Robine H. J. Leeuwis

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DOB: 10/05/91, nationality: Dutch, languages: English and Dutch, pronouns: she/her

Research Interests

Integrative Biology • Aquatic Animal Physiology • Experimental Evolution • Multidisciplinary Science • Fish Cardiorespiratory Function • Ecoimmunology • Adaptation to Climate Change

Education

2017-2023	**PhD, Marine Biology**, Gamperl lab, Department of Ocean Sciences, Memorial University of Newfoundland, Canada. Thesis: Climate-related stressors and their effects on sablefish (*Anoplopoma fimbria*) cardiorespiratory physiology and immunology. doi:10.48336/VK25-VQ47
2012-2014	**MSc, Biology**, Radboud University, Netherlands. *With distinction.*
2009-2012	**BSc, Biology**, Radboud University, Netherlands. *With distinction.*

Publications

*Corresponding author, #senior author, ǂdata publicly archived. Career stage: postdoc(P), PhD(Ph), MSc(M).

I have published **18 peer-reviewed journal articles** and **book chapters** (5 first and 1 senior authored). My publications have received **480+ citations** (h- and i10-index 10, source Google Scholar) and have been featured in web media outlets. Of my journal publications, 88% are in Q1 journals in the field, and the vast majority is accompanied with publicly archived datasets. I have a strong history of collaboration, having published with over 62 co-authors across 8 countries.

Peer-reviewed journal articles

1. Kristiansen, H.H.*, Metz, M., Silva-Garay, L., Jutfelt, F.#, **Leeuwis, R.H.J.#(P)** (in press) HusMorph: A simple machine learning app for automated morphometric landmarking. *Conservation Physiology*. doi:10.1093/conphys/coaf073. **HusMorph application**: github.com/HenHus/Husmorph
   (IF = 2.5, rank = Q1 in Nature and Landscape Conservation)

2. ǂ Raby, G.D.*, De Bonville, J., Reynolds, L., Storm, Z., Cowan, Z.-L., Metz, M., Andreassen, A.H., Pfeufer, L., Lechner, E., Stewart, E., **Leeuwis, R.H.J.(P)**, Ern, R., Silva-Garay, L., Skeeles, M., Roche, D.G., Morgan, R., Green, L., Speers-Roesch, B., Mills, S., Clark, T.D., Jutfelt, F. (in press) Oxygen supersaturation has negligible effects on warming tolerance across diverse aquatic ectotherms. *PLoS Biology 23*, e3003413. doi:10.1371/journal.pbio.3003413 **Published with a PLoS Biol. primer**
   (IF = 7.2, rank = Q1 in Agricultural and Biological Sciences)

3. ǂ Raby, G.D.*, Morgan, R., Andreassen, A.H., Stewart, E.M.C., De Bonville, J., Hoots, E.C., Kuchenmüller, L., Metz, M., Rowsey, L.E., Green, L., Griffin, R.A., Martin, S., Reid, H.B., Ern, R., Åsheim, E.R., Cowan, Z.-L., **Leeuwis, R.H.J.(P)**, Blewett, T.A., Speers-Roesch, B., Clark, T.D., Binning, S.A., Sundin, J., Jutfelt, F. (2025) Measuring critical thermal maximum in aquatic ectotherms: A practical guide. *Methods in Ecology & Evolution 16*, 2208-2228. doi:10.1111/2041-210X.70103
   (IF = 6.2, rank = Q1 in Ecology)

4. ǂ Metz, M.*, Cowan, Z.-L., **Leeuwis, R.H.J.(P)**, Yap, K.N., Lindgren, M., Jutfelt, J. (2025) Physiological mechanisms of rapid and long-term thermal acclimation in a fish. *Journal of Thermal Biology 131*, 104171. doi:10.1016/j.jtherbio.2025.104171 **Featured in Outside JEB**: doi:10.1242/jeb.251181
(IF = 2.9, rank = Q1 in Agricultural and Biological Sciences)

5. ǂ **Leeuwis, R.H.J.*(P)**, Morgan, R., Andreassen, A.H., Silva-Garay, L., Cowan, Z.-L., Åsheim, E.R., De Bonville, J., Binning, S.A., Raby, G.D., Jutfelt, F. (2025) Putative neural and endocrine control of thermal acclimation in fish. *Conservation Physiology 13*, coaf042. doi:10.1093/conphys/coaf042
(IF = 2.5, rank = Q1 in Nature and Landscape Conservation)

6. Blewett, T.A.*, Ackerly, K.L., Sundin, J., Clark, T.D., Rowsey, L.E., Griffin, R.A., Metz, M., Kuchenmüller, L., **Leeuwis, R.H.J.(P)**, Levet, M., Martin, S., Speers-Roesch, B., Jutfelt, F., Joudan, S. (2025) The unintended consequences of aquatic enrichment in experimental biology. *Environmental Science & Technology Letters 59*, 8301-8307. doi:10.1021/acs.est.4c11276
(IF = 10.9, rank = Q1 in Ecology)

7. ǂ De Bonville, J.*, Andreassen, A.H., Cowan, Z.-L., Silva-Garay, L., **Leeuwis, R.H.J.(P)**, Åsheim, E.R., Speers-Roesch, B., Raby, G.D., Binning, S.A., Jutfelt, F. (2025) The dynamics of thermal tolerance plasticity across fish species and life stages. *Journal of Thermal Biology 127*, 104024. doi:10.1016/j.jtherbio.2024.104024
(IF = 2.9, rank = Q1 in Agricultural and Biological Sciences)

8. ǂ Cowan, Z.-L.*, Green, L., Clark, T.D., Blewett, T.A., De Bonville, J., Gagnon, T., Hoots, E.C., Kuchenmüller, L., **Leeuwis, R.H.J.(P)**, Acedo, J.N., Rowsey, L.E., Scheuffele, H., Skeeles, M.R., Silva-Garay, L., Jutfelt, F., Binning, S.A. (2024) Global change and premature hatching of aquatic embryos. *Global Change Biology 30*, e17488. doi:10.1111/gcb.17488. **Issue cover image**: https://onlinelibrary.wiley.com/toc/13652486/2024/30/9
(IF = 10.8, rank = Q1 in Ecology)

9. ǂ **Leeuwis, R.H.J.*(Ph)**, Hall, J.R., Zanuzzo, F.S., Smith, N., Clow, K.A., Kumar, S., Vasquez, I., Goetz, F.W., Johnson, S.C., Rise, M.L., Santander, J., Gamperl, A.K. (2024) Climate change can impair bacterial pathogen defences in sablefish via hypoxia-mediated effects on adaptive immunity. *Developmental & Comparative Immunology 156*, 105161. doi:10.1016/j.dci.2024.105161
(IF = 2.7, rank = Q3 in Immunology)

10. Jones, E.M., Oliver, L.P., Ma, J., **Leeuwis, R.H.J.(Ph)**, Myrsell, V., Arkoosh, M.R., Dietrich, J.P., Schuster, C.M., Hawkyard, M., Gamperl, A.K., Cain, K.D.* (2022) Production of a monoclonal antibody specific to sablefish (*Anoplopoma fimbria*) IgM and its application in ELISA, western blotting, and immunofluorescent staining. *Fish & Shellfish Immunology 130*, 479-489. doi:10.1016/j.fsi.2022.09.038
(IF = 4.1, rank = Q1 in Aquatic Science)

11. ǂ **Leeuwis, R.H.J.*(Ph)**, Zanuzzo, F.S., Peroni, E.F.C., Gamperl, A.K. (2021) Research on sablefish (*Anoplopoma fimbria*) suggests that limited capacity to increase heart function leaves hypoxic fish susceptible to heat waves. *Proceedings of the Royal Society B 288*, 20202340. doi:10.1098/rspb.2020.2340. **Covered by news website**: The Academic Times
(IF = 3.8, rank = Q1 in Agricultural and Biological Sciences)

12. ǂ Vasquez, I., Cao, T., Hossain, A., Valderrama, K., Gnanagobal, H., Dang, M., **Leeuwis, R.H.J.(Ph)**, Ness, M., Campbell, B., Gendron, R., Kao, K., Westcott, J., Gamperl, A.K., Santander, J.* (2020) *Aeromonas salmonicida* infection kinetics and protective immune response to vaccination in sablefish (*Anoplopoma fimbria*). *Fish & Shellfish Immunology 104*, 557-566. doi:10.1016/j.fsi.2020.06.005

(IF = 4.1, rank = Q1 in Aquatic Science)

13. Gerber, L.*, Clow, K.A., Katan, T., Emame, M., **Leeuwis, R.H.J.(Ph)**, Parrish, C.C., Gamperl, A.K. (2019) Sablefish (*Anoplopoma fimbria*) cardiac mitochondrial function and fatty acid composition following acclimation to chronic hypoxia. *Journal of Experimental Biology 222*, jeb.208074. doi:10.1242/jeb.208074
(IF = 2.8, rank = Q1 in Animal Science and Zoology)

14. ǂ **Leeuwis, R.H.J.*(Ph)**, Nash, G.W., Sandrelli, R.M., Zanuzzo, F.S., Gamperl, A.K. (2019) The environmental tolerances and metabolic physiology of sablefish (*Anoplopoma fimbria*). *Comparative Biochemistry & Physiology A 231*, 140-148. doi:10.1016/j.cbpa.2019.02.004
(IF = 2.1, rank = Q1 in Animal Science and Zoology)

15. Bou, M.*, Berge, G.M., Bæverfjord, G., Sigholt, T., Østbye, T.-K., Romarheim, O.H., Hatlen, B., **Leeuwis, R.(M)**, Venegas, C., Ruyter, B. (2017) Requirements of omega-3 very long-chain polyunsaturated fatty acids in Atlantic salmon (*Salmo salar L*): effects of different dietary levels of EPA and DHA on fish performance and tissue composition and integrity. *British Journal of Nutrition 117*, 30-47. doi:10.1017/S0007114516004396
(IF = 3.0, rank = Q1 in Medicine)

16. Metz, J.R.*, **Leeuwis, R.H.J.(M)**, Zethof, J., Flik, G. (2014) Zebrafish (*Danio rerio*) in calcium-poor water mobilise calcium and phosphorus from scales. *Journal of Applied Ichthyology 30*, 671-677. doi:10.1111/jai.12513
(IF = 2.3, rank = Q3 in Aquatic Science)

Refereed book chapters

17. Jutfelt, F.*, Ern, R., **Leeuwis, R.H.J.(P)**, Clark, T.D. (2024) Effects of climate warming. *Encyclopedia of Fish Physiology, 2nd Ed.* doi:10.1016/B978-0-323-90801-6.00183-X

18. **Leeuwis, R.H.J.*(Ph)**, Gamperl, A.K. (2022) Adaptations and plastic phenotypic responses of marine animals to the environmental challenges of the high intertidal zone. *Oceanography & Marine Biology: Annual Reviews 60*, 625-680. doi:10.1201/9781003288602

Research Experience

I have worked on research projects at **7 institutions** globally (5 universities, 1 applied research institute, 1 industry R&D department). I have both molecular and whole-animal experimental skills, conducted research at **field stations**, and have experience with managing long-term (3+ year) research teams and datasets.

2022-	**Postdoctoral research fellow**, Jutfelt lab, Animal Physiology group, Department of Biology, Norwegian University of Science and Technology, Norway. Project: Experimental evolution of thermal performance in a vertebrate via multigenerational artificial selection. **Featured by the Society for Experimental Biology Spring Magazine:** www.sebiology.org/news-publications/magazine/spring-magazine-2025
2021-2022	**Researcher**, Jutfelt lab, Norwegian University of Science and Technology, Norway. Summer field work conducted at the Kristineberg Center, University of Gothenburg, Sweden.
2017-2021	**PhD researcher**, Gamperl lab, Ocean Sciences Centre, Memorial University of Newfoundland, Canada. Conducted research year-round at this major marine field station and research facility on the Canadian Atlantic coast.
2016	**Visiting researcher**, Bureau lab, Department of Animal Biosciences, University of Guelph, Canada. Project: Nucleotide nutrition in rainbow trout.

2015-2016 **Research associate**, R&D Nutrition, Navobi, VanDrie Group, Netherlands. Project: Development of a novel *in vitro* digestibility method for ruminants.

2013-2014 **MSc research intern**, Ruyter lab, Aquaculture Division, Nofima, Ås, Norway. Project: Minimal dietary omega-3 fatty acid requirements in farmed Atlantic salmon.

2012-2013 **MSc research intern**, Metz lab, Organismal Animal Physiology group, Department of Animal Ecology and Physiology, Radboud University, Netherlands. Project: Zebrafish scales as a biomedical model for bone disease.

2012 **BSc research intern**, Jetten lab, Department of Microbiology, Radboud University, Netherlands. Project: PCR primer design for anaerobic ammonium-oxidizing bacteria.

Presentations

I have given **7 invited seminars**, and my research has been presented in both oral (18) and poster (6) format at **16 national and international conferences**. I have received various awards for these presentations.

Invited seminars

2026 (scheduled) **Title TBD.** Department of Biological Sciences Seminar, University of Montreal, Montreal, Canada.

2026 (scheduled) **Title TBD.** Department of Biology, Trent University, Peterborough, Canada.

2026 (scheduled) **Title TBD.** School of Biodiversity, One Health and Veterinary Medicine, College of Medical, Veterinary and Life Sciences, University Glasgow, Glasgow, UK.

2025 **Beyond one-dimensional science: A multi-faceted approach to understanding fish responses to climate change.** Department of Biology, Lakehead University, April 14, Thunder Bay, Canada.

2024 **Fish ecophysiology in the Anthropocene: a case for a multi-faceted approach.** Fish Ecophysiology & Fish Movement Ecology Mini-Symposium, Leibniz-Institute of Freshwater Ecology and Inland Fisheries, June 17-19, Berlin, Germany.

2023 **Investigation into potential neural and endocrine control of thermal acclimation in fish.** Trondheim Thermal Physiology Symposium, Norwegian University of Science and Technology, November 9, Trondheim, Norway.

2023 **Investigation into potential neural and endocrine control of thermal acclimation in fish.** Animal Physiology Seminar, Norwegian University of Science and Technology, September 25, Trondheim, Norway.

2022 **How do warming and hypoxia affect fish cardiorespiratory physiology and immune function?** American Physiological Society Intersociety Meeting: Comparative Physiology, October 28-31, San Diego, USA.

2022 **How do warming and hypoxia affect fish cardiorespiratory physiology and immune function?** Animal Physiology Seminar, Norwegian University of Science and Technology, October 11, Trondheim, Norway.

2021 **Living long-term with limited oxygen: effects on immune function in a marine fish.** Animal Physiology Seminar, Norwegian University of Science and Technology, December 8 (virtual).

Conference presentations

*Presenting author.

2025 **Leeuwis, R.H.J.***, Silva-Garay, L. et al. Artificial selection and the adaptive potential of thermal performance in zebrafish. *Society for Experimental Biology Annual Conference, July 8-11, Antwerpen, Belgium.* (Talk)

2025 Cowan, Z.-L., Green, L.*, Clark, T.D., Blewett, T.A., De Bonville, J., Gagnon, T., Hoots, E.C., Kuchenmüller, L., **Leeuwis, R.H.J.** et al. Global change and the premature hatching of aquatic embryos. *Society for Experimental Biology Annual Conference, July 8-11, Antwerpen, Belgium*. (Talk)

2025 De Bonville, J.*, Andreassen, A.H., Cowan, Z.-L., Silva-Garay, L., **Leeuwis, R.H.J.** et al. Dynamics of thermal tolerance plasticity across fish species and life stages. *35th Symposium of the Department of Biological Sciences of the University of Montreal, March 27-28, Canada.* (Talk)

2025 De Bonville, J.*, Andreassen, A.H., Cowan, Z.-L., Silva-Garay, L., **Leeuwis, R.H.J.** et al. Dynamics of thermal tolerance plasticity across fish species and life stages. *Interuniversity Research Group in Limnology Annual Symposium, March 19-21, Orford, Canada.* (Talk)

2024 **Leeuwis, R.H.J.***, Silva-Garay, L. et al. Experimental evolution of thermal performance in zebrafish. *Society for Experimental Biology Annual Conference, July 2-5, Prague, Czech Republic.* (Poster, **Irene Manton Poster Prize recipient**) doi:10.48448/54rc-nf63

2024 Jutfelt, F.*, Andreassen, A.H., **Leeuwis, R.H.J.** et al. Mechanisms of thermal tolerance in fish. *Society for Experimental Biology Annual Conference, July 2-5, Prague, Czech Republic.* (Talk)

2024 Jutfelt, F.*, Andreassen, A.H., **Leeuwis, R.H.J.** et al. Mechanisms of thermal tolerance in fish. *Society for Experimental Biology Annual Conference, July 2-5, Prague, Czech Republic.* (Poster)

2024 Kristiansen, H.H.*, Metz, M., **Leeuwis, R.H.J.** et al. Simple to use machine learning pipeline for automated length and landmark measurements. *Society for Experimental Biology Annual Conference, July 2-5, Prague, Czech Republic.* (Poster)

2024 Metz, M.*, Cowan, Z.-L., **Leeuwis, R.H.J.** et al. Physiological mechanisms of slow and fast thermal acclimation in a fish. *Society for Experimental Biology Annual Conference, July 2-5, Prague, Czech Republic.* (Talk)

2024 De Bonville, J.*, Andreassen, A.H., Cowan, Z.-L., Silva-Garay, L., **Leeuwis, R.H.J.** et al. Capacity for rapid thermal acclimation differs between life stage and species in fish. *Society for Experimental Biology Annual Conference, July 2-5, Prague, Czech Republic.* (Talk)

2023 **Leeuwis, R.H.J.*** et al. The role of sensory and haematological factors during thermal acclimation in fishes. *Society for Experimental Biology Centenary Conference, July 4-7, Edinburgh, UK.* (Talk)

2023 Raby, G.D.*, De Bonville, J., Reynolds, L., Storm, Z., Cowan, Z.-L., Metz, M., Andreassen, A.H., Stewart, E.M.C., **Leeuwis, R.H.J.** et al. Effects of oxygen supersaturation on thermal tolerance in aquatic ectotherms. *Society for Experimental Biology Centenary Conference, July 4-7, Edinburgh, UK.* (Talk)

2022 Jones, E.M.*, Oliver, L.P., **Leeuwis, R.H.J.** et al. Production of a monoclonal antibody against sablefish *Anoplopoma fimbria* IgM and its use in an ELISA to measure circulating antibodies. *Triannual Aquaculture Meeting, February 28-March 4, San Diego, USA.* (Talk)

2021 **Leeuwis, R.H.J.*** et al. Chronic hypoxia modifies the adaptive, but not the innate, immune response to formalin-killed *Aeromonas salmonicida* in sablefish. *Ocean Frontier Institute Module J HQP Symposium, July 29 (virtual).* (Talk, **Best PhD Talk Award recipient**)

2021 **Leeuwis, R.H.J.*** et al. Hypoxia prevents temperature-induced increases in heart rate, and lowers acute thermal tolerance, in sablefish and Atlantic salmon. *Society for Experimental Biology Annual Conference, June 29-July 8 (virtual).* (Poster)

2021 **Leeuwis, R.H.J.*** et al. Chronic hypoxia modifies the adaptive, but not the innate, immune response to a formalin-killed *Aeromonas salmonicida* bacterin in sablefish. *Society for Experimental Biology Annual Conference, June 29-July 8 (virtual).* (Talk)

2020 **Leeuwis, R.H.J.*** et al. The effect of low O_2 levels on the thermal tolerance and cardiorespiratory physiology of sablefish. *Ocean Frontier Institute Sustainable Aquaculture & Fisheries Symposium, February 19, St. John's, Canada.* (Poster, **Best PhD Poster Award recipient**)

2019 **Leeuwis, R.H.J.*** et al. The effect of hypoxia on thermal tolerance and physiology of sablefish. *Ocean Frontier Institute Researcher's Workshop, November 12-14, St. John's, Canada.* (Poster)

2019 Vasquez, I.*, Cao, T., Hossain, A., Valderrama, K., Gnanagobal, H., Dang, M., Chakraborty, S., Chukwu-Osazuwa, J., **Leeuwis, R.H.J.** et al. Infection and vaccination of sablefish (*Anoplopoma Fimbria*) against atypical *Aeromonas salmonicida*. *100th Annual Conference of Research Workers in Animal Diseases, November 2-5, Chicago, USA.* (Talk)

2019 **Leeuwis, R.H.J.*** et al. Hypoxic sablefish (*Anoplopoma fimbria*) cannot elevate heart rate or cardiac output when challenged with increasing temperature. *10th International Congress of Comparative Physiology & Biochemistry, August 5-9, Ottawa, Canada.* (Talk)

2018 **Leeuwis, R.H.J.*** et al. Sablefish (*Anoplopoma fimbria*) environmental tolerances, metabolism, cardiovascular physiology, immunology and nutrition. *Ocean Frontier Institute Symposium & Conference, October 9-12, St. John's, Canada.* (Talk)

2018 **Leeuwis, R.H.J.*** et al. The metabolic physiology and environmental tolerances of sablefish (*Anoplopoma fimbria*). *Canadian Society of Zoologists 57th Annual Meeting, May 7-11, St. John's, Canada.* (Talk)

2018 **Leeuwis, R.H.J.*** et al. The metabolic physiology and environmental tolerances of sablefish (*Anoplopoma fimbria*). *Science Atlantic Aquaculture & Fisheries Conference, March 9-11, St. John's, Canada.* (Talk, **Graduate Research Award recipient**)

2016 Bou, M.*, Berge, G.M., Østbye, T.-K., **Leeuwis, R.** et al. Low dietary levels of EPA and DHA influence the lipid class composition of important organs and tissues of Atlantic salmon to a different extent. *International Symposium on Fish Nutrition and Feeding, June 5-10, Idaho, USA.* (Talk)

Funding and Awards

Granted

2025	Society for Experimental Biology Conference Travel Grant	400 GBP
2024	Society for Experimental Biology Irene Manton Poster Prize Animal Section	100 GBP
2023	Society for Experimental Biology Conference Travel Grant	600 GBP
2022	Publications Subvention Program Award, Memorial University of Newfoundland	1,000 CAD
2021	Best PhD Talk Award, Ocean Frontier Institute Module J HQP Symposium	200 CAD
2020	Company of Biologists Travelling Fellowship, Journal of Experimental Biology Host PIs: Profs. Colin Brauner and Anthony Farrell, University of British Columbia	2,000 GBP
2020	Student/Postdoctoral Research Fellow Research Grant Comparative Physiology and Biochemistry Section, Canadian Society of Zoologists	500 CAD
2020	Dr. Joe Brown Graduate Research Award in Aquatic Ecology and Aquaculture, Memorial University of Newfoundland	2,543 CAD
2020	Best PhD Poster Award, Ocean Frontier Institute Symposium	
2018	Graduate Research Award, Science Atlantic Aquaculture & Fisheries Conference	300 CAD
2017	PhD Scholarship, Mullerfonds, Netherlands	4,000 EUR
2016	Post-Graduate Research Travel Award, Cultuurfonds, Netherlands	10,000 EUR
2013	MSc Travel Award, Mullerfonds, Netherlands	1,000 EUR

2013	MSc Travel Award, Christine Buisman Fonds, Netherlands	300 EUR
2013	Erasmus Scholarship, European Union	2,100 EUR
Total		*38,280 CAD*

Submitted

2025	Excellence Scholarship Program for Foreign Students and PDFs, Quebec Research Fund Host PI: Prof. Sandra Binning, University of Montreal	12,000 CAD
2025	Canada Postdoctoral Research Award, NSERC Supervisor: Prof. Patricia Schulte, University of British Columbia	140,000 CAD

Teaching

I have taught (guest) lectures, labs, and field courses for **13 undergraduate and graduate courses** at Canadian and European universities alike since 2011. At the NTNU alone, I have taught **1500+ hours** of courses in biology.

Course coordinator

2022-2024 Special Zoophysiology BI3023, graduate level, Norwegian University of Science and Technology. Course design, scheduling, setting learning outcomes, student reference group and Q&A meetings, course evaluation and improvement. Enrolment: ~8 students. *3 semesters*

Course lecturer and instructor

2025 Global Change Biology BI2080, undergraduate level, Norwegian University of Science and Technology. Lecture: #1Evolutionary adaptation of animals to global change. Enrolment: ~35 students. *1 semester*

2022-2025 Human Anatomy and Physiology BI2024, undergraduate level, Norwegian University of Science and Technology. Lectures: #1Lymphatic and immune systems, #2Muscles and muscle tissue. Other: instructor for lab about sensory physiology, essay assignment preparation and grading, exam preparation and grading. Enrolment: ~57 students. *4 semesters*

2022-2025 Special Zoophysiology BI3023, graduate level, Norwegian University of Science and Technology. Lectures: #1Ecoimmunology, #2Cardiorespiratory physiology. Other: oral examiner. Enrolment: ~8 students. *4 semesters*

2022-2024 Animal Structure and Function BI1006, undergraduate level, Norwegian University of Science and Technology. Lectures: #1Sensory physiology and animal behaviour, #2Circulation and gas exchange, #3Immune system, #4Nitrogen excretion and the kidney. Other: instructor for lab about insect metabolism, exam preparation and grading. Enrolment: ~154 students. *3 semesters*

2022-2024 Animal Ecophysiology and Ecotoxicology BI2025, undergraduate level, Norwegian University of Science and Technology. Lectures: #1Gas exchange, #2Muscle physiology. Other: instructor for lab about thermal physiology of fishes, exam preparation and grading. Enrolment: ~27 students. *3 semesters*

2022 Advanced Physiology BI3020, graduate level, Norwegian University of Science and Technology. Oral examiner. Enrolment: ~4 students. *1 semester*

Field course instructor

2024 Sletvik Field Station, Animal Ecophysiology and Ecotoxicology BI2025, undergraduate level, Norwegian University of Science and Technology. Mentoring students in learning the scientific method by conducting research projects in the field. Enrolment: ~27 students. *1 semester*

Invited guest lecturer

2023 Comparative Environmental Physiology ZOOL 340, undergraduate level, University of Alberta. Lecture: Thermal physiology. Enrolment: ~70 students. *1 semester*

2017 Exploration Of The World Ocean OCSC 1000, undergraduate level, Memorial University of Newfoundland. Research lecture. *1 semester*

Graduate teaching assistant

2022 Model-Based Statistics in Biology BIOL7220, undergraduate and graduate level, Memorial University of Newfoundland (virtual). Lab assistance, assignment and exam grading. Enrolment: ~30 students. *1 semester*

2011-2015 Animal Cell Biology, Genetics and Population Genetics, Histology and Cytology, Plant Physiology, undergraduate level, Radboud University Nijmegen.

Student Supervision

I have supervised **2 PhD** and **2 MSc students**, **36 lab assistants**, **1 high school** and **4 undergraduate exchange students** at NTNU. Of my former undergraduate mentees, **90%** are now in graduate school in Norway or elsewhere in Europe.

PhD students

2023- Moa Metz (Biology, Norwegian University of Science and Technology). Project: Molecular mechanisms of slow and rapid thermal acclimation in zebrafish.

2021- Lorena Silva-Garay (Biology, Norwegian University of Science and Technology). Project: Experimental evolution of thermal performance in zebrafish (co-lead).

MSc students

2024- Josefine Fleischer (Natural Resources Management, Norwegian University of Science and Technology). Thesis: Transgenerational plasticity of thermal performance in zebrafish.

2023- Henning Kristiansen (Computer Science, Norwegian University of Science and Technology). Project: Machine learning pipeline for automated length and landmark measurements.

EU Erasmus interns (experiential learning program)

Claudia Camacho (BSc Biotechnology, University of Barcelona, Spain) (2024), Yagmur Kırbayır (BSc Molecular Biology and Genetics, Biruni University, Turkey) (2023), Luisa Drautz (BSc, Germany) (2022-2023), Violeta Muñoz (BSc, University of Valencia, Spain) (2021-2022)

Lab assistants (BSc/MSc level)

Birk Gaare, Katherine Brekke, Mia Reiersen, Noah Thuestad (2025), Anders Sunde, Jørgen Borchgrevink, Karina Ekornes, Kristina Månum, Maria Larsen, Martine Guldbrandsen, Sigrid Nikolaisen, Silje Sigvaldsen, Silje Vassdal, Sophie Larson, Tiril Fossheim, Titus Phillipson, Vegard Gundersen (2024-2025), Bjørn Tvetene, Jan-Ove Smistad, Sigurd Reksen, Terese Borøy (2024), Bente Sagabraaten, Eirill Eide, Gustav Sundvor, Jens Ustvedt, Karoline Haugehåtveit, Marie Runhovde, Shayan Pourazami, Sunniva Langsæter (2023-2024), Håkon Løland, Paige Heavyside (2023), Maria Pettersen (2022-2025), Kjersti Barmoen, Sara Sand (2022-2024), Gustav Feen, Petter Nordenhaug (2022-2023)

High school students

Toon Verberk (Nijmegen, the Netherlands)

Academic Services

2025 Postdoc Representative, Postdoc Search Committee, Norwegian University of Science and Technology

2023	Session Co-chair, Metabolic performance and fisheries selection (Open Animal), Society for Experimental Biology Centenary Conference
2019-2021	Student Representative, Animal Care Committee, Memorial University of Newfoundland
2019-2021	Graduate Studies Representative, Ocean Sciences Graduate Student Association, Memorial University of Newfoundland
2018	Registration Desk and AV Assistant, Canadian Society of Zoologists 57th Annual Meeting

Journal peer reviewer – Review records at Web of Science
Journal of Experimental Biology, *Marine Ecology Progress Series*, *Global Change Biology*, *Conservation Physiology*, *American Journal of Physiology-Regulatory, Integrative and Comparative Physiology*, *Journal of Applied Ichthyology* (11 manuscripts)

Competitive research grant reviewer
Internal Grants Program for the Northwest Fisheries Science Center of the National Oceanic Atmospheric Administration (USA)

Society memberships
American Physiological Society, Society for Experimental Biology, Canadian Society of Zoologists, Aquaculture Association of Canada

Professional Development

2025	Insights and tools from biologging for conservation physiology workshop, Society for Experimental Biology Annual Conference
2024	Journal of Experimental Biology science communication workshop, Society for Experimental Biology Annual Conference
2022	Experimental microsurgery course, University of Gothenburg
2021	Fish anaesthesia and euthanasia webinar, Finnish 3R Centre

Outreach and Communication

2026	Outside JEB writer.
2025	Research feature in the Society for Experimental Biology Spring Magazine themed around climate change adaptation.
2024	Zebrafish scientist feature on the weekly Zebrafish Rock! Spotlight on X. Journal of Experimental Biology and Society for Experimental Biology features about the Irene Manton Poster Prize on X and sebiology.org respectively.
2023	Participation in climate activism by Scientist Rebellion Norway incl. demonstration against NTNU's funding relationship with the fossil fuel industry.
2021	Interview and feature of Proceedings of the Royal Society B article by news website The Academic Times.
2021	Gamperl lab news feature incl. Proceedings of the Royal Society B article and sablefish research by Scientia.
2017-2019	World Oceans Day volunteer at events coordinated by Oceans Learning Partnership to foster ocean literacy amongst high school students.