CURRICULUM VITAE

PERSONAL INFORMATION

Name: Pietro Vicario
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RESEARCH PROFILE

Research Topic: Genetic and epigenetic determinants of tumorigenesis and therapeutic response in solid tumors
Supervisor: Prof. Rossella Tricarico
Co-supervisor: Prof. Paola Rebuzzini

EDUCATION

October 2026 – PhD student in Genetics, Molecular and Cellular Biology at University of Pavia (UNIPV)

October 2024 – present – M.Sc. candidate in Applied and Experimental Biology
University of Pavia, Italy
Thesis title: *"TET2 in High Grade Serous Ovarian Carcinoma: comparison between knockdown and pharmacological inhibition of TET family in platinum-sensitive cell models"*
Cancer Genetics Unit – Laboratory of Cancer Genomics and Epigenomics, Department of Biology and Biotechnology "L. Spallanzani", University of Pavia, Italy
Supervisor: Prof. Rossella Tricarico
Expected graduation: 30th October 2026

27 September 2024 – B.Sc. in Biological Sciences
University of Pavia, Italy
Grade: 110/110 cum laude
Thesis title: *"Clinical and therapeutic implications of TET1 mutations in sporadic colorectal cancer: integrative analysis of genomic data from AACR Project GENIE and cBioPortal for Cancer Genomics"*
Cancer Genetics Unit – Laboratory of Cancer Genomics and Epigenomics, Department of Biology and Biotechnology "L. Spallanzani", University of Pavia, Italy
Supervisor: Prof. Rossella Tricarico

RESEARCH EXPERIENCE

4 November 2024–present – Master's thesis internship
Cancer Genetics Unit – Laboratory of Cancer Genomics and Epigenomics, Department of Biology and Biotechnology "L. Spallanzani", University of Pavia, Italy
Supervisor: Prof. Rossella Tricarico
Project: Role of TET2 in high-grade serous ovarian carcinoma (HGSOC).

4 September 2023–27 September 2024 – Bachelor's thesis internship
Cancer Genetics Unit – Laboratory of Cancer Genomics and Epigenomics, Department of Biology and Biotechnology "L. Spallanzani", University of Pavia, Italy
Supervisor: Prof. Rossella Tricarico
Project: Clinical and therapeutic implications of TET1 mutations in sporadic colorectal cancer.

TUTORING EXPERIENCE

14-21 October 2026 – Tutor – Laboratory of Cellular Methodologies
B.Sc. program in Biological Sciences, University of Pavia, Italy
Supervisor: Prof. Rossella Tricarico

15–22 September 2025 – Tutor – Laboratory of Cellular Methodologies
B.Sc. program in Biological Sciences, University of Pavia, Italy
Supervisor: Prof. Rossella Tricarico

SCIENTIFIC PRESENTATIONS AND CONFERENCE CONTRIBUTIONS

7–9 October 2026 – XXIX Congress of the Italian Society of Human Genetics (Società Italiana di Genetica Umana, SIGU), Rimini, Italy

Presenting author:

"Large-scale multi-cohort analysis uncovers a TET2-mutated, signature-defined TMB-high subgroup of MSS colorectal cancer"

Authors: Simone Giorgio De Micco, Michela Tulino, Vsevolod Gurev, Federico Manai, ***Pietro Vicario****, Ginevra Biino, Mariangela Santorsola, Ivan Dorna, Rossella Tricarico*

Co-author poster:

"TET2 genetic and transcriptional dysregulation identifies high-grade serous ovarian carcinoma subgroups with altered DNA repair programs and survival features"

Authors: Federico Manai, Anna Carolina Emi de Lima Tanada, Simone Giorgio De Micco, Mariantonietta Giannini, **Pietro Vicario**, Vsevolod Gurev, Ivana Kurelac, Enrica Calura, Rossella Tricarico

"Structure-based drug repurposing identifies FDA-approved candidate ligands of Ten-Eleven Translocation 2 (TET2), an epigenetic regulator of DNA demethylation in cancer"

Authors: Vsevolod Gurev, Luca Tongiorgi, Simone Albani, Simone Giorgio De Micco, **Pietro Vicario**, Federico Manai, Concetta Valentina Tropeano, Francesco Musiani, Rossella Tricarico

17–19 September 2025 – Congress of the Italian Genetics Association (Associazione Genetica Italiana, AGI), Bari, Italy

First-author poster:

"Comprehensive analysis of TET1 mutations in 16,646 colorectal cancers reveals associations with genomic instability and therapeutically relevant pathways"

Authors: **Pietro Vicario**, Rossella Tricarico

CONFERENCES AND ADVANCED TRAINING

17–19 September 2025 – National congress of the Italian Genetics Association (Associazione Genetica Italiana, AGI), Bari, Italy

January–December 2026 – Italian Medical Genetics Academy 2026 – Italian Society of Human Genetics (Società Italiana di Genetica Umana, SIGU)

CERTIFICATIONS AND MANDATORY TRAINING

[1] Laboratory Safety

"Sicurezza e Salute nei Luoghi di Lavoro ai sensi del D.Lgs. 81/08 – Formazione SPECIFICA per Attività a BASSO Rischio"; "Chi ben comincia... Sicurezza nei laboratori Chimici e Biologici" – Parte BIOLOGICA; "Chi ben comincia... Sicurezza nei laboratori Chimici e Biologici" – Parte CHIMICA; "Corso di Formazione GENERALE e-Learning di 4 ore: Sicurezza e Salute nei Luoghi di Lavoro ai sensi del D.Lgs. 81/08".

Completed; certificates issued by the University of Pavia.

[2] Certificate of Training – Practical and Theoretical Use of Animals in Experimentation (Mus musculus)

Completed; certificate issued by the University of Pavia.

[3] Biology and Management of Laboratory Animals

"Biologia e gestione degli animali da laboratorio", Modules 3.1, 4, 5, 6.1 and 7, D.M. 5 August 2021.
Completed; certificates issued by IZSLER – Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia-Romagna.
19.5 E.C.M. (Educazione Continua in Medicina) credits.

[4] National Legislation and Ethics

"Legislazione nazionale ed etica – Livello 1", Modules 1 and 2, D.M. 5 August 2021.
Completed; certificates issued by IZSLER – Istituto Zooprofilattico Sperimentale della Lombardia e dell'Emilia-Romagna.
7.5 E.C.M. (Educazione Continua in Medicina) credits.

[5] European Regulation on the Protection of Personal Data
Completed; certificate issued by the University of Pavia.

RESEARCH CONTRACTS, AWARDS AND HONORS

July 2026 – Recipient of the SIGU "Bando Giovani Studenti" Award
Selected as one of 60 students nationwide through a competitive evaluation of academic achievements and motivation. The award included a €300 scholarship and complimentary registration to the XXIX National Congress of the Italian Society of Human Genetics (SIGU), Rimini, Italy.

January 2026 – September 2026 – Six-month research scholarship (*tirocinio curriculare*), awarded through competitive selection, University of Pavia, Italy
Cancer Genetics Unit – Laboratory of Cancer Genomics and Epigenomics, Department of Biology and Biotechnology "L. Spallanzani", University of Pavia, Italy
Supervisor: Prof. Rossella Tricarico

August 2025 – Included in the Italian "Albo Nazionale delle Eccellenze" (National Register of Excellence)

December 2019; December 2020–2024 – Scholarship "Fondo Giovanni Alessi Anghini"
Fondazione Comunitaria del Verbano Cusio Ossola. Awarded annually to the top three university students who are children of Alessi S.p.A. employees; received for six consecutive years (2019–2024).

OUTREACH ACTIVITIES AND SCIENCE COMMUNICATION

2026: Participant in the event "Ora con il Ricercatore", held as part of the European Researchers' Night. Organized by Prof. Rossella Tricarico (University of Pavia) in collaboration with the Adelaide Cairoli Institute, Pavia, Italy.

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2025: Participant in the event "Ora con il Ricercatore", held as part of the European Researchers' Night. Organized by Prof. Rossella Tricarico (University of Pavia) in collaboration with the Gandini High School, Lodi, Italy.

2024: Participant in the event "Ora con il Ricercatore", held as part of the European Researchers' Night. Organized by Prof. Rossella Tricarico (University of Pavia) in collaboration with the Cardano Scientific High School, Pavia, Italy.

2024: Co-designed the outreach event "Come si accendono e spengono i geni: il magico mondo dell'epigenetica" with Prof. Rossella Tricarico for FISV DAYS, organized by the Federazione Italiana Scienze della Vita (FISV), Italy.

2024: Participated in the SHARPER project "Donne Scienziate", focused on promoting the role of women in STEM, created and promoted by Prof. Ilaria Canobbio (University of Pavia).

TECHNICAL SKILLS

Cellular and Molecular Biology

- Hands-on experience in mammalian cell culture: cell proliferation and viability assays with and without drug treatments, including clonogenic assays, crystal violet viability curves, WST-1 viability and metabolic assays, immunofluorescence assays, and senescence assays.
- Viral transduction and stable cell line generation.
- Nucleic acid (DNA and RNA) extraction and quantification.
- Cell pellet preparation for DNA, RNA, and protein extractions.
- PCR and agarose gel electrophoresis.
- Preparation of samples for flow cytometry.

Laboratory Animal Techniques

- Mouse handling and necropsy, including dissection of the small intestine and colon from wild-type and colorectal cancer-prone mouse models.

Bioinformatics and Data Analysis

• Experience in retrieving, curating, and analyzing genomic and clinical data from AACR Project GENIE and cBioPortal.
• Experience in consulting and interpreting protein sequence, function, and annotation data from UniProt.
• Pathway-enrichment analysis using GeneCodis4.
• Basic experience in Bash and R (RStudio) for data handling and statistical analysis, with introductory experience in variant-calling and RNA-seq analysis workflows.

Statistical Analysis

- Experience in statistical analysis using GraphPad Prism, including Fisher's exact test and other statistical tests commonly used in biomedical research.

Software and Data Presentation

- Advanced use of Microsoft Excel, Word, and PowerPoint for data organization and presentation.
- Skilled in preparing scientific figures and images using PowerPoint, ImageJ, Prezi, and BioRender.
- Proficient in interactive tools for quizzes and surveys, including Wooclap and Mentimeter.

LANGUAGE SKILLS

Italian: Native
English: C1 (advanced)

SOFT SKILLS

Communication

- Experience in scientific communication through poster presentations at scientific conferences, including the 2025 AGI Congress, and through multiple outreach activities in secondary schools within the European Researchers' Night and SHARPER framework.
- Co-design and delivery of outreach events on epigenetics for FISV DAYS.
- Regular participation in lab meetings and journal clubs held in English, presenting and discussing experimental data and literature, which is strengthening critical-thinking and presentation skills.
- Active contributor to weekly lab meetings and tutor for undergraduate students in 2025.

Organization and Management

- Ability to balance laboratory work with lectures and exam preparation.
- Attention to detail and perseverance, reflected in the completion of the Bachelor's degree with top marks and honors and in the continuous award of merit-based scholarships.
- Experience in preparing written reports and a Bachelor's thesis based on bioinformatics analyses and interpretation of large genomic datasets.

Teamwork and Autonomy

- Proven teamwork skills through collaborative laboratory activities and tutoring roles, working with students, professors, and researchers in a multidisciplinary and multicultural environment.
- Progressive autonomy in planning and executing research activities, as demonstrated by the Bachelor's thesis work leading to a first-author poster presentation at the AGI Congress in Bari.