Lisandro Milocco – CURRICULUM VITAE

Personal details	**Work address**	**Contact**
Place of birth: Neuquén, Argentina	Sölvegatan 37	**Tel**: +358 41 4826384
Date of birth: March 20, 1993	223 62 Lund	**E-Mail**: lisandro.milocco@biol.lu.se
Nationality: Argentina, Finland	Sweden	**Website**: lisandromilocco.github.io

My research is aimed at discovering how the evolution of phenotypes is shaped by organismal development. For this, I build quantitative models using data-driven tools for evolutionary prediction and control.

Scientific career

Nov 2022–Jan 2026	Postdoctoral Researcher (Full-time research.) Department of Biology, Lund University, Sweden. Advisor: Prof. Tobias Uller
Jan 2017–Oct 2022	Doctoral Researcher. Institute of Biotechnology, University of Helsinki, Finland. PhD thesis title: "Quantitative genetics in nonlinear genotype-phenotype maps". Awarded: 28 October 2022 Advisor: Prof. Isaac Salazar-Ciudad. Grade: *pass with distinction*
Mar 2016–Dec 2016	Research Intern. Institute of Biotechnology, University of Helsinki, Finland. Advisor: Prof. Isaac Salazar-Ciudad
Mar 2014–Dec 2015	Research Intern. Institute of Physics of Liquids and Biological Systems, National University of La Plata, Argentina. Advisor: Prof. Osvaldo Chara

Studies

Jan 2011–Dec 2015	Licentiate degree in Biotechnology and Molecular Biology. National University of La Plata. Final GPA: 9.63/10. Thesis title: "Signaling in Tissue Regeneration: a Systems Biology approach". Advisor: Prof. Osvaldo Chara
Jan 2012–Dec 2015	Licentiate degree in Mathematics. National University of La Plata. 33% completed of 5-year degree. Partial GPA: 9.25/10.

Honors and awards

2023	Outstanding Thesis of the year 2022 for The Faculty of Biological and Environmental Sciences, University of Helsinki.
2018	Poster prize at Size and Shape workshop. EMBO. Bangalore, India.
2015	Best Graduate Award for Biotechnology and Molecular Biology, National University of La Plata
2015	Second best Graduate Award from the Faculty of Exact Sciences, National University of La Plata
2008-2010	Distinctions at the National Mathematical Olympiads, Argentina

Grants

2021	Personal grant from the Finnish Cultural Foundation. One-year doctoral researcher salary. 26,000 €
2019-2020	Personal funded position from the University of Helsinki. Two-year doctoral researcher salary. ~65,000 €

2017-2020 Chancellor's Travel Grants for doctoral candidates in Integrative Life Science (4 grants of ~1,000 € each)
2017, 2019 Co-applicant in Grand Challenge for computing power, IT Center for Science, Finland (6 and 7.6 million core-hours)

Peer-reviewed publications

- Uller, T., **Milocco, L.**, Isanta-Navarro, J., Cornwallis, C.K., & Feiner, N. Twenty Years of Developmental Plasticity and Evolution: On middle range theories and how to test them. (Accepted in *Journal of Experimental Biology*)
- **Milocco, L.**, & Uller, T. (2023). A data-driven framework to model the organism–environment system. *Evolution & Development*, 1–12.
- **Milocco, L.**, & Salazar-Ciudad, I. (2022). A method to predict the response to directional selection using a Kalman filter. *Proceedings of the National Academy of Sciences*, 119(28), e2117916119.
- **Milocco, L.**, & Salazar-Ciudad, I. (2022). Evolution of the G matrix under nonlinear genotype-phenotype maps. *The American Naturalist*, 199(3), 420-435.
- **Milocco, L.**, & Salazar-Ciudad, I. (2020). Is evolution predictable? Quantitative genetics under complex genotype-phenotype maps. *Evolution*, 74(2), 230-244.

Publications under review

- **Milocco, L.** and Uller, T. Exploiting developmental dynamics for evolutionary prediction and control.
- Tsuboi, M., …, **Milocco, L.**, …, Houle, D. and Love, A. The Paradox of Predictability and the Relationship between Micro- and Macroevolution.

Research stays

2018 Florida State University. Host: Prof. David Houle

Conference, meetings, and talks

2023 International Forum for Computer Vision in Ecology and Evolutionary Biology. Lund, Sweden.
2023 Venice Summer School: The future of evolutionary-developmental systems biology. EMBO. Venice Italy. Talk presentation. Title: "Development bridges plasticity and evolvability".
2023 Meeting of the Centre for Advanced Study in Evolvability. Trondheim, Norway. Invited talk. Title: “Evolvability in nonlinear genotype-phenotype maps”.
2022 39th Altenberg Workshop in Theoretical Biology “Agency in Living Systems”, Konrad Lorenz Institute for Evolution and Cognition Research, Vienna, Austria.
2022 Plasticity across scales: from molecules to phenotypes. Virtual EMBO-EMBL Symposium.
2021 1st Latin-American Evolutionary Conference. Online conference.
2021 Predicting evolution (EMBO). Online conference. Poster presentation. Title: “An extension of the breeder’s equation that improves the predictions of the phenotypic response to selection by exploiting past records”
2019 Congress of the European Society for Evolutionary Biology. Turku, Finland. Talk presentation. Title: “Predicting evolution: combining developmental biology and quantitative genetics”
2019 Evolution Evolving conference. Cambridge, UK. Talk presentation. Title: “Measuring developmental bias: quantitative genetics meets developmental biology”
2018 Size and Shape workshop (EMBO). Bangalore, India. Poster presentation. Title: “Predicting the evolution of morphological traits: insights from the genotype-phenotype map”
2018 7th meeting of the European Society for Evolutionary Developmental Biology. Galway, Ireland. Poster presentation. Title: “How development affects the predictability of evolutionary change”
2017 2nd Biennial Meeting Pan-American Society for Evolutionary Developmental Biology. Calgary, Canada. Poster presentation. Title: “Developmental Biology meets Quantitative Genetics”
2015 Latin American Conference on Mathematical Modeling of Biological Systems. Buenos Aires, Argentina. Poster presentation. Title: “Crosstalk of cells and signaling processes during tissue regeneration: a data-driven modelling approach”

2015 Mathematics as a tool to understand Biology Workshop. National University of Buenos Aires, Argentina.

International courses

2019 MCMCglmm course by Prof. Pierre de Villemereuil. Helsinki, Finland (12 hours)
2019 Advanced LINUX. CSC, Finland. (8 hours)
2018 Quantitative Genetics Applied in Animal Breeding. NOVA course. Mikkeli, Finland (40 hours)
2017 Multi-level modelling of morphogenesis. EMBO. John Innes Centre, UK. (80 hours)
2017 Introduction to High Performance Computing with C and Advanced Fortran Programming. PRACE courses. CSC, Finland. (8 hours)

Supervision

- Supervision of a team of 4 students carrying out artificial selection

2019-2021	Niko Björkell
2020-2021	Shuja Wahid
2019-2020	Ardit Fejzullahi
2019	Sara Goncalves

Languages

Spanish (native), English (C2), Swedish (B2), French (A2)