

PD Dr. Pieter Spaak

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Eawag

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Department of Aquatic Ecology

Evolutionary Ecology

<https://www.eawag.ch/en/department/eco/main-focus/zooplankton-ecology-and-evolution/>

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Employment history & education

- Since 2019: Eawag, Senior Scientist, Evolutionary Ecologist, with a teaching assignment (Lehrauftrag) at the Swiss Federal Institute of Technology Zürich (ETH-Zürich) and the University of Zürich
- 2010/2018: Department head, Department Aquatic Ecology, Eawag
- 2010/2013: Adjunct Assistant Professor Queens University, Canada
- 1999/2009: Eawag, Senior Scientist, Evolutionary Ecologist at the Swiss Institute for Aquatic Science and Technology (Eawag), with a teaching assignment (Lehrauftrag) at the Swiss Federal Institute of Technology Zürich (ETH-Zürich)
- 1996/1999: ETH-Zürich, Oberassistent: Ecological geneticist with the Swiss Institute for Aquatic Science and Technology (Eawag)
- 1994/1996: Max-Planck Postdoctoral fellowship the Max-Planck-Institute for Limnology (Plön, Germany)
- 1989/1994: PhD student at the Netherlands Institute of Ecology, Centre for Limnology.
- 1989: Supervisor of the continuation of the project for the Institute of Nature Management, which resulted in a version of the simulation program, for and-use managers.
- 1988: MA Biology, University of Groningen (The Netherlands)
- 1987: Research Assistant - Institute for Nature Management. Implementing a simulation programme to predict the development of meadow-bird populations in grassland areas.

Approved research projects (last 5 years)

- 2016-2018 Eawag "Resilience of aquatic ecosystems in the face of nutrient loading: ecological and evolutionary dimensions, a proposal for the first experiment in the new experimental ponds" **P. Spaak** (ECO), B. Matthews (ECO), J. Jokela (ECO), F. Altermatt (ECO), A. Narwani (ECO), F. Pomati (ECO), O. Seehausen (FISHEC), F. Hammes (UMIK), D. Johnson (UMIK), B. Wehrli (SURF), S. Derrer (AuA). **CHF 298'363**
- 2016 BAFU "Four exo-2 sondes for the Eawag pond experiment". **P. Spaak. CHF 90'000**
- 2017-2012 Lead Agency Grant **P. Spaak** and Justyna Wolinska (IBG, DE): "Host-parasite interactions in hybridizing *Daphnia*, from correlations to experiments": **CHF 575'536 (my part 53%)**
- 2018-2022 Interreg Project SeeWandel (PI) **€ 5.700.000**, 13 Project, 7 Institutions, 3 countries:
www.seewandel.org

Peer-reviewed publications (10 Key-papers, of last 5 years) (Total 122 Papers, Google Scholar h-index 34)

- Enache, I., L. I. Florescu, M. Moldoveanu, M. I. Moza, L. Parpală, C. Sandu, P. Turko, G. Rîșnoveanu and **P. Spaak (2019)**. "Diversity and distribution of *Daphnia* across space and time in Danube Delta lakes explained by food quality and abundance." Hydrobiologia.

- Monchamp, M.-E., **P. Spaak** and F. Pomati (2019). "High dispersal levels and lake warming are emergent drivers of cyanobacterial community assembly in peri-Alpine lakes." Scientific Reports 9(1): 7366.
- Narwani, A., M. Reyes, A. L. Pereira, H. Penson, S. R. Dennis, S. Derrer, **P. Spaak** and B. Matthews (2019). "Interactive effects of foundation species on ecosystem functioning and stability in response to disturbance." Proceedings of the Royal Society Biological Sciences Series B.
- Schaffner, L. R., L. Govaert, L. De Meester, S. P. Ellner, E. Fairchild, B. E. Miner, L. G. Rudstam, **P. Spaak** and N. G. Hairston (2019). "Consumer-resource dynamics is an eco-evolutionary process in a natural plankton community." Nature Ecology & Evolution 3(Sept): 1351-1358.
- Monchamp, M.-E., **P. Spaak**, I. Domaizon, N. Dubois, D. Bouffard and F. Pomati (2018). "Homogenization of lake cyanobacterial communities over a century of climate change and eutrophication." Nature Ecology & Evolution 2(2): 317–324.
- Turko, P., C. Tellenbach, E. Keller, N. Tardent, B. Keller, **P. Spaak** and J. Wolinska (2018). "Parasites driving host diversity: Incidence of disease correlated with *Daphnia* clonal turnover." Evolution 72(3): 619-629.
- Alric, B., M. Most, I. Domaizon, C. Pignol, **P. Spaak** and M. E. Perga (2016). "Local human pressures influence gene flow in a hybridizing *Daphnia* species complex." J Evol Biol 29: 720-735.
- Drugă, B., P. Turko, **P. Spaak** and F. Pomati (2016). "Cyanobacteria Affect Fitness and Genetic Structure of Experimental *Daphnia* Populations." Environ Sci Technol 50(7): 3416–3424.
- Tellenbach, C., N. Tardent, F. Pomati, B. Keller, N. G. Hairston, J. Wolinska and **P. Spaak** (2016). "Cyanobacteria facilitate parasite epidemics in *Daphnia*." Ecology 97(12): 3422-3432.
- Turko, P., L. Sigg, J. Hollender and **P. Spaak** (2016). "Rapid Evolutionary Loss of Metal Resistance Revealed by Hatching Decades-Old Eggs." Evolution 70(2): 398–407.

Students

Fifteen PhD students defended their thesis successful under my (co) supervision

I supervised 18 Diploma, bachelor and master thesis

I supervise currently 2 PhD Students and 1 Master student, as well as 2 external PhD students

Service/Consulting, Recent Activities

- Associate Editor of *Hydrobiologia* (since 2008)
- Editor in Chief of *Aquatic Ecology* (2009-2018)
- Associate Editor of *Limnology and Oceanography* (since 2019)
- Member of "Fachbereich See" der IGKB, International Water Protection commission for Lake Constance (since 2008)
- Eawag IT safety officer (2005- present)
- Member Building commissions: Forum Chriesbach (2004-2005), New Office Building (2006-2007), New Lab building (2009-2010), New experimental Hall "Aquatikum" (2010 - 2015), experimental ponds (2013 - 2015), replacement building "Pavillon" (2015 -)
- Member of COL (Commission for Oceanography and Limnology)
- Spokesman of Eawag in issues related to Re-oligothrophication of lakes (2012-)
- SIL national representative (2016 -)
- Member of Delegiertenrat, Verband zum Schutz des Greifensees