

Davide Lippolis

Date of birth: 04/05/2002

Formative experiences

01/2024-In progress **|Laboratory of Biology and Biotechnology of Reproduction, University of Pavia|**

- Computational analysis of 3D murine ovary models across aging to characterize follicular growth dynamics and mechanisms of follicular atresia
- Development of an AI-based tool to detect, segment, and classify follicular structures within the ovarian stroma, with the aim of developing an innovative diagnostic support tool for the identification of female infertility-related pathologies.

06/2025 |**Structural bioinformatics** (Bioinformatica strutturale)|

6 CFU course (Master degree in Advanced Biotechnology) on: computational techniques (Support Vector Machines, Artificial Neural Networks, Molecular Mechanics, and Molecular Dynamics) applied to the prediction and analysis of protein structures.

01/2025 | **Genomics and DNA profiling** (Genomica e DNA profiling)|

6 CFU course Master degree in Advanced Biotechnology) on: advanced molecular and genomic techniques applied to the analysis of genetic variation, genome characterization, DNA-based identification, and the interpretation of genomic data in biotechnology, biomedical, and forensic contexts.

04/2025-06/2026 **|Botanical Garden of the University of Pavia|**

Management of botanical collections in the ground and greenhouses in terms of cultivation and care of plants, paths, flowerbeds, and rockeries; collaboration on visits, activities, and educational workshops; updating social media and web pages; organization of events (setup and public reception)

Education

2024-to date **|Master's Degree in Advanced Biotechnology |University of Pavia|**

Final thesis in Biology and Biotechnology of Reproduction: "Segmentation of ovarian follicles in nanoCT volumes for the extraction of three-dimensional morphometric parameters for the development of automatic segmentation/classification models". Discussed July 2026.

2021-2024 **|Bachelor's Degree in Biotechnology, curriculum Biomolecular|University of Pavia|**

Final thesis in Biology and Biotechnology of Reproduction: "Three-dimensional nano-computed tomography study of folliculogenesis in 12-month-old mouse ovaries"
Final grade: 110/110 cum laude

Language skills

- Italian: Native Language
- English: B2

Software skills

- Microsoft office (word, excel, power point)
- Canva
- PyMol
- Chimera
- Fiji ImageJ (NIH)
- 3D slicer

Certifications

- Sicurezza nei laboratori chimici e biologici (codice 15_2021)
- Sicurezza e Salute nei Luoghi di Lavoro ai sensi del D.Lgs. 81/08
- Corso sulla Privacy - Il Regolamento europeo in materia di protezione dei dati personali
- ECDL Full

Other activities

- Competitive football player (2015–Present)
- Pizza maker (2019-2026), Pizzeria Easy go, Alberobello (BA)
- Bartender (06/2022 - 09/2022), Bar Rione Monti, Alberobello (Ba)

Autorizzo il trattamento dei dati personali contenuti nel mio curriculum vitae in base all'art. 13 del D. Lgs. 196/2003 e all'art. 13 del Regolamento UE 2016/679 relativo alla protezione delle persone fisiche con riguardo al trattamento dei dati personali

Laboratory Technical Skills

- Dry Lab:
  - In silico analysis of high-resolution nano-CT datasets for the detection, classification, and quantitative characterization of ovarian follicles and corpora lutea. Image segmentation, extraction of morphological features, and quantification of structural parameters of ovarian structures.
  - Protein structure visualization, analysis, and molecular graphics using PyMOL and Chimera
  - Application statistical methods for experimental data analysis and validation of research findings.
- Wet lab:
  - Histology: mouse gonads isolation and fixation, paraffin embedding, microtome sectioning, hematoxylin and eosin staining.
  - Reproductive biology: mouse handling, oocyte maturation and in vitro fertilization (IVF) techniques.
  - Molecular biology: DNA extraction, PCR, restriction enzyme digestion, agarose gel electrophoresis and SDS-PAGE.
  - Biochemistry: enzymatic activity assays, Bradford assay and enzyme kinetics analysis.