

Curriculum Vitae

Patricia Holm

Private Address

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Born: November 22, 1959 in Mainz, Germany
Married, 2 children
German and Swiss Citizen

Professional Address

Universität Basel, Programme MGU
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University Education

Venia Docendi for Ecology, Phil. Nat. Faculty, University of Bern, 1999

Ph.D. Title: Histochemical and electron microscopical studies on the intestinal tract of teleosts under different nutritional conditions, Zoological Institute I, University of Heidelberg (Head: Prof. Dr. V. Storch), Germany, 1989 ("summa cum laude")

M.Sc. Ruprecht-Karls-Universität in Heidelberg, Germany, 1985

Professional Experience

2003 - to date Professor of Ecology, University Basel, Head of the Programme "Mensch Gesellschaft Umwelt" MGU, Basel, Switzerland

1999 - 2003 Head of the project „Netzwerk Fischrückgang Schweiz“ (Fischnetz), EAWAG, Swiss Federal Institute for Environmental Science and Technology, Dübendorf, Switzerland

1992 – 1999 Senior assistant (Interdisciplinary Center for General Ecology), University of Bern

1990 – 1992 Post-Doc, Department of Neurobiology Swiss Federal Institute of Technology (ETH) Zürich, Switzerland (50%)

1989 – 1990 Consultant for Biology and Ecology, RauCon Bioinformatik & Consulting GmbH, Dielheim, Germany

Academic Honours and Awards (Selection)

2002 ALTEX Award by FFVFF (Stiftung Fonds für versuchstierfreie Forschung, Zürich)

1999 “Berner Umweltforschungspreis” for the habilitation thesis, University of Bern

1994 - 1999 Grant for the promotion of junior scientists, Swiss Federal Government

1991 - 1993 Educational grant “Deutsche Forschungsgemeinschaft” (DFG, German Research Council)

1988, 1982 - 1985 "Studienstiftung des Deutschen Volkes" (German National Merit Foundation)

Research Interests

Inter- and transdisciplinary research in various areas of environmental sciences and sustainable development, mainly in the field of aquatic ecology and fish biology. In the focus is the impact of stress factors (natural and anthropogenic) on fish, and especially their combinatory effects. Recent studies are on endocrine disruption, food and starvation, temperature, fine sediments, ecotoxicology, fisheries.

Current Academic Committees and Responsibilities

since 2011 Adjunct Professor in the Department of Biological Sciences of the University of Alberta, Canada

since 2011 Member of the steering committee ‘Research Center for sustainable energy and water use’, University of Basel

since 2010	Member of the Scientific Board of BiK-F, Biodiversität und Klima Forschungszentrum (Biodiversity and Climate Research Center), Frankfurt a. M., Germany
since 2010	Member of the Board of FIRMM, Foundation for information and research on marine mammals,
since 2009	Delegate of Switzerland for the International Whaling Commission (IWC), scientific committee and steering committee member of the sub-commission "Pollution 2000+"
since 2009	Mentor and Member of the Assessment Team for the Swiss Study Foundation
since 2007:	Member of Center for Xenobiotic and Environmental Risk Research (XERR), Zurich
since 2007:	Member of the ISOE Scientific Board, Frankfurt a. M., Germany
since 2007:	Member of the Expert Group Ecotoxicology (FOEN)
since 2005:	Representative of the Faculty of Science: Master's Degree in Sustainable Development at the University of Basel

Most Important Research Grants

2010 – 2012	Alberta Water Research Institute, Edmonton, Alberta (Canada) 'Deterioration of habitats for fish (Salmonidae) in running water courses of Alberta due to fine sediment input from forestry', CAD 43'000.-
2008 - 2011	SNF (Swiss National Foundation): 'Methodologies to measure and characterise fine sediment input to alpine rivers and their effects on health and reproduction of gravel spawning brown trout', CHF 394'850.-
2008	Federal Office for the Environment FOEN: 'Method development for effect monitoring in aquatic ecosystems (MicroPoll)', CHF 30'000.-
2006 – 2009	Syngenta 'Comparison of fish species responses to endocrine disruptors', CHF 33'000.-
2006 – 2009	Syngenta 'Assessment of the effects of aromatase inhibitors and solvents by means of an in vitro assay', CHF 33'000.-
2005 - 2007	Federal Office for the Environment FOEN: 'Micropollution in Swiss Surface Waters (MicroPoll)', CHF 100'000.--
2005 - 2007	Velux Stiftung: 'Master Studies of Sustainable Development', CHF 300'000.--
2002 - 2007	SNF (Swiss National Foundation): 'Endocrine disruption in Switzerland: Assessment of fish exposure and effects, CHF 580'000.--
2001 - 2004	BUWAL, Eawag: 'Modular concept for comprehensive assessment of streams, modul ecotoxicology', CHF 405'000.--
2000 - 2001	Eawag Dübendorf: 'Evaluation of concepts and methods for an ecotoxicological assessment of water quality', CHF 45'000.--
1999 - 2004	26 Swiss Cantons, Principality of Liechtenstein, Eawag, FOEN (Federal Office for the Environment): 'Fischnetz', CHF 5'000'000.--
1996 - 1999	SNF (Swiss National Foundation): 'Water quality: development of a set of biomarkers as an instrument to assess water quality', CHF 179'690.--
1990 - 1992	EG-Project Fisheries Sector: 'Methods for evaluation of nutritional status of fish', ECU 242'262.--

Reviewing Activities for several journals and research programmes

Supervision of 19 master theses and 7 Ph.D. thesis (finished), and 2 Ph.D. theses running

Most Important Publications

- Scheurer, K., Alewell, Ch., Bänninger, D. & **Burkhardt-Holm, P.** 2009. Climate and land-use changes affecting river sediment and brown trout in alpine countries - a review. *Environ. Sci. Pollut. Res.* 16:232-242
- Schubert, S., Peter, A., Burki, R., Schönenberger, R., Suter, M.J.F., Segner, H. & **Burkhardt-Holm, P.** 2008. Sensitivity of brown trout reproduction to long-term estrogenic exposure. *Aquatic Toxicology* 90 (65-72)
- Burkhardt-Holm, P.** & Scheurer, K. 2007. Application of the weight-of-evidence approach to assess the decline of brown trout (*Salmo trutta*) in Swiss rivers. *Aquat. Sci.* 69(1): 51-70.
- Hari, R.E., Livingstone, D.M., Siber, R., **Burkhardt-Holm, P.** & Güttinger, H. 2006. Consequences of climatic change for water temperature and brown trout populations in Alpine rivers and streams. *Global Change Biol.* 12, 10-26.
- Borsuk, M.E., Reichert P., Peter, A., Schager, E. & **Burkhardt-Holm, P.** 2006. Assessing the decline of brown trout (*Salmo trutta*) in Swiss rivers using a Bayesian probability network. *Ecol. Model.* 192, 224-244.
- Vermeirssen, E.L.M., Körner, O., Schönenberger, R., Suter, M.J.F. & **Burkhardt-Holm, P.** 2005. Characterisation of environmental estrogens in river water using a three pronged approach: active and passive water sampling and the analysis of accumulated estrogens in the bile of caged fish. *Environm. Sci. Technol.* 39, 8191-8198.
- Burkhardt-Holm, P.**, Giger, W., Güttinger, H., Ochsenbein, U. Peter, A., Scheurer, K., Segner, H., Staub, E. & Suter, M.E. 2005. Where have all the fish gone? The reasons why the fish catches in Swiss rivers are declining. *Environm. Sci. Technol.* 39, 441A- 447A.
- Eggen, R.I.L., Behra, R., **Burkhardt-Holm, P.**, Escher, B. I. & Schweigert, N. 2004. Challenges in Ecotoxicology. *Environm. Sci. Technol.* 38, 59A-64A.
- Burkhardt-Holm, P.**, Peter, A. & Segner, H. 2002. Decline of fish catch in Switzerland. *Project Fishnet: A balance between analysis and synthesis.* *Aquat. Sci.* 64, 36-54.
- Bernet, D., Schmidt, H., Meier, W., **Burkhardt-Holm, P.** & Wahli, T. 1999. Histopathology in fish: Proposal for a protocol to assess aquatic pollution. *J. Fish Dis.* 22, 25-34.
- Schmidt, H., Posthaus, H., Busato, A., Wahli, T., Meier, W. & **Burkhardt-Holm, P.** 1998. Transient increase in chloride cell number and heat shock protein expression (hsp70) in brown trout (*Salmo trutta fario*) exposed to sudden temperature elevation. *Biol. Chem.* 379, 1227-1233.