giulia.legista01@universitadipavia.it

Project title

Population genomics and ancient DNA: demographic dynamics and gene flow across human populations.

Supervisor

Prof. SEMINO ORNELLA

Co-Supervisor

Prof. OLIVIERI ANNA

Languages

Italiano	Native
Inglese	B2

LEGISTA GIULIA

Ph.D. Program in Genetics, Molecular and Cellular Biology

XLII CYCLE

EDUCATION

2026 - Current | University of Pavia

Ph.D. in GENETICS, MOLECULAR AND CELLULAR BIOLOGY (XLII Cycle)
Project title: "Population genomics and ancient DNA: demographic dynamics and gene flow across human populations."

2024 - 2026 | University of Pavia

MASTER'S DEGREE IN EXPERIMENTAL AND APPLIED BIOLOGY
Thesis title: "Whole-Genome Sequencing and Population Structure of Rwanda within the African Genomic Landscape"

Final mark: 109/110

2021 - 2024 | University of Pavia

BACHELOR'S DEGREE IN SCIENCES AND TECHNOLOGIES FOR NATURE
Thesis title: "Study of the variability of the GNAT3 gene involved in sweet and bitter taste perception in Italian population samples."

Final mark: 104/110

2016 - 2021 | IIS Bachelet, Abbiategrasso (MI)

SCIENTIFIC HIGH SCHOOL DIPLOMA
Final mark: 95/100

RESEARCH AND LABORAORY EXPERIENCE

Technical skills

Bioinformatics and Data Analysis:

- R
- Python
- Bash/Linux/WSL
- PLINK
- ADMIXTURE

Molecular Biology:

- DNA extraction and quality control
- PCR amplification
- SNP genotyping
- Agarose gel electrophoresis

2024 - Current | Department of Biology and Biotechnology "Lazzaro Spallanzani" | University of Pavia, Italy

RESERCH INTERN: Human Population Genomics Laboratory

Supervisor: Prof. Ornella Semino

- Integration and harmonisation of genomic datasets from the 1000 Genomes Project and Ethiopian and Rwandan population samples.
- Construction of large-scale genomic datasets for population genetics analyses.
- Quality control, filtering, pruning and management of genomic data using PLINK and custom Bash/Python workflows.
- Population structure analyses through Principal Component Analysis (PCA) and ADMIXTURE.
- Statistical analysis and visualisation of genomic data in R.
- Bioinformatic analyses performed in Linux and High-Performance Computing (HPC) environments.

2022 - 2024 | Department of Biology and Biotechnology "Lazzaro Spallanzani" | University of Pavia, Italy

BACHELOR'S CURRICULAR INTERNSHIP: Population Genomics Laboratory

Supervisor: Prof. Ornella Semino

- Extraction and quality assessment of genomic DNA from biological samples using spectrophotometry and agarose gel electrophoresis.
- Conventional PCR amplification and SNP genotyping.
- Analysis of genetic variability in the GNAT3 gene in Italian population samples.
- Statistical analysis and graphical representation of genetic data using R.

ACADEMIC PROFILE

PUBLICATIONS

Conference contribution (poster)

- Pecori A., Chirilli C., Concas M.P., Colombo G., Piochi M., Cela N., Nervo C., Ruberto R., **Legista G.,** Gasparini P., Semino O., Torri L. (2025). Genetic factors associated with Thermal Taster Status (TTS): candidate gene analysis in Italian samples. Poster presented at the XX National Congress of the Italian Society of Sensory Sciences (SISS). Institute for Maternal and Child Health - IRCCS "Burlo Garofolo", Trieste, Italy; University of Gastronomic Sciences; University of Pavia; University of Trieste.
- Colombo G., Moroni E., **Legista G**., Olivieri A., Semino O. (2026). Ancient DNA from Iron Age Tunisia sheds light on North African population history. Poster presented at the Biomedical Campus Joint Conference, University of Pavia, Pavia, Italy, 16-17 June 2026.

SCIENCE COMMUNICATION

SHARPER Night – European Researchers' Night
University of Pavia

- Science communicator for three consecutive editions

TEACHING ACTIVITY

Academic Year 2025/2026 | University of Pavia – Italy

- Tutor of Genetics and Human Biology – Bachelor's Degree in Sciences and Technologies for Nature (20 hours)
- Tutor of Genetics – Bachelor's Degree in Biological Sciences (20 hours)
- Tutor of Genetics – Bachelor's Degree in Biotechnology (20 hours)