
National Science Foundation Graduate Research Fellowship; \$138,000	<b>2019</b>
University Graduate Fellowship, The Graduate School at Penn State; \$30,000	<b>2019</b>
Fulbright United Kingdom Durham Award; £12,000 ( <i>declined</i> )	<b>2019</b>
Research Laboratories of Archaeology Travel Award: Used to Travel to the American Association of Physical Anthropologists Meeting; \$250	<b>2019</b>
Research Laboratories of Archaeology Travel Award: Used to Travel to the Society for American Archaeologists Annual Conference; \$250	<b>2018</b>
Summer Undergraduate Research Fellowship (SURF), Honors College UNC-CH; Project title: “Statistical Analysis of the Old Chapel Hill Cemetery: Age, Occupation, and Gender as Correlated to Social Rank and Spatial Placement”; \$3000	<b>2017</b>
Robinson Honors Fellowship, Honors College UNC-CH; Scholarship for self-designed study of the Mediterranean from the golden age of Greece to the upheaval of World War I; \$6000	<b>2016</b>
Froelich Fellowship, Honors College UNC-CH; Scholarship awarded to Honors Carolina students to study abroad, participate in a program or internship, or pursue civic engagement; \$7500	<b>2015 – 2019</b>
General Alumni Association Scholarship, UNC-CH; \$10,000	<b>2015 – 2019</b>
Jane Fairweather Scholarship Award, MD; \$500	<b>2015</b>

### **PUBLICATIONS AND PRESENTATIONS:**

<i>Studying ancient human oral microbiomes could yield insights into the evolutionary history of noncommunicable diseases</i> , A.S. Gancz, L.S. Weyrich; F1000Research	<b>2023</b>
<i>Health and dietary drivers of human oral microbiome composition in ancient Britain</i> , A.S. Gancz, A.G. Farrer, K. Dobney, S.L. Wright, L.S. Weyrich, American Journal of Biological Anthropology	<b>2022</b>
<i>The Millions of Microbial Reasons You Need to Brush Your Teeth</i> , A. Gancz, S. Wright, N. Moore, L. Weyrich; Frontiers for Young Minds	<b>2022</b>

*Adaptive Utilization of Digital Forums for Bioanthropological Outreach*, **A.S. Gancz**; M.B. Lenover; Poster presented at the Annual Meeting of the American Association of Physical Anthropologists **2021**

*Reconstructing Weaning and Childhood Diets at the 6th-5th C. BCE Skeletal Population of the Greek Colony of Himera*, **A.S. Gancz**, L.J. Reitsema, K.L. Reinberger, S. Vassallo, B. Kyle; Poster presented at the Annual Meeting of the American Association of Physical Anthropologists **2019**

*Investigating Weaning at the 7-5th century BCE Greek Colony of Himera Using Stable Isotope Analysis*, **A.S. Gancz**; Poster presented at the Council for Undergraduate Research 218 REU Symposium **2018**

*Raw Material Characteristics and Spatial Patterning at Shawnee-Minisink Paleoindian Site*, **A.S. Gancz**; Poster presented at the Society for American Archaeology Annual Conference **2018**

Zivich, P., **A.S. Gancz**, and A. Aiello. 2018. "Effect of hand hygiene on infectious diseases in the office workplace: A systematic review". American Journal of Infection Control **2018**

*Statistical Analysis of the Old Chapel Hill Cemetery: Age, Occupation, and Gender as Correlated to Social Rank and Spatial Placement*, **A.S. Gancz**; Poster presented at the Office of Undergraduate Research Symposium at UNC-CH **2018**

*Hands on 3D digitalization and Replication: Converting a Physical Object to a 3D Model*, **A.S. Gancz**, Eric Hollinger, Chris Hollshwander Nick Partridge; Workshop led at the Sharing Our Knowledge Tlingit Conference in Sitka, Alaska **2017**

*3D Digitization & Replication: Incorporating Emerging Technology into Communities, Schools, and Homes*, **A.S. Gancz**, Eric Hollinger, Chris Hollshwander, Nick Partridge; Podium presentation at the Sharing Our Knowledge Tlingit Conference in Sitka, Alaska **2017**

## **COMMUNITY SERVICE AND OUTREACH:**

PSU Anthropology Outreach Coordinator	<b>2022 – present</b>
PSU Anthropology Colloquium Committee Member	<b>2021 – 2023</b>
SPAAM4 Organizing Committee Member	<b>2021 – 2022</b>

Stories Under the Sky Science Outreach Program: Abigail Gancz & Kyle C.M. Smith, in partnership with the PSU Arboretum	<b>2021 – 2023</b>
PSU Anthropology Graduate Student Association Community Education Extended Learning (CEEL) Program Volunteer	<b>2020</b>
PSU Envision STEM career Day Supporting Young Women “The Bare Bones of Archaeology” Workshop Leader	<b>2020</b>
Office of Undergraduate Research Student Liaison for Department of Anthropology	<b>2018 – 2019</b>
Science Complex Phase III Planning & Vision Advisory Committee Undergraduate Student Representative	<b>2017 – 2018</b>
Morehead Planetarium Middle School Science Club Virtual Reality in Archaeology Workshop Organizer	<b>2017</b>
Makerspace Flintknapping Experimental Archaeology Workshop Organizer	<b>2017</b>
Maker-In-Residence Leadership Committee at UNC-CH	<b>2015 – 2018</b>

**PROFESSIONAL ORGANIZATION MEMBERSHIP:**

American Association of Biological Anthropologists	<b>2018 – present</b>
Standards, Precautions & Advances in Ancient Metagenomics (SPAAM)	<b>2020 – present</b>