

Curriculum Vitae

Irene Adrian-Kalchhauser



Expertise

Population genetics – microsatellites, RAD sequencing, genotyping by sequencing

Next generation sequencing – Illumina, Ion torrent, PacBio, MinION

RNA expression analysis – microarray, RNA sequencing, transcriptome assembly

Epigenetic profiling – MBD based DNA methylation analysis, ATAC 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

Sept 2018	Venia docendi and Dr. habil, University of Basel (CH)
Sept 2018	Certificate of Advanced Studies in Clinical Research, University Hospital Basel
Nov 2017	SEDA Supporting Learning Award / Didactics education
Dec 2012	Venture challenge Start-up training, VentureLab
May 2011	PhD in Genetics, Friedrich Miescher Institute, Basel (CH)
Apr 2006	Master in Molecular Biology, Universities of Vienna (AUT) and Bergen (NO)
2003–2006	Scandinavian Studies, Universities of Vienna (AUT) and Bergen (NO)

Publications

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

Positions and projects

from Feb 2020

Professor for Fish and Wildlife Health

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

Dec 2016–Sep 2019

Marie Heim Vögtlin SNSF Fellow / Researcher

University Basel, Department of Environmental Sciences

- ▶ *“Evolved for success” – genome analysis of the round goby*
- ▶ *Environment vs chromatin landscape in the adaptive round goby*
- ▶ *Early life experiences, brain DNA methylation and adult reproductive strategy in the round goby*
- ▶ *Food web analyses in invaded ecosystems by PCR-based gut content assays*

Jul 2011–Nov 2016

Postdoctoral Fellow

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

- ▶ *Maternal RNA as a non-genetic means of adaptation in the round goby*
- ▶ *Signatures of recent evolution of the round goby mitogenome*
- ▶ *Population structure of bighead goby as shaped by commercial shipping vectors*
- ▶ *Detecting round goby from water samples by eDNA*

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

- ▶ *Muscle development and muscle migration in D.melanogaster*
- ▶ *SNP on chip mapping of muscle mutants*

Awards

- > Nominated for the teaching excellence awards, University of Basel, 2019
- > antelope professorship fellow, University of Basel, 2016
- > 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

Institutional responsibilities and services

- > EcoEvoRxiv Pre-Print Server Steering Committee Member, since 2018
- > Postdoc Representative to the Department of Environmental Science, 2015 – 2017
- > Curricular Commission of the MSc in Sustainable Development, 2014 – 2017
- > Member of the "Round Table on career, gender and the creation of a Swiss Young Academy", sc|nat, 2017
- > Teaching Excellence Awards category "Modern Scholar", Member and spokesman of the Jury, 2016
- > Scientific Advisor to the Canton ZH on halting biological invasions in Pfäffikersee, 2015
- > Committee member on "Teaching Evaluation Standards Development", Faculty of Sciences, 2015

Teaching

- > Principles and Processes of Ecosystems, 2011 - 2015 and 2018 - 2019; Lecture, 2 ECTS
- > Tools and Methods of Natural Sciences Research, 2018 - 2019; Seminar, 3 ECTS
- > Critical Reading, 2014 - 2015; Colloquium, 1 ECTS
- > Bioinvaders and global change, 2013 - 2014; Seminar, 3 ECTS
- > Modern Biomarkers, 2013 - 2017; Lab course, 2 ECTS, co-teaching
- > Introduction to Biology, 2008 - 2009; Tutorial, 5 ECTS, co-teaching
- > Ethics in Geosciences and Environmental Sciences, 2013 - 2018, invited lecture series speaker
- > The fish and its environment, 2013 - 2014, invited lecture series speaker
- > CAS Süßwasserfische Europas, ZHAW Wädenswil, 2017, invited lecture series speaker

Organisation of meetings

- > 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

Invited talks

- > EAWAG, Switzerland, Eco Seminar Series, Oct 2019
- > Antelope Kick-Off Meeting, University of Basel, Mar 2019
- > Gulbenkian Institute, Lissabon, Jan 2018
- > Max Planck Institute Freiburg, Annual Postdoc Assembly, Sept 2106
- > Leibniz-Institute for Zoo and Wildlife Berlin, Institute Research Seminar, Nov 2015
- > Fishbase Symposium 2016 Stockholm, Plenary Speaker, Oct 2016
- > Zoological Society Lecture Series, Zurich, Nov 2014
- > Vertebrate Pest Management Conference Finland, Session Speaker, Sep 2013

Media contributions

- > GEO magazine 07, Swiss edition, front feature: "Kleine Fische – grosse Bedrohung", Jan 2017
- > Alumni Magazine University Basel, "Invasive Grundeln im Hafen Kleinhüningen", May 2013
- > Personal portrait in Tageswoche, "Gefordert: Irene Kalchhauser", Oct 2012
- > contribution to >10 newspaper articles and 3 TV features on invasive gobies since 2012

Outreach activities

- > 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, Rhypfad 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

- > Change Management, University of Basel, 2019
- > Efficient steering of groups and teams, University of Basel, 2019
- > Basics of Leadership, University of Basel, 2018
- > Coaching to lead, University of Basel, 2018
- > Media training, camera and writing, SNSF / die tv-medientrainer, 2017
- > Conflict management, University of Basel, 2016
- > Peer Coaching, University of Basel, 2016
- > Entrepreneurship Course “Venture Challenge”, VentureLab, 2012

Science

- > Reproducibility in Animal Research, University of Zurich, 2018
- > Advanced statistics: Statistical modeling, SIB, Lausanne, 2018
- > Singularity containers, sciCORE, Basel, 2018
- > NGS genome variant analysis, SIB, Bern, 2018
- > RNA sequencing analysis pipelines, SIB, Basel, 2017
- > Nagoya Protocol on Access and Benefit Sharing, sc|nat, 2016
- > Galaxy Next Generation Sequencing Workshop, University of Freiburg, 2015
- > Fundraising and proposal writing for PostDocs, University of Basel, 2014
- > High Throughput Sequencing of Nonmodel Organisms, University of Bodö, 2014
- > Electrofishing certificate, Canton Basel, 2014
- > Continued education on animal experimentation, 2012 - 2016
- > Introduction to Statistical Analysis and Programming in R, University of Heidelberg, 2009

Didactics education

- > Supporting Learning Award, international certificate in University Didactics, 2017
- > Sammelzertifikat PLUS, University of Basel, comprising
 - ▶ 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