Dr. Ellika Faust

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Google Scholar / LinkedIn

Profile

Conservation genomics researcher with expertise in population genomics, bioinformatics, evolutionary ecology and applied management. Skilled in large-scale genomic data analysis, development of reproducible workflows, and integration of environmental and ecological information for conservation decision support. Experienced in interdisciplinary collaboration, scientific communication, AI-assisted analytical workflows and leading academic initiatives.

Education

2018–2022 **PhD in Biology**, *University of Gothenburg, Sweden*
Thesis: *Crossing barriers: Genetic consequences of translocating wild cleaner fish for aquaculture*
Advisors: Prof. Carl André & Dr Pierre De Wit

2015–2017 **MSc in Biology**, *University of Gothenburg, Sweden*
Focus: Genomics, Evolution, Bioinformatics and Conservation in marine species.

2012–2015 **BSc in Biology**, *University of Gothenburg, Sweden*
Focus: Biology, Ecology, Conservation, Aquatic Environments, and Population Genetics.

Academic and Research Experience

Research Interest: *Use genomics to further our understanding of evolutionary and ecological processes in species and populations and apply these to conservation. I have a special interest in the evolutionary aspects of range expansions, edge populations, invasion and hybridization dynamics and their impact on diversity.*

2025-Present **Postdoc**, *University of Gothenburg, Sweden*
Responsibilities: Bioinformatic analysis, data management, statistical analysis, scientific writing, and presenting at scientific conferences.

2023-2025 **Postdoc**, *Eawag, Swiss Federal Institute of Aquatic Science & Technology*
Responsibilities: Project planning and management, bioinformatics, data management, statistical analysis, scientific writing, and presenting at scientific conferences.

2022-2023 **Researcher**, *University of Gothenburg, Sweden*
Responsibilities: Project planning, field work, molecular lab-work, bioinformatics, statistical analysis, and scientific writing.

2017 **Research Assistant**, *University of Gothenburg, Sweden*
Responsibilities: Bioinformatics and statistical analysis, scientific writing

2015 **Research Assistant**, *University of Gothenburg, Sweden*
Responsibilities: Laboratory work, statistical analysis and scientific writing.

Teaching Experience > 800 hours

2017-2021 **Conservation and genetics of populations.**
Masters course. University of Gothenburg, Sweden

Responsibilities: Lecturing, supervising, assisting, and developing course material in statistics, R, and population genetics.

2018 - 2021 **Dynamics of natural populations - from individuals to ecosystems**
Bachelor course. University of Gothenburg, Sweden.
Responsibilities: Teaching, supervising, assisting, and developing course material in statistics and population genetics.

2019- 2021 **Cell biology, genetics, thermodynamics and the physiology and adaptation of marine organisms**
Bachelor course. University of Gothenburg, Sweden.
Responsibilities: Teaching, assisting and developing course material in bioinformatics, R and phylogenetics.

2020 **Ecology and Evolution**
Bachelor course. University of Gothenburg, Sweden.
Responsibilities: Assisting and supervising student projects.

2020 **Evolutionary biology**
Bachelor course. University of Gothenburg, Sweden.
Responsibilities: Assisting in R

2018 **An introduction to bioinformatic tools for population genomic data analysis**
PhD course. University of Gothenburg, Sweden.
Responsibilities: Assisting in bioinformatics.

Publications

Peer-Reviewed Article

2025 Rieder, J. *, Jahnke, M. *, André, C., Christiansen, H., de Wit, P. R., **Faust, E.,** ... & Volckaert, F. A. (2025). Seascape genomics: Assisting marine biodiversity management by combining genetic knowledge with environmental and ecological information. *Marine Policy*, *182*, 106867. https://doi.org/10.1016/j.marpol.2025.106867

2025 **Faust, E.*,** Conrads, J.*, Giulio, M., Ciofi, C., Natali, C., Feulner, P. G. D., & Weber, A. A.-T. (2025). Beyond Genetic Indicators: How Reproductive Mode and Hybridisation Challenge Freshwater Mussel Conservation. *Molecular Ecology*, e70066. https://doi.org/10.1111/mec.70066

2025 **Faust, E.,** Rigby, K., Olsson, A., Alenius, B., Moksnes, P.-O. and Jahnke, M. (2025), Empowering Regional Conservation: Genetic Diversity Assessments as a Tool for Eelgrass Management. *Molecular Ecology* e17656. https://doi.org/10.1111/mec.17656

2023 Ries, S. R., **Faust, E.,** Johannesson, K., Jonsson, P. R., Moksnes, P. O., Pereyra, R. T., & Jahnke, M. (2023). Genetic structure and diversity of the seagrass Zostera marina along a steep environmental gradient, with implications for genetic monitoring. *Frontiers in Climate*, *5*, 1303337. https://doi.org/10.3389/fclim.2023.1303337

2023 Jansson, E., André, C., Quintela, M., Halvorsen, K. T., Besnier, F., Ayllon, F., **Faust, E.,** ... & Glover, K. A. (2023). Genetic study reveals local differentiation persisting in the face of high connectivity and a genomic inversion likely linked with sexual antagonism in a common marine fish. *ICES Journal of Marine Science*, fsad042**.** https://doi.org/10.1093/icesjms/fsad042

2023 De Wit, P., **Faust, E.,** Green, L., Jahnke, M., Pereyra, R. T., & Rafajlović, M. (2023). A decade of progress in marine evolutionary biology. *Evolutionary Applications*, *16*(2), 193-201. https://doi.org/10.1111/eva.13523

2023 Jansson, E.*, **Faust, E.*,** Bekkevold, D., Quintela, M., Durif, C., Halvorsen, K. T., ... & Glover, K. A. (2023). Global, regional, and cryptic population structure in a high gene-flow transatlantic fish. *Plos one*, *18*(3), e0283351. https://doi.org/10.1371/journal.pone.0283351

2022 Green, L., **Faust, E.,** Hinchcliffe, J., Brijs, J., Holmes, A., Englund Örn, F., Svensson, O., Leder, E., Sandblom, E. & Kvarnemo, C. (2022). Invader at the edge - Genomic origins and physiological differences of round gobies across a steep urban salinity gradient. *Evolutionary Applications*, 00, 1– 17. https://doi.org/10.1111/eva.13437

2021 Green, L., Apostolou, A., **Faust, E.**, Palmqvist, K., Behrens, J. W., Havenhand, J. N., Leder, E. H., & Kvarnemo, C. (2021). Ancestral Sperm Ecotypes Reveal Multiple Invasions of a Non-Native Fish in Northern Europe. *Cells,* 10(7), 1743. https://doi.org/10.3390/cells10071743

2021 **Faust, E.***, Jansson, E.*, André, C., Halvorsen, K. T., Dahle, G., Knutsen, H., Quintela, M., & Glover, K. A. (2021). Not that clean: Aquaculture-mediated translocation of cleaner fish has led to hybridization on the northern edge of the species' range. *Evolutionary Applications*, *14*(6), 1572–1497. https://doi.org/10.1111/eva.13220

2021 Bourlat, S. J., **Faust, E.,** Wennhage, H., Wikström, A., Rigby, K., Vigo, M., Kraly, P., Selander, E., & André, C. (2021). Wrasse fishery on the Swedish West Coast: Towards ecosystem-based management. *ICES Journal of Marine Science*, *78*(4). https://doi.org/10.1093/icesjms/fsaa249

2020 Seljestad, G. W., Quintela, M., **Faust, E.**, Halvorsen, K. T., Besnier, F., Jansson, E., Dahle, G., Knutsen, H., André, C., Folkvord, A., & Glover, K. A. (2020). "A cleaner break": Genetic divergence between geographic groups and sympatric phenotypes revealed in ballan wrasse (*Labrus bergylta*). *Ecology and Evolution*, *10*(12), 6120–6135. https://doi.org/10.1002/ece3.6404

2018 **Faust, E.**, Halvorsen, K. T., Andersen, P., Knutsen, H., & André, C. (2018). Cleaner fish escape salmon farms and hybridize with local wrasse populations. *Royal Society Open Science*, *5*(3), 171752. https://doi.org/10.1098/rsos.171752

2017 **Faust, E.**, André, C., Meurling, S., Kochmann, J., Christiansen, H., Jensen, L. F., Charrier, G., Laugen, A. T., & Strand, Å. (2017). Origin and route of establishment of the invasive Pacific oyster Crassostrea gigas in Scandinavia. *Marine Ecology Progress Series*, *575*, 95–105. https://doi.org/10.3354/meps12219

* - Co-first author

Reports

2021 Tallaksen Halvorsen, K., Skiftesvik, A. B., Durif, C., **Faust, E.,** Wennhage, H., André, C., … Mortensen, S. (2021). Towards a sustainable fishery and use of cleaner fish in salmonid aquaculture. https://doi.org/10.6027/temanord2021-545

Manuscripts in Progress

Faust, E., Kesy, K., Bengtsson, M M., Kinnby, A., Jahnke, M. Navigating the changing seascape: Microbiome and methylation responses in clonal seagrass to climate change. ***[In Prep]***

Faust, E., Halvorsen, K.T., Jorde, P.E., Knutsen, H., Mattingsdal, M., Selander, E., Strand, Å., Wennhage, H., André. C. & De Wit, P. High genetic connectivity in an otherwise highly structured marine fish. ***[In Prep]***

Faust, E., Rüber, L., Brodersen, J., Bouffard, D., Vonlanthen, P., Lewis, N., Carraneo, F., Anh-Thu Weber, A. & Feulner, P. G. D. From catchments to conservation: Genomic insights into the decline and resilience of European Grayling in Switzerland ***[In Prep]***

Academic Service & Leadership

2020-Present Steering Committee member in CeMEB, the Centre of Marine Evolutionary Biology, University of Gothenburg, Sweden.

2024 Symposium organiser at the 3rd Joint Congress on Evolutionary Biology, Montreal, Canada

2020-2025 Organiser of 7 CeMEB assemblies, 3 themed with "*Incorporating an evolutionary approach in conservation management*.", "*Seascape Genomics*", *"AI methods in evolutionary research"*

2022 Conference host at Act Sustainable Research Conference at Chalmers University of Technology and the University of Gothenburg. Theme "*Sustainability in times of declining democracy and increasing polarization: What knowledge and actions do we need?*"

2020-2021 Member of the nomination committee for department head, vice-head and board at the department of Marine Sciences at University of Gothenburg, Sweden

2020 External reviewer of research education at the Department of Biological and Environmental Sciences

2020 Conference organiser, "Evolution in Sweden 2020", in Strömstad, Sweden.

2019 Chair of the PhD committee at the Department of Marine Sciences, University of Gothenburg, Sweden.

2018, 2019 Organiser of the conference for Natural Science PhD students, University of Gothenburg, Sweden

2018 Conference volunteer, "Marine Evolution 2018", in Strömstad, Sweden.

2023-Present Member of SMBE

2023-Present Member of ERGA

2019-Present Member of the Sea and Society, Sweden

2019-Present Member of the Gothenburg Global Biodiversity Centre, Sweden

2019-2022 Member of RSG Sweden. International society for computational biology.

2018-Present Member of the ESEB

2018-Present Member of the CeMEB, Sweden

Review and Editorial experience

Reviewer at Nature Communications, Molecular Ecology, Heredity, Evolutionary Applications, Molecular Ecology Resources, Aquaculture and Environment Interactions, Plos One, Animal Genetics.

Guest editor at Evolutionary Applications

Funding, Scholarships, Awards & Honours

2025 – Kungl. Vetenskapsakademien, Biosciences 2025 (€ 40 900)

2025 – Nilsson-Ehle-donationerna, Kungliga Fysiografiska Sällskapet i Lund (€ 27 180)

2021 – Rådman och Fru Ernst Collianders Stiftelse (€ 6 000)

2020 – Rådman och Fru Ernst Collianders Stiftelse (€ 6 000)

2019 – Rådman och Fru Ernst Collianders Stiftelse (€ 6 000)

2018 – Rådman och Fru Ernst Collianders Stiftelse (€ 6 000)

2018 – EuroMarine Young Scientist Fellowship Programme 2018 (€ 500)

2018 – Adlerbertska forskningsstiftelsen (€ 2 000)

2018 – Helge Ax:son Johnsons stiftelse (€ 7 200)

2018 – Best poster award at the Marine Evolution conference (€ 500)

2017 – Honourable mentions for Master thesis awarded by the Swedish Society for Marine Sciences

2016 – Best marine Bachelor thesis awarded by the Swedish Society for Marine Sciences (€ 500)

Scientific Talks and Presentations

2025 – Talk: Tjärnö minisymposium, Strömstad, Sweden

2024 – Invited talk: Eawag Symposium, Dübendorf, Switzerland

2024 – Invited talk: GDC Symposium, Zürich, Switzerland

2024 – Talk: The 6th Conservation Genetics Conference, Lausanne, Switzerland

2024 – Talk: 3rd Joint Congress on Evolutionary Biology, Montreal, Canada

2024 – Talk: Word Biodiversity Forum, Davos, Switzerland

2024 – Invited talk: Evolution and Ecology department, Eawag, Dübendorf, Switzerland

2024 – Talk: Biology24, Zurich, Switzerland

2023 – Talk: CeMEB Assembly on Seascape Genomics, Tjärnö, Sweden

2023 – Talk: Eawag Symposium, Dübendorf, Switzerland

2023 – Poster: Eawag Symposium, Dübendorf, Switzerland

2023 – Poster: The Center of Competence for Ecology, Evolution and Biogeochemistry, Kastanienbaum, Switzerland

2023 – Poster: SMBE, Ferrara, Italy

2022 – Invited Talk: Centre for the Sea and Society, University of Gothenburg, Sweden

2021 – Poster: The 6th International Marine Connectivity Conference, Paris, France

2021 – Talk: The 54th Population Genetics Group, Liverpool, England

2020 – Talk: Evolution in Sweden, Tjärnö, Sweden

2019 – Poster: Poster conference for Natural Science PhD students, University of Gothenburg, Sweden

2018 – Talk: II Joint Congress on Evolutionary Biology, Montpellier, France

2018 – Poster: Marine Evolution, Strömstad, Sweden

2018 – Talk: The 51st Population Genetics Group, Bristol, England

2018 – Talk: Evolution in Sweden, Stockholm, Sweden

2018 – Talk: Poster conference for Natural Science PhD students, University of Gothenburg, Sweden

2017 – Talk: 18th CeMEB Assembly, Tjärnö, Sweden

2017 – Invited Talk: Havsforskningsdagarna, Swedish Society for Marine Sciences, Tjärnö, Sweden

Skills

Research Techniques: Population genomics analyses, bioinformatics, whole-genome sequencing, RAD-seq, methylation, eDNA, experimental manipulations, DNA extraction, and library preparation. Experienced with field sampling in marine and freshwater environments.

Programming & Data Analysis: Advanced proficiency in R and Unix shell scripting for bioinformatics pipelines, statistical analyses, and data visualization. Working knowledge of Python. Experienced with HPC environments and workflow management.

AI & Analytical Tools: Integrate AI tools responsibly into coding, data exploration and genomic workflows, enhancing efficiency and analytical insight. Well versed in current AI methods and their applications in bioinformatics and genomics.

Mentoring & Training: Mentored MSc and PhD students in fieldwork, laboratory techniques, and computational genomics, providing guidance in data analysis, experimental design, and scientific communication.

Leadership & Service: Led and contributed to scientific initiatives at departmental, national and international level, including organizing symposia, workshops and academic assemblies. Leadership experience includes service on the CeMEB Steering Committee and participation in university committees, as well as coordination of events focused on conservation genomics, marine evolution and AI in evolutionary research.

Science Communication & Public Engagement: Experienced in outreach, teaching, media engagement, conference presentations, and interdisciplinary collaborations.

Languages: Swedish (Native), English (Fluent), German (Fluent)