Lucía Castelli

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Education

Universidad Argentina de la Empresa, Advanced University Degree in Biotechnology (Argentine *Licenciatura*) — Jul 2020 - Sep 2025

- 5-year degree with a strong research component and a Thesis on Bioinformatics. Final grade average: 81.1%.
- **Teaching experience**: *Molecular Biology and Physiology* lectures and laboratory sessions (2022).
- **Volunteering & Outreach**: Led public scientific events, fairs and laboratory workshops (2022); Voluntary at the aquarium, in charge of zebrafish models and research communication (2020 - 2021); Microbiology Technician in interdisciplinary short film, "*Proyecto Divergente*" (2022); research testimony (2024).

University of Applied Sciences Upper Austria, Academic Exchange — Sep 2023 - Feb 2024

- Excelled at BSc. and MSc. (e.g. Scientific Programming) courses, with an average of 1.11 (1 = 100%).

Research

Institute of Experimental Biology and Medicine (IBYME-CONICET), *Functional & Molecular Glycomics Laboratory*, Student Researcher — Jan 2024 - Aug 2025

- Thesis project: identification of glycogenetic biomarkers for early detection of colitis-associated colorectal cancer in ulcerative colitis patients. Supervisors: Karina V. Mariño, PhD., Joaquín P. Merlo, PhD.
- Performed large-scale RNA-seq and microarray analyses; validated with RT-qPCR in AOM/DSS murine models. Developed a web application and an R package for differential expression analysis.

Projects

- **Recreating 'Single-cell transcriptomics and epigenomics unravel the role of monocytes in neuroblastoma bone marrow metastasis'** (rpubs.com/lcastelli/neuroblastoma, *in progress*): Reproducing analyses from *Fetahu et al. (Nat Comms 2023)* with educational aims. Focus: single-cell analysis, tumor cell plasticity, microenvironment signaling, and macrophage reprogramming.
- **DEGs Visualizer** (lcastelli.shinyapps.io/degsv): Interactive Shiny app for differential expression analysis.

Awards & Funding

- **Ernst Mach Grant for studying at an Austrian University of Applied Sciences (€6.750), Austria's Agency for Education and Internationalisation (OeAD)** — Sep 2023 - Feb 2024.
- **Top in Argentina Award: English as a First Language (2016), ESSARP/Cambridge** — 2016, Outstanding Learner Awards, best IGCSE score in the country.

Certificates

- **Bioinformatics for single-cell "omics":** *14th Latin American and Caribbean Congress of Immunology:* "Pre-Congress and 3rd Franco-Austral Course on Bioinformatics Applied to Immunology" (2024).
- **Programming:** *Harvard University/edX:* CS50AI (AI with Python, *in progress*) — CS50R (R, 2024): CS50x (Computer Science, 2023) — *CIIPME-CONICET:* Data Analysis with Jamovi (2023) —*ISCB SC Argentina:* R for Biological Data Analysis (2023).
- **Languages. English:** Cambridge CAE, C2 due to A* score (2017), IGCSE (6 subjects, 2016). **German:** C1 (Sprachenzentrum der Universität Wien, Jan 2026).

Industry

Bayer Argentina (Crop Science, Regulatory Science), Intern — Sep 2022 - Aug 2023

- Performed statistical analysis on GM crop resistance data, with Bayesian models for allele frequency trials.
- Managed regulatory documentation, and international insect collection/export protocols. Designed databases and BI dashboards for efficient data management and visualization.
- Member of DEI committees: GROW (Women's Advancement) and BLEND (LGBTQ+ & Allies).

Skills & Technologies

- **Programming & IT**: R, Python, C, Bash, SQL, JavaScript, HTML/CSS, GitHub, Tableau, MS Office.
- **Molecular Biology:** DNA/RNA extraction, PCR, RT-qPCR, gel electrophoresis, Western blot, ELISA.
- **Cell Culture:** Bacterial, yeast, and mammalian cell lines; aseptic techniques and transfection.
- **Other Laboratory Skills**: Microscopy (light/fluorescence), chromatography, spectrophotometry, titration.
- **Languages:** Spanish (native), English (C2, Cambridge International), German (C1, Sprachenzentrum der Universität Wien).