

Curriculum Vitae

Irene Adrian-Kalchhauser

Austrian, *1982, married, 1 son (*2012)

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Expertise

Genomics – Illumina, Ion torrent, PacBio, MinION

RNA expression analysis – microarray, RNA sequencing, transcriptome assembly

Epigenetic profiling – MBD based DNA methylation analysis, ATAC sequencing

Population genetics – microsatellites, RAD sequencing, genotyping by sequencing

Diagnostics – DNA barcoding, environmental DNA

Molecular biology – transgenics, cloning, mutagenesis, biochemistry

Imaging – immunohistochemistry, confocal and light sheet microscopy, image analyses

Animal husbandry and field work – handling and maintenance of fish, *D. melanogaster*, *C. elegans*; electrofishing

Education

Venia docendi and Dr. habil (2018), University of Basel (CH)

Certificate of Advanced Studies in Clinical Research (2018), University Hospital Basel

PhD in Genetics (2011), Friedrich Miescher Institute, Basel (CH)

Master in Molecular Biology (2006), Universities of Vienna (AUT) and Bergen (NO)

Scandinavian Studies (2003), Universities of Vienna (AUT) and Bergen (NO)

Positions and research topics

since Feb 2020

Professor for Fish and Wildlife Health

University of Bern, Vetsuisse Faculty, Department for Infectious Diseases and Pathobiology

- ▶ *Microbiome dynamics in aquaculture*
- ▶ *Diagnostics of fish diseases from eDNA*
- ▶ *Non-genetic inheritance in wild populations*

Dec 2016-Sep 2019

Marie Heim Vögtlin SNSF Fellow

University Basel, Department of Environmental Sciences

- ▶ *Genetic, genomic and epigenetic factors of round goby invasion success*
- ▶ *eDNA and gut content assays to trace round goby invasion biology*

Jul 2011–Nov 2016

Postdoctoral Fellow

University Basel, Department of Environmental Sciences, research group Prof. Dr. Patricia Holm

- ▶ *Cross-generational information transfer in natural fish populations through maternal RNA*
- ▶ *Mitochondrial genome evolution in gobiids*

Jun 2006–May 2011

Böhringer Ingelheim PhD Fellow

Friedrich Miescher Institute Basel, research group Dr. Rafal Ciosk

- ▶ *Stem cell maintenance versus differentiation through Notch signaling to chromatin*
- ▶ *Cell cycle regulation by RNA binding proteins in the *C.elegans* germline*

Jan 2005–May 2006

Undergraduate researcher

Institute of Molecular Pathology, Vienna, research group Dr. Barry Dickson

- ▶ *Embryonic muscle development in *D.melanogaster**

Publications

<https://orcid.org/0000-0002-7563-2577/print>

Awards & fellowships

- > Nominee for the teaching excellence award, University of Basel, 2019
- > antelope professorship fellow, University of Basel, 2016
- > Böhlinger Ingelheim PhD fellow, 2007
- > Summer School scholarship on Norwegian Language and Literature, Agder University, Norway, 2004
- > Erasmus scholarship, University of Bergen, Norway, 2003
- > Travel Grants from the University of Padua, the Swiss Society for Biochemistry, and the European *C.elegans* Meeting

Funding

4 grants currently under evaluation; Norwegian Environmental Agency (2020), Fisheries society of the British Isles (2019), CeMEB sequencing grant (2018), Department vacancy fundings (2017), Marie Heim-Vögtlin Fellowship, SNSF (2016), Federal Office for the Environment (2016), Freiwillige Akademische Gesellschaft Basel (2015), Swiss Lottery Fund (2013), Stay on Track program (2014), Böhlinger Ingelheim PhD fellowship (2007)

Memberships

Lions Club Esprit Bern (since 2020), American Genetics Association (since 2019), European Society for Evolutionary Biology (since 2017), Freiwillige Akademische Gesellschaft Basel (since 2016), Linnaeus Centre for Marine Evolutionary Biology Gothenburg (since 2015), Life Sciences Switzerland LS2 (since 2005)

Institutional responsibilities and services

- > Candidate: Steering board (Präsidium) scnat platform biology
- > Candidate: KANG member (Ass. for the advancement of junior researchers and equal opportunities at Vetsuisse)
- > Coordinator: Teaching Modules "Special Species" and "Sustainability", Vetsuisse Curriculum 2021
- > Steering board: Department for Infectious Diseases and Pathobiology, Vetsuisse BE
- > Management board: "Diagnostikzentrum Nutztiergesundheit", Vetsuisse ZH & BE
- > Steering Committee: EcoEvoRxiv Pre-Print Server, 2018 - 2020
- > Postdoc Representative: Department of Environmental Science, 2015 - 2017
- > Curricular Commission: MSc in Sustainable Development, 2014 - 2017
- > Round table member: "Round Table on career, gender and the creation of a Swiss Young Academy", sc|nat, 2017
- > Jury member: Teaching Excellence Awards category "Modern Scholar", 2016
- > Round table member: "Teaching Evaluation Standards Development", Faculty of Sciences, 2015

Teaching

Comparative Morphology (starting 2021), Ecology (since 2020), Principles and Processes of Ecosystems (2011 - 2019), Tools and Methods of Natural Sciences Research (2018 - 2019), Critical Reading (2014 - 2015), Bioinvaders and global change (2013 - 2014), Modern Biomarkers (2013 - 2017), Introduction to Biology (2008 - 2009), Ethics in Geosciences and Environmental Sciences (2013 - 2018), CAS Süswasserfische Europas Wädenswil (2017)

Meeting organisation

- > Workshop "Schrödinger's Inheritance", University of Groningen, Netherlands, Feb 2019
- > Marine Evolution, Session organiser: Epigenetic processes and non-genetic inheritance, Sweden, May 2018
- > Co-organizer of annual stakeholder events on invasive goby research and management, University of Basel, 2012 - 2017
- > Discussion chair, Transdisciplinary dialogues on aquaristics and invasive species, University of Basel, Apr 2017

Talks @ institute seminars

IBAHCM Glasgow (2020), Centre for Biological Diversity St.Andrews (2020), Institute for Cell Biology Bern (2020), EAWAG (2019), Gulbenkian Institute Lissabon (2018), Leibniz-Institute for Zoo and Wildlife Berlin (2015), Fishbase Symposium Stockholm (2016), Zoological Society Zurich (2014), Vertebrate Pest Management Conference Finland (2013)

Talks @ career development events

Antelope Career Program Kick-Off, University of Basel (2019 and 2020), Max Planck Institute Freiburg Postdoc Assembly (2016)

Media contributions and outreach

- > contribution to >10 newspaper articles and 3 TV features on invasive gobies since 2012, for example GEO magazine 07, Swiss edition, front feature: "Kleine Fische - grosse Bedrohung" (2017), Alumni Magazine University Basel, "Invasive Grundeln im Hafen Kleinhüningen" (2013), Tageswoche, "Gefordert: Irene Kalchhauser" (2012)
- > Uni Kids Camp, University of Basel, July 2018
- > Talk on invasive species, annual meeting Naturschutzverein Rheinfelden, Feb 2018

- > Annual strategy meeting of the Swiss Invasive Species Taskforce (AGIN), Olten, Jun 2016
- > Policy Meeting on Fighting Invasives, Federal Office of the Environment, Switzerland, Jan 2014
- > Invasive goby field event, Rhyfad series organized by the Life Science AG, Basel, Sep 2014
- > Talk on invasive goby, annual meeting of the Swiss Fisheries Society, Olten, Jun 2013
- > Childrens' course in fish biology coordinated by the Olten Natural Museum, May 2012
- > Stations at Science Open Doors days at IMP, Vienna, and FMI, Basel, 2006, 2008 – 2010

Continued education

Outreach, team and project management

Employee Appraisal Interviews (2020), Peer coaching on team management (2020), Change Management (2019), Efficient steering of groups and teams (2019), Basics of Leadership (2018), Coaching to lead (2018), Media training, camera and writing press releases (2017), Conflict management (2016), Peer Coaching (2016), Entrepreneurship Course "Venture Challenge" (2012)

Science

LTK2 Study directors in animal experimentation (2019), Reproducibility in Animal Research (2018), Advanced statistics: Statistical modeling (2018), Singularity containers (2018), NGS genome variant analysis (2018), RNA sequencing analysis pipelines (2017), Quality of animal experiments (2017), Nagoya Protocol on Access and Benefit Sharing (2016), Galaxy Next Generation Sequencing (2015), Fundraising and proposal writing for PostDocs (2014), High Throughput Sequencing of Nonmodel Organisms (2014), Electrofishing certificate (2014), LTK1 Introduction to Lab Animal Science (2013), Fish as livestock (2013), Introduction to Statistical Analysis and Programming in R (2009)

Didactics education

Supporting Learning Award (international certificate in University Didactics, 2017), Designing lectures that are conducive to learning (2013), Psychology of Learning in higher education: implications of Learning Theory (2012), To foster and to challenge: how to deal with diversity (2012), Reviewing the effectiveness of teaching: students' feedback (2012), Reviewing the effectiveness of teaching: observation by peers (2012), Planning and structuring courses (2011), Leading discussions in teaching contexts (2011), Examining in a just and fair way (2011), Rhetorics: Explaining and narrating as fundamental teaching competencies (2011)

Languages

German (mother tongue), English, French, Norwegian, Swiss German