

# Julie Conrads

Eawag, Swiss Federal Institute of Aquatic Science and Technology

E-mail

Website



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## Education

2024 – ongoing **PhD Student**, *Aquatic Ecology, Eawag*

- My research focuses on the early-stage invasion dynamics of Quagga mussels in Lake Zurich, their genomic pathways both globally and within Switzerland, and the fecundity and fixation timing of the deep-water morph in Lake Constance, using field surveys, field experiments, and genomic approaches. (Supervisor: Dr. Alexandra Anh-Thu Weber)

2021 – 2024 **Master of Science**, *University of Zurich/ETH Zurich*

- Master's thesis (60 ECTS, Aquatic Ecology, Eawag): *Conservation genomics of the freshwater mussel Anodonta anatina in Switzerland* (Supervisor: Alexandra Anh-Thu Weber)

2017 – 2021 **Bachelor of Science**, *University of Zurich*

- Major in Geography (120 ECTS)
- Minor in Biology (60 ECTS)

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## Work Experience

May 2024 – Sep 2024 **Scientific Assistant**, *Jokela Lab and Weber Lab, Aquatic Ecology, Eawag*

- Project lead in planning and execution of macroinvertebrate benthic invertebrate survey of Lake Zurich.
- Sampling quagga mussels across Switzerland.

Oct 2023 – May 2024 **Student Assistant**, *Jokela Lab, Aquatic Ecology, Eawag*

- Assisting sampling campaigns of invasive species and native freshwater snails.
- Administrative work for the Dive Unit of Eawag.
- Assisting in selecting and conserving snails .
- Digitizing dissection notes.

Nov 2020 – Feb 2024 **Office Assistant**, *Glambou Retail AG*

- Assistant to HR Team and Office Management.
- Developed and managed customer service structure.
- Sales of Glambou jewellery.

Sept 2020 – May 2021 **Temporary Worker during Covid-19**, *University Hospital Zurich*

- Individual patient care.
- Accompanying patients and visitors.

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## Conferences, Seminars and Workshops

Jun 2025 **Angewandte Naturschutzgenetik für die Praxis**, *University Berne*

May 2025 **Introduction to population genomics**, *Physalia Course (online)*

- Comprehensive overview of population genomics methods and their applications
- Hands-on training in analyzing population structure, detecting introgression, and modeling demographic history

- Practical exercises with genome-wide association studies and landscape genomics
  - Experience with empirical datasets and bioinformatics workflows for large-scale sequencing data
- May 2025 **PhD Symposium Organizer**, *Eawag, Dübendorf*
  - Organized a symposium with Eawag PhD students and keynote speakers Dr. Jes Hines (Leipzig University), Prof. Levi Yant (University of Nottingham), and Prof. Federico Riva (University of Amsterdam). Managed invitations, logistics, program curation, and event coordination.
- Feb 2025 **Biology25**, *EPFL Lausanne*
  - Poster: Benthic Macroinvertebrate Community of Lake Zurich and Obersee
- Dec 2024 **SeeWandel-Climate Thematic Working Group "Importance of the Quagga Mussel"**, *Eawag, Dübendorf*
- Mar 2024 **PEAK (Praxisorientierte Eawag-Kurse)**, *Eawag, Dübendorf*
  - Quaggamuschel in der Schweiz – Grundlagen und Weiterentwicklung von Präventions- und Monitoringsmassnahmen
- May 2024 **SeeWandel-Climate Thematic Working Group "Importance of the Quagga Mussel"**, *Eawag, Dübendorf*
- May 2024 **Fachaustausch Grossmuscheln**, *Netzwerk Gewässerökologie, Aarau*
- Mar 2024 **PEAK (Praxisorientierte Eawag-Kurse)**, *Eawag, Dübendorf*
  - Gebietsfremde Arten in Schweizer Gewässern
- Jan 2023 **3rd Genetic Diversity Monitoring Workshop**, *ETH Zurich*
- Dec 2022 **Speciation genomics**, *Physalia Course (online)*
  - Handling NGS data from raw reads to genetic variants
  - Applying basic population genetic statistics
  - Visualizing genetic structure and inferring demographic history
  - Identifying regions under divergent selection or barriers to gene flow

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## Submitted manuscripts / preprints

Faust E\*, Conrads J\*, Giulio M, Ciofi C, Natali C, Feulner PGD, Weber A.-T. *Beyond genetic indicators: how reproductive mode and hybridization challenge freshwater mussel conservation*. \*Equal contribution. Submitted to *Biological Conservation*. BioRxiv preprint.

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## Awards

- Nov 2024 **Hydrobiologie-Limnologie-Stiftung für Gewässerforschung**
  - Master-Thesis: Conservation genomics of the freshwater mussel *Anodonta anatina* in Switzerland, 3000 CHF

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## Tutoring

- Apr 2025 **Intern Supervisor**, *Eawag, Dübendorf*
  - Supervised and mentored a high school student intern (Gymnasium Kirchenfeld) for a three-week professional internship; provided guidance in experiment, research tasks, and career orientation.
- Nov 2024 **Umweltbiologie Bachelors Seminarkurse**, *ETH Zurich*
  - Guiding third year bachelor's students in preparing and presenting scientific topics and providing feedback.

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## Outreach activities and media coverage

- Nov 2024 **Filmed interviews**, *SRF Einstein*

- Participated in a filmed interview for SRF Einstein “*Invasive Quagga-Muscheln: Kollabierende Seen und Millionenschäden*”, communicating scientific research to a broad public audience. Video

Sept 2024 **Media coverage of research findings, Quagga mussels in Lake Zurich**

- Extensive media coverage reporting our finding of Quagga mussels in Lake Zürich during a benthic invertebrate survey, including: TeleZüri, Tagesanzeiger, NZZ, 20Minuten, Watson

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## Skills

Languages	Mother tongue German, fluent in English
Computer Skills	ArcGIS, QGIS, RStudio, HPC bash scripting for genomic analysis
Licences	Car: Class B and BE / Boat: Class A (Military)
Diving	SSI Divemaster (250+ dives), Rescue Diver, First Aid and O2 Provider, Scientific diving (in training at Eawag) (30 dives)

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## Interests

Scuba diving	Diving in warm water.
Travelling	Enjoy trying new foods and meeting people.
Trailing with my dog	Scent-work and tracking activities

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## References

- Dr. Alexandra Anh-Thu Weber  
Eawag, Swiss Federal Institute of Aquatic Science and Technology  
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- Prof. Dr. Jukka Jokela  
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