Prof. Dr. Irene Adrian-Kalchhauser

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Austrian citizen, married, 1 son *2012

Positions

Since 2023	**Managing Director**, ISO/IEC 17025 accredited laboratory for diagnostics of 12 reportable aquatic diseases
Since Feb 2020	**Managing Director** & **Tenured Professor** Institute for Fish and Wildlife Health, Department of Infectious Diseases and Pathobiology, Vetsuisse Faculty, University of Bern, Switzerland
Sep 2019 – Jan 2020	**Lecturer**
Nov 2016 – Aug 2019	**Senior Researcher**
Aug 2011 - Nov 2016	**Postdoctoral researcher** Institute Man-Society-Environment, Department of Environmental Science, University of Basel, Switzerland, with Univ. Prof. Dr. Burkhardt-Holm
Feb 2006 - June 2011	**PhD student** Friedrich Miescher Institute FMI, Novartis Research Foundation, Epigenetics Department, Basel, Switzerland, with Dr. Ciosk
Jan 2005 - Feb 2006	**Undergraduate researcher** Research Institute of Molecular Pathology IMP, Boehringer Ingelheim Foundation, Vienna, Austria, with Dr. Schnorrer and Dr. Dickson

Education

26 Sep 2018	**Habilitation / Venia Docendi in Molecular Ecology** University of Basel, Switzerland
1 Sep 2018	**CAS in Clinical research (Clinical Trial Planning and Conduct)** University of Basel, Switzerland
1 Nov 2017	**Supporting Learning Award** (CAS in university didactics) SEDA, UK
31 May 2011	**PhD in Genetics** (Summa cum laude) University of Basel, Switzerland
7 Apr 2006	**Master in Molecular Biology** University of Vienna, Austria & University of Bergen, Norway
7 Apr 2006	**Scandinavian Studies** University of Vienna, Austria (no degree)

Continued education / Management & Leadership

2020-2023	Kollegiale Fallberatung, wiederkehrend
2022-06	Psychische Belastungen erkennen und richtig begleiten, 2d
2021-11	Führung – eine Herausforderung (auch) im universitären Umfeld, 1d
2021-03	The future of academic leadership, 1d
2021-03	Führungsfeedback, 0.5d
2021-02	Leading in a Global World, 1.5d
2020-08	Grundlagen der personellen Fährung, 0.5d
2020-08	Mitarbeitendengespräch – Führen mit Zielen, 1d
2019-05	Change Management, 1d
2019-03	Gruppen und Teams erfolgreich steuern, 2d
2018-12	Gundlagen in der Führung, 2d
2018-11	Coaching in der Führung, 2d
2016-11	Konfliktmanagement, 2d
2016-11	Why should anyone be led by you? 1d
2016-05	Peer Coaching: Creating ingenious solutions in 9 steps, 0.5d

Continued education / Teaching

2022 ff	3x Teaching brunch, Vetsuisse Faculty
2023-01	Wissenschaftliches Schreiben kompetent begleiten, 2d
2022-10	Selbstgesteuertes Lernen an der Hochschule, 1d
2022-02	Tag der Lehre University of Bern, 1d
2021-03	Bildung für Nachhaltige Entwicklung, 2d
2021-02	Tag der Lehre, University of Bern, 1d
2021-02	Video in der Lehre, 1d
2020-10	Tipps und Tools für gute Lehre, 0.5d
2018-11	Supervising students 0.5d
2013-06	Vorlesungen lernförderlich gestalten, 1d
2012-06	Wirksamkeit der Lehre überprüfen: Kollegiale Hospitation, 1d
2012-05	Lernpsychologie und Hochschulbildung, 1d
2012-05	Fördern und Fordern: Umgang mit Diversity, 1d
2012-04	Wirksamkeit der Lehre überprüfen: Studierendenfeedback, 1d
2012-01	Peer Coaching, 2.5d
2011-10	Rhetorik: Explikation und Narration, 1d
2011-10	Diskussionsleitung in der Lehre, 1d
2011-10	Lehrveranstaltungen planen und gestalten, 1d
2011-09	Fair prüfen, 1d

Continued education / Science

2023-02	Basics in GIS, Sandra Eckert, 0.5d
2022-03	Physalia Course, Reproducibility in R, 3d
2020-11	Ggplot, Physalia Course, 2d
2019-12	LTK Module 2, Training for persons responsible for animal experimentation, 5d

2019-04	PEAK Basiskurs Metabarcoding, EAWAG, 1d
2018-12	LTK Module 22, Reproducibility in animal research, 2d
2018-08	Advanced statistics: Statistical modeling, SIB, 3d
2018-03	Singularity containers, SIB, 1d
2018-02	Genome Variant Calling, SIB, 2d
2017-08	Introduction to RNA Seq, SIB, 2d
2017-02	Introduction to High Performance Computing, sciCORE, 1d
2016-09	Nagoya Protocol on Access and Benefit Sharing, scnat, 1d
2015-09	Galaxy Next Generation Sequencing Course, Univ. Freiburg, 3d
2014-05	Electrofishing certificate, Basel Stadt, 2d
2014-06	High Throughput Sequencing of Non-model Organisms, U i Nordland, 10d
2017-05	STS Tierversuchstagung, Qualität und Aussagekraft von Tierversuchen, 1d
2013-10	LTK1 Module 1, Introductory Course in Laboratory Animal Science, 5d
2013-10	STS Tierversuchstagung, Fische als Nutztiere – wo bleibt der Tierschutz?, 1d
2012-17	STDF Meeting on International Trade and Invasive Alien Species, Geneva, 2d
2012-05	Fisheries certificate, Kantonaler Fischerei Verband Basel Stadt, 1d
2009-05	Introduction to Statistical Analysis and Programming in R, EMBL, 2d

Continued education / Career

2017-11	Setting goals workshop, 0.5d
2017-07	Media training, die tv-medientrainer, 1d
2016-11	Presenting to ignite discussion, 0.5d
2016-10	Preparing the job hunting package, 2d
2016-06	How to publish in peer-reviewed journals, 3d
2015-02	How to publish and review a manuscript, 0.5d
2014-11	Fundraising and proposal writing for PostDocs, 1d
2014-11	How to apply for academic positions, 2d
2014-09	Startup training program Venture Challenge, 10d

Research funding

2022-2024	Support to host a PhD student from Ukraine, CHF 120’000.- Swiss National Science Foundation
2022-2026	Project # 310030_212526, TRIP Trout Immune Priming, CHF 720’000.- Swiss National Science Foundation
2021-2024	Project # 315230_204838/1, MiCo4Sys CHF 474'000.- Swiss National Science Foundation, Co-PI: Prof. Claudia Bank
2021-2023	Project # 55760.1 IPLS, Point of Care assays for early detection and monitoring of fish pathogens in aquaculture CHF 443'990.- Innosuisse – Swiss Innovation Agency
2021-2023	Project # OC-2020-003, Reducing the need for lethal health monitoring in trout, CHF 157'800.- 3RCC Foundation, Co-PI: Prof. Heike Schmidt-Posthaus
2020-2023	SurWild – improving wildlife health surveillance in Switzerland, CHF 400’000.- FFSVO & FOEN (federal administration), Co-PI: Prof. Marie-Pierre Ryser
2016-2018	Marie-Heim Vögtlin Fellowship, Analysis of the chromatin landscape in a wild vertebrate species, CHF 282’408.- Swiss National Science Foundation
2015-2020	Sequencing the round goby genome CHF 70’000.- Freiwillige Akademische Gesellschaft Basel
2015-2016	Role of maternal RNA in non-genetic inheritance in round goby, CHF 80’000.- Excellence Scholarship, Research Fund for Junior Researchers University of Basel
2014	Stay on Track, Program to support scientist mothers, CHF 10’000.- University of Basel
2007-2008	Böhringer Ingelheim PhD fellowship, CHF 60’000.-

Publications

High nucleotide diversity accompanies differential DNA methylation in naturally diverging populations. Ord J, Gossmann TI, Adrian-Kalchhauser I. Molecular Biology and Evolution 40(4), 2023.

Metagenomics and metabarcoding experimental choices and their impact on microbial community characterization in freshwater recirculating aquaculture systems. Rieder J, Kapopoulou A, Bank C, Adrian-Kalchhauser I. Environmental Microbiome 18, 8 (2023).

Detecting aquatic pathogens with field-compatible dried qPCR assays. Rieder J, Martin-Sanchez PM, Osman OA, Adrian-Kalchhauser I, Eiler A. Journal of microbiological methods 202, 2022.

Inherited Gene Regulation Unifies Molecular Approaches to Nongenetic Inheritance: Response to Edelaar et al. Adrian-Kalchhauser I, Sultan SE, Shama L, Spence-Jones H, Tiso S, Keller Valsecchi CI, Weissing FJ. Trends in Ecology and Evolution. 36(6), 2021.

Predation on native fish eggs by invasive round goby revealed by species-specific gut content DNA analyses. Lutz E, Hirsch PE, Bussmann K, Wiegleb J, Jermann HP, Muller R, Burkhardt-Holm P, Adrian-Kalchhauser I. Aquatic Conservation 30(8) 2020.

Understanding 'Non-genetic' inheritance: Insights from Molecular-Evolutionary Crosstalk. Adrian-Kalchhauser I, Sultan SE, Shama L, Spence-Jones H, Tiso S, Keller Valsecchi CI, Weissing FJ. Trends in Ecology and Evolution. 35(12) 2020.

The round goby genome provides insights into mechanisms that may facilitate biological invasions. Adrian-Kalchhauser I, blomberg A, Larsson T, Musilova Z, Peart CR, Pippel M, Hongroe Solbakken M, Suurväli J, Walser JC, Wilson JY, Alm Rosenblad M, Burguera D, Gutnik S, Michiels N, Töpel M, Pankov K, Schloissnig S, Winkler S. BMC Biology 2020.

DNA methylation patterns in the round goby hypothalamus support an on-the-spot decision scenario for territorial behaviour. Somerville V, Schwaiger S, Hirsch PE, Walser JC, Bussmann K, Weyrich A, Burkhardt-Holm P, Adrian-Kalchhauser, I. Genes 2019.

Fishing for profit or food? Socio-economic drivers and fishers' attitudes towards sharks in Fiji. Glaus KBJ, Adrian-Kalchhauser I, Piovano S, Appleyard SA, Brunnschweiler JM, Rico C. Marine Policy 2018

Long-read sequencing of Benthophilinae mitochondrial genomes reveals the origins of round goby mitogenome re-arrangements. Gutnik S, Walser JC, Adrian-Kalchhauser I. Mitochondrial DNA Part B, 2018.

RNA sequencing of early round goby embryos reveals that maternal experiences can shape the maternal RNA contribution in a wild vertebrate. Adrian-Kalchhauser I, Walser JC, Schwaiger M, Burkhardt-Holm P. BMC Evolutionary Biology, 2018.

Colonizing islands of water on dry land – on the passive dispersal of fish eggs by birds. Hirsch P, N'Guyen A, Muller R, Adrian-Kalchhauser I, Burkhardt-Holm P. Fish and Fisheries 2018

A dynamical model for invasive round goby populations reveals efficient and effective management options. N'Guyen A, Hirsch PE, Bozzuto C, Adrian-Kalchhauser I, Horkova K, Burkhardt-Holm P. Journal of Applied Ecology 2018;55:342–352

The invasive round goby may attach its eggs to ships of boats – but there is no evidence. Adrian-Kalchhauser I, N'Guyen A, Hirsch PE, Burkhardt-Holm P. Aquatic Invasions 2017, 12(2):263-267

The mitochondrial genome sequences of the round and the sand goby reveal patterns of recent evolution in gobiid fish. Adrian-Kalchhauser I, Svensson O, Kutschera VE, Alm Rosenblad M, Pippel M, Winkler S, Schloissnig S, Blomberg A, Burkhardt-Holm P. BMC Genomics 2017, 18:177

Increased Notch signaling antagonizes PRC2-mediated silencing to promote reprograming of germ cells into neurons. Seelk S*, Adrian-Kalchhauser I*, Hargitai B, Hajduskova M, Gutnik S, Tursun B, Ciosk R. eLife 2016;10.7554/eLife.15477

The invasive bighead goby Ponticola kessleri displays small scale genetic differentiation and large scale genetic homogeneity in relation with shipping patterns. Adrian-Kalchhauser I, Hirsch PE, Behrmann-Godel J, N'Guyen A, Watzlawczyk S, Gertzen S, Borcherding J, Burkhardt-Holm P. Molecular Ecology. 2016 May, 25(9):1925-43

An eDNA Assay to Monitor a Globally Invasive Fish Species from Flowing Freshwater. Adrian-Kalchhauser I, Burkhardt-Holm P. PLOS ONE. 2016 Jan 27; 11 (1):e0147558

A tough egg to crack: recreational boats as vectors for invasive goby eggs and transdisciplinary management approaches. Hirsch PE, Adrian-Kalchhauser I, Flämig S, N'Guyen A, Defila R, Di Giulio A, Burkhardt-Holm P. Ecology and Evolution. 2016 Jan 11; 6(3):707-15

What do we really know about the impacts of one of the 100 worst invaders in Europe? A reality-check. Hirsch PE, N'Guyen A, Adrian-Kalchhauser I, Burkhardt-Holm P. Ambio. 2016 Apr; 45(3):267-79

Improving invasive species management by integrating priorities and contributions of scientists and decision makers. N'Guyen A, Hirsch PE, Adrian-Kalchhauser I, Burkhardt-Holm P. Ambio. 2016 Apr; 45(3):280-9

Characteristics of the shark fisheries of Fiji. Glaus K*, Adrian-Kalchhauser I*, Burkhardt-Holm P, White W, Brunnschweiler J. Nature Scientific Reports. 2015 Dec 2; 5:17556

The complete mitochondrial genome of the invasive Ponto-Caspian goby Ponticola kessleri obtained from high-throughput sequencing using the Ion Torrent Personal Genome Machine. Kalchhauser I*, Kutschera V*, Burkhardt-Holm P. Mitochondrial DNA. 2014 Oct 20:1-3

Arrival of round goby Neogobius melanostomus (Pallas, 1814) and bighead goby Ponticola kessleri (Günther, 1861) in the High Rhine (Switzerland). Kalchhauser I, Mutzner P, Hirsch PE, Burkhardt-Holm P. Biological Invasion Records. 2013; 2(1):79-83

FBF represses the Cip/Kip cell-cycle inhibitor CKI-2 to promote self-renewal of germline stem cells in C. elegans. Kalchhauser I, Farley BM, Pauli S, Ryder SP, Ciosk R. EMBO Journal. 2011 Aug 5; 30(18):3823-9

Translational repression of cyclin E prevents precocious mitosis and embryonic gene activation during C. elegans meiosis. Biedermann B, Wright J, Senften M, Kalchhauser I, Sarathy G, Lee MH, Ciosk R. Developmental Cell. 2009 Sep; 17(3):355-64.

High-resolution, high-throughput SNP mapping in Drosophila melanogaster. Chen D, Ahlford A, Schnorrer F, Kalchhauser I, Fellner M, Viràgh E, Kiss I, Syvänen AC, Dickson BJ. Nature Methods. 2008 Apr; 5(4):323-9.

The transmembrane protein Kon-tiki couples to Dgrip to mediate myotube targeting in Drosophila. Schnorrer F, Kalchhauser I, Dickson BJ. Developmental Cell. 2007 May; 12(5):751-66.