

# JESSICA M. RIEDER

## AQUATIC ECOLOGIST

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### SELECTED EXPERIENCE

#### Jan 2025 - Current (40 hours)

Molecular Ecologist • Fellowship IV • Auburn University (AU)

#### Jan 2024 – Jan 2025 (40 hours)

Biologist • Project Leader • U.S. Geological Survey (USGS)

#### Sept 2020 – Oct 2023 (42 hours)

Molecular Ecologist • Ph.D. Candidate • University of Bern (Bern)

#### Jan 2017 – December 2023 (40 hours: Jan 2017-Sept 2020) / 6 hours Sept 2020–Oct 2023)

Staff Scientist • Fish and Molecular Lab Manager • University of Bern (Bern)

• **Environmental DNA (eDNA) project leader:** led complex *metabarcoding* and *single target* (qPCR) experiments (Bern, USGS, AU)

• **Protocol and method innovation:** 1) established an eDNA protocol for the detection and monitoring of microbial communities in recirculating aquaculture systems (Bern), 2) developed next generation sequencing metabarcoding primers and reference libraries for the detection of invasive reptiles (USGS), 3) developed eDNA/eRNA protocols for the detection of active pathogenic outbreaks (AU), 4) established an eDNA lab in collaboration with the Molecular Lab Network/D.O.I. Early Detection and Rapid Response framework (AU)

• **Project conceptuality and management:** designed and successfully conducted multiple projects using various molecular techniques and sequencing platforms

• **Stakeholder collaboration:** initiated and participated in national/international collaborations to advance science (Bern, USGS, AU), assist aquaculture managers in understanding microbial community dynamics (Bern, AU), and aid managers in their conservation strategies (USGS, AU)

• **Acquisition of funds:** 1) Co-authored Innosuisse – FishCheck: Point-of-Care Assays for Early Detection and Monitoring of Fish Pathogens in Aquacultures (2021) (**449,230 Euros**), 2) Co-authored Swiss National Science Foundation Grant (SNSF) - MiCo4Sys - Microbial Community Composition and Colonization in Compartmentalized Aquaculture Systems (2021) (**478,230 Euros**), 3) Co-authored Norwegian Environment Agency Grant Phase I (2020) and Phase 2 (2020) - Automatic environmental monitoring using environmental DNA (**45,962 Euros**), 4) Co-authored grant 00.4033.PZ/Q403.0053 - Swiss participation in the OECD ring test to validate a novel in vivo (anti)androgenic screening assay (RADAR) using transgenic medaka (**62,700 Euros**)

• **Outreach / Teaching / Supervised:** 1) lead educational workshops on various lab techniques (DNA extraction, (q)PCR including understanding LOD/LOQ, lyophilization, nanodrop/qubit), writing tools (e.g., Zotero/Obsidian) (Bern), supervised students and assisted them with their bachelor projects (Bern),

### EDUCATION

University of Bern

Bern, Switzerland

Ph.D. in Ecology and Evolution

Sept 2020 – Oct 2023

### KEY SKILLS

- SEQUENCING
- MOLECULAR BIOLOGY
- ENVIRONMENTAL DNA/RNA
- AQUACULTURE AND FISH HUSBANDRY
- PROJECT MANAGEMENT
- INTERNATIONAL COLLABORATION
- BIOINFORMATICS
- ACQUISITION OF FUNDS

### COMMUNICATIONS

- PEER-REVIEWED MANUSCRIPTS: 10
- INVITED TALKS: 3
- PANELS: 1
- CONFERENCE PRESENTATIONS: 7
- CONFERENCE POSTERS: 6
- SEMINAR TALKS: 4
- GEDWG STEERING COMMITTEE

For more details, visit my LinkedIn: [www.linkedin.com/in/jessicarieder](https://www.linkedin.com/in/jessicarieder)