

Audrey Tjahjadi

Research interests

I am a 4th year PhD student at Yale University in the Department of Anthropology. My research concerns human evolutionary genetics, particularly genetic variation in genes related to fat and carbohydrate metabolism in Oceanic populations and how this has been driven by environmental factors. I highly value an interdisciplinary approach to research, incorporating genomic methods with anthropological and archaeological information.

Education

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| August 2021-present | Yale University, New Haven, CT
PhD student, Anthropology
Advisor: Serena Tucci |
| 2019-2021 | George Washington University, Washington D.C.
M.S. Human Paleobiology
Thesis: <i>A phylogenetic analysis of two starch-digesting enzymes in primates</i>
Advisor: Brenda Bradley |
| 2014-2018 | Boston University, Boston, MA
B.A. Archaeology, B.A. Biology
Graduated <i>cum laude</i> |
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Research experience

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| Tucci Lab, Yale University
PhD student
Advisor: Serena Tucci | 2021-present |
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- Wet lab work:
 - Perform QIAamp and Circulomics extractions from Buffy coat and whole blood samples
 - Perform cell culture of K562 cells for use in reporter assay experiments
 - Dry lab work:
 - Create and utilize bioinformatic pipelines for processing genomic raw data and producing variant call files
 - Analyze whole-genome scale data to detect runs of homozygosity and characterize findings in the context of Near Oceanic modern human populations
 - Characterize haplotype diversity and produce phylogenetic trees and cluster analyses of single-gene loci related to fat metabolism (*FADS* genes)
 - Statistical analyses and data visualization in R and Python

Primate Genomics Lab, George Washington University 2019-2021
Master's graduate
Advisor: Brenda Bradley

- Thesis work:
 - Performed literature review regarding evolution of starch digesting enzymes in primate and human populations
 - Perform hypothesis testing regarding protein sequence evolution of starch digesting enzymes (*AMY1/2*, *MGAM*, and *SI*) using phylogenetic methods through HyPhy
 - Aided undergraduate research project into guinea pig evolution and domestication in Peru

Rama Bansil Lab, Boston University Jan 2018-May 2018
Undergraduate assistant
Supervisor: Rama Bansil

- Assisted in a biophysics lab to culture *H. pylori* bacteria
- Collected and purified pig gastric mucin for microrheology experiments with *H. pylori* bacteria

UROP, Boston University May 2017-May 2018
Undergraduate assistant
Supervisor: Carolyn Hodges-Simeon

- Participated in the BU Undergraduate Research Opportunity Program to design a study procedure testing relationships between immunoglobulin A and testosterone in college-aged males
- Collected saliva samples, anthropometric measurements, and survey data from participants

Environmental Archaeology Lab, Boston University Oct 2015-May 2016
Lab Volunteer
Supervisor: John Marston, Kali Wade

- Sorted and identified macrobotanical remains from archaeological sites in Ashkelon, Israel using microscopy
- Prepared wood samples and accessioned additional botanical samples for a comparative collection plant database

Teaching Experience

Yale University, New Haven, CT August 2023-Current
Teaching Assistant, Anthropology

- Spring 2025: ANTH116 Introduction to Biological Anthropology
 - Lead two weekly lab and/or discussion sections totaling 36 students on introductory topics in biological anthropology
 - Coordinate with professor and other teaching fellows for weekly assignments and labs for students

- Fall 2023, 2024: **ANTH204 Molecular Anthropology**
 - Assisted with teaching for a 50 person lecture and seminar style course
 - Coordinated with professor to plan weekly readings, prepare lectures, and schedule guest speakers
 - Aided with grading weekly assignments, a midterm short essay, and final essay
- Spring 2024: **ANTH242 Human Evolutionary Biology**
 - Lead two weekly discussion sections focused on primary research articles and explanation of biological concepts for an introductory audience
 - Produce and grade weekly problem set assignments
 - Coordinate with professor to produce questions for midterm exams

George Washington University, Washington D.C.

2019-2021

Graduate Teaching Assistant, Biological Sciences

- Fall 2019, 2020: **BISC1005 Biology of Nutrition and Health**
- Spring 2020, 2021: **BISC1006 Ecology and Evolution**
 - For each course, instructed two weekly lab sections focused on performing experiments designed to help students understand introductory biological concepts related to nutrition and health
 - Prepared and delivered weekly lab lectures
 - Coordinated with two undergraduate assistants to grade weekly lab assignments and final presentations
 - Courses were administered over Zoom for the 2020-2021 year

Boston University, Boston

2016-2018

Undergraduate Teaching Assistant, Biology

- Spring 2016, 2017, 2018: **BI302 Vertebrate Zoology**
 - Assisted graduate teaching fellows in instructing lab sections, including preparing preserved animal specimens, helping with animal dissections, writing lab exams and giving a selected lab lecture on vertebrate reproduction and evolution

Publications

2022

Journal publications

Reilly, P., **Tjahjadi, A.**, Miller, S., Akey, J., Tucci, S. (2022) "The contribution of Neanderthal introgression to modern human traits." *Current Biology*.
<https://doi.org/10.1016/j.cub.2022.08.027>

Conference Presentations

March 2025 (upcoming) **Podium talk: American Association for Biological Anthropology 2025**

Baltimore, Maryland, USA

Tjahjadi, A., Reilly, F. P., Polimanti R., Koki, G., Merriweather, A.D., Friedlaender F., Friedlaender, J., Tucci, S.
 "Genome-wide patterns of runs of homozygosity in Near Oceanic Populations"

Community Outreach

July 2024	Conference poster: ISABS 2024 Split, Croatia Tjahjadi, A. , Reilly, F. P., Tejada-Martinez, D., Tucci, S. "Investigating Runs of Homozygosity in Near Oceanic Populations"
2021-Present	Yale Science Communication <ul style="list-style-type: none">• Member of a graduate student association focused on science communication• Speaker for Science in the News (2021-2022)<ul style="list-style-type: none">◦ Presented during this annual talk series on human adaptations to diet for a public audience at local libraries in Connecticut• Director for Science in the News series (2022-current)<ul style="list-style-type: none">◦ Coordinate with directorial committee to hold talk auditions and form speaker groups to present outreach talks annually◦ Provide feedback and science communication training to speaker groups prior to outreach talks◦ Communicate between speaker groups and local libraries and venues to schedule talks and distribute promotional materials throughout the spring academic semester◦ Present trainings on science communication as guest speakers during departmental research ethics courses or seminar talks
2022-Present	Yale Pathways x Biological Anthropology <ul style="list-style-type: none">• Coordinated with Yale community outreach group, Yale Pathways, to plan an annual 1-day event aimed towards engaging high school students and familiarizing them to biological anthropology• Led a station explaining archaeology and stone tools for 50 high school students• Visited local middle schools to present a 1-hour biological anthropology activity aimed at advanced elementary or middle school students
January 2020	National Museum of Natural History , Washington D.C. <ul style="list-style-type: none">• Participated in a 1-day event for the <i>Scientist is In</i> program, engaging with visitors and student groups and providing information on biological anthropology in the Hall of Human Origins
2014-2018	Archaeology Society BU , Boston University <ul style="list-style-type: none">• Member of undergraduate student club aimed at teaching and learning about aspects of archaeology (2014-2016)• Experimental archaeology coordinator (2016-2017)<ul style="list-style-type: none">◦ Coordinated with local experts and professors for experimental archaeology demonstrations during club meetings◦ Led club trainings for activities such as flintknapping• President (2017-2018)

- Led the executive board to plan weekly club events and send weekly announcements
 - Ran a table and recruited members of the club at undergraduate activity fairs
 - Volunteered in departmental outreach events such as the annual BU Archaeology Day aimed at the local community
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