

Greta Biondan

PhD Student in Evolution, Ecology and Conservation

CONTACT
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PROFILE

PhD candidate in Paleogenomics and Molecular and Evolutionary Anthropology at the University of Padua. Master's graduate in Molecular and Medical Biotechnology with a research background in evolutionary anthropology, molecular anthropology, and ancient DNA studies. Experienced in handling highly degraded biological materials from archaeological contexts and in performing ancient DNA extraction and analysis within dedicated clean-room facilities. Skilled in the development and optimization of pre-extraction protocols, laboratory methodologies, and contamination-aware workflows. Interested in archaeogenomics, human evolutionary history, and the integration of molecular and archaeological data to investigate past populations.

RESEARCH EXPERIENCE

2026 - PRESENT

PhD Student in Evolution, Ecology and Conservation - University of Padova

Supervisor: Prof. Luca Pagani.
Project: *Palaeogenetic analysis of human remains from the Anthropology Collection of the Department of Biology (POPCORE Project).* The project aims to reconstruct patterns of human mobility, population continuity and admixture in the Po Valley through ancient DNA analyses, integrating genomic, archaeological and geographic data to investigate the demographic history of the Italian Peninsula.

July 2026 - October 2026

Research Fellowship Holder in Archeogenetics - Department of Culture and Civilization, University of Verona

Supervisor: Prof. Fabio Saggioro.
Project: *Analysis and extraction of ancient DNA from archaeological materials from the Piuro archaeological site (ArcheoAlps Project).* Research activities included the evaluation of archaeological human and paleofaunal remains, ancient DNA extraction, laboratory testing and preliminary data analysis for archaeogenetic investigations.

October 2024 - May 2025

Erasmus + Traineeship - Pinhasi Lab, Evolutionary Anthropology Department, University of Vienna (Austria)

Supervisor: Prof. Ron Pinhasi; Prof. Massimo Delledonne; Dr. Olivia Cheronet.
Project: *Maximizing Ancient DNA Recovery from Human Skeletal Remains: Density Separation Protocol Optimization*. The project focused on the validation and optimization of a density-based pre-extraction protocol using heavy liquids to fractionate bone powder into different density fractions, with the aim of maximizing endogenous ancient DNA recovery from archaeological human remains and improving methodological approaches in paleogenomics.

2023 - 2024

Clinical Laboratory Traineeship - Fra Castoro Hospital (ULSS9), San Bonifacio, Vr

Supervisor: Dr. Novella Scattolo; Prof. Silvia Ghirotto
Project: Laboratory analyses within the Immunology, Hematology and Proteomics Unit, focusing on the identification and characterization of monoclonal components for the diagnosis of monoclonal gammopathies, multiple myeloma and amyloidosis.

EDUCATION

Master's Degree in Molecular and Medical Biotechnology (LM9), University of Verona

2023 - 2025
Thesis Title: Maximizing ancient DNA recovery from human skeletal remains: density separation protocol optimization.
Supervisor: Prof. Massimo Delledonne; Dr. Olivia Cheronet

Bachelor's Degree in Biological Sciences (L-13), University of Ferrara

2018 - 2023
Thesis Title: Multiple Mieloma - Evolutionary trajectories and clinical phenotype.
Supervisor: Prof. Silvia Ghirotto.

SKILLS

Technical Skills

Clean-room laboratory procedures and contamination-controlled workflows; Human skeletal sampling for ancient DNA extraction and archeogenomic data interpretation (petrous bones, teeth, and other skeletal elements). Selection and assessment of archaeological skeletal remains for ancient DNA preservation; Archaeological sample processing, including drilling, milling, and bone powder preparation; Ancient DNA extraction and authentication. Archaeological sample processing, including drilling, milling, and bone powder preparation.

Molecular Biology and Sequencing

DNA extraction from highly degraded biological materials; Single-stranded (ssDNA) and double-stranded (dsDNA) library preparation; Next-generation sequencing (NGS) library preparation and sample processing; Library quantification and quality control; PCR inhibition assessment and mitigation strategies; Molecular biology techniques for low-biomass and degraded samples.

Methodological Development & Laboratory Optimization

Protocol development and optimization for ancient DNA recovery; Density separation of archaeological bone powder using heavy liquids; Ultrasonication-assisted sample processing; Optimization of endogenous ancient DNA recovery from archaeological remains; Experimental design and method validation.

IT Skills

Operating System: MacOS, Windows.
Office Suites: Microsoft Office (Excel, Word, PowerPoint).

LANGUAGES

Italian (Native)

English (Fluent, C1 advanced)