

Irene Treccani

Date of birth: 13/01/1998 | Nationality: Italian | Gender: Female | Residence:

Email: nene.treccani@gmail.com | Sarezzo, Brescia (BS), Verona (VR), Italy

(Home)

EDUCATION AND TRAINING

01/10/2024 – Present Italy

PHD STUDENT IN INTELLIGENT SYSTEMS ENGINEERING UNIVERSITY OF VERONA

01/10/2023 – 30/09/2026 Italy

MASTER'S DEGREE IN MEDICAL BIOINFORMATICS UNIVERSITY OF VERONA

01/10/2017 – 30/09/2020 Italy

BACHELOR'S DEGREE IN BIOINFORMATICS UNIVERSITY OF VERONA

WORK EXPERIENCE

01/10/2024 – Present

PHD STUDENT IN INTELLIGENT SYSTEMS ENGINEERING UNIVERSITY OF VERONA

PhD candidate in the Intelligent Systems Engineering programme at the same university, where I was awarded a funded position for the project "AI for modelling the Brain–Heart Axis in Ageing."

01/10/2025 – 30/11/2025 United Kingdom

VISITING PHD STUDENT UNIVERSITY OF LEICESTER

During the second year of my PhD, I carried out part of my research in the Department of Cardiovascular Sciences at the University of Leicester, collaborating with Dr Ahmed Mahdee Salih.

This visit included an analysis that led to the publication: *From GWAS to Causal Inference: A Beginner's Guide to Mendelian Randomization with Code Examples*; AM Salih et al.; 2026.

01/10/2024 – 28/02/2025 Italy

VISITING PHD STUDENT UNIVERSITY OF TURIN

During the first year of my PhD, I worked in the Department of Neuroscience at the University of Turin under the supervision of Professor Paolo Provero.

This collaboration led to the paper "Polygenic Risk Scores are associated to Aβ-t protein accumulation in Alzheimer's Disease"; Irene Treccani et al.; 2024; IEEE International Conference on Metrology for eXtended Reality, Artificial Intelligence and Neural Engineering (MetroXRAINE).

01/10/2023 – 30/09/2024

RESEARCH FELLOW IN BIOENGINEERING UNIVERSITY OF VERONA

Within the AntIAGING project (Artificial Intelligence for Healthy Aging), I carried out research, contributing mainly to genotype–phenotype mapping. My work focused on genetic determinants associated with the phenotypes of interest, integrating multi-omics data, including single-nucleotide polymorphisms (SNPs), gene expression and scRNA-seq. I designed and implemented computational pipelines to identify and analyse genetic variants using large-scale datasets such as UK Biobank and ABCD. In addition to working in Verona, I spent two and a half months at the University of Turin (eight months in total, including the PhD visiting period).

WORK EXPERIENCE

01/04/2022 – 30/04/2023

BIOINFORMATICS INTERNSHIP UNIVERSITY OF BRESCIA

The internship took place in the Laboratory of Biology and Genetics under the supervision of Professor Paolo Martini. I analysed findings from research on psychiatric disorders, with a focus on major depression. The work involved studying genetic variants in patients from the Civil Hospital of Brescia to calculate polygenic risk scores (PRS). I gained experience with PLINK and BCFTOOLS and developed my Bash and RStudio skills for genetic data analysis.

01/12/2019 – 31/08/2020

BIOINFORMATICS INTERNSHIP UNIVERSITY OF VERONA, VERONA, ITALY

The internship took place in the University of Verona's Physics Laboratory under the supervision of Professor Alessandro Romeo. I used atomic force microscopy to study nanoparticles treated with different substances to give them metallic properties, with the aim of enabling magnetic transport without changing their structure.

01/09/2022 – 31/12/2022

CENSUS ENUMERATOR ITALIAN NATIONAL INSTITUTE OF STATISTICS (ISTAT) – SAREZZO, LOMBARDY

After being selected through a public call and completing the training courses, I carried out census work for the Municipality of Sarezzo (BS). The census collects data on the main structural and socio-economic characteristics of Italy's resident population at national, regional and local levels, enabling comparisons with historical surveys and data from other countries.

PUBLICATIONS

Polygenic Risk Scores are associated to Aβ-t protein accumulation in Alzheimer's Disease **2024**
Irene Treccani; Giorgio Dolci; Lorenza Brusini; Federica Cruciani; Ilaria Boscolo Galazzo; Gloria Menegaz. IEEE International Conference on MetroXRAINE.

From GWAS to Causal Inference: A Beginner's Guide to Mendelian Randomization with Code Examples **2026**
Ahmed M Salih, Roman Roy, Yuhe Wang, Irene Treccani, Andre Altmann, Zahra Raisi-Estabragh, Gloria Menegaz. Preprint.

CONFERENCES / SEMINARS

24/05/2025 – 27/05/2025 Milan

EUROPEAN HUMAN GENETICS CONFERENCE (ESHG) CONFERENCE

Scientific poster presentation during ESHG. https://2025.eshg.org/

16/04/2024 – 17/04/2024 Padua

ASSOCIATION OF MAGNETIC RESONANCE IN MEDICINE (AIRMM)

HONOURS AND AWARDS

22/04/2024

BEST ORAL PRESENTATION IN THE DATA ANALYSIS SECTION NATIONAL CONGRESS OF THE ITALIAN ASSOCIATION OF MAGNETIC RESONANCE IN MEDICINE (AIRMM)

"Investigating the robustness of imaging-genetics associations in a small cohort in the Alzheimer's disease continuum."
https://univrmagazine.it/2024/04/22/come-combattere-e-mascherare-gli-effetti-dellinvecchiamento-sullasse-cuore-cervello/

DRIVING LICENCE

Driving licence: Category B

SOCIAL AND CIVIC ACTIVITIES

Lyon, France

ERASMUS+

In 2022, I took part in a cultural exchange that involved hosting 20 young people from France in Sarezzo for one week; the Italian group of 20 then travelled to Lyon. The exchange focused on technology as a tool for sharing knowledge. We met local administrations in both countries and shared our views on engaging young people and communicating proposed activities.

Nyíregyháza, Hungary

ERASMUS+

In 2021, I took part in the “Goodbye Disposable!” youth exchange, with participants from Türkiye, Romania, Hungary, Spain and Italy. The programme included educational activities in English focused on sustainability and recycling.

Gala■i, Romania

ERASMUS+

In 2021, I took part in a second cultural exchange, “Do IoT for Yourself, Do It for Your Family, Do It for Your Community,” with participants from Türkiye, Romania, Bulgaria, the United Kingdom and Italy. The programme included educational activities in English, focused on volunteering.

Grenoble, France

ERASMUS+

In 2016, I took part in a one-week cultural exchange that helped me learn about French and Romanian culture. I communicated in English with my peers and took part in educational activities focused on social awareness.

LANGUAGE SKILLS

Mother tongue: Italian

	COMPREHENSION		SPOKEN EXPRESSION		WRITING
	Listening	Reading	Spoken production	Spoken interaction	
ENGLISH	B2	B2	B2	B2	B2
FRENCH	A1	A1	A1	A1	A1