

Joschka Wiegleb

SNSF Postdoc.Mobility fellow
International Centre for Ecohydraulic Research
University of Southampton, United Kingdom

Last update: 09/11/2023



Basics

Nationality: German
Date of birth: 12/05/1993
Married, three children

Contact

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h-index: 5
h5-index: 5
i10-index: 3
Citations: 64
Google Scholar
ResearchGate

Languages

German – native
English – proficient
Spanish – basics
Latin – qualification



Research experience

- Since 02/2023 **PostDoc**, International Centre for Ecohydraulic Research (ICER), University of Southampton, United Kingdom
- 01/2022 – 01/2023 **PostDoc**, Program MGU, University of Basel, Switzerland

Education

- 12/2017 – 01/2022 **PhD** in Environmental Science, Dissertation title: 'Hydraulic burden and swimming behaviour of benthic fish in a vertical slot fish pass', University of Basel, Switzerland, defended on 06/01/2022, Supervisor: Prof. Patricia Burkhardt-Holm
- 10/2015 – 09/2017 **M.Sc. Aquaculture**, thesis title: 'About the feeding ecology of the round goby', University of Rostock, Germany, Thuenen-Institute of Baltic Sea Fisheries, Supervisor: Dr. Daniel Oesterwind
- 10/2012 – 09/2015 **B.Sc. Biology**, thesis title: 'Construction of an aquatic system for incubation of cod (*Gadus morhua*) and lumpsucker (*Cyclopterus lumpus*) eggs with documentation of their development', University of Düsseldorf, Germany, Supervisor: Prof. Christopher Bridges

Practical experience

- 07/2017 – 08/2017 Research assistant, Thuenen-Institute of Baltic Sea Fisheries, Rostock, Germany
- 06/2017 – 07/2017 Voluntary work, Thuenen-Institute of Baltic Sea Fisheries, Rostock, Germany
- 01/2017 – 02/2017 Internship, Thuenen-Institute of Baltic Sea Fisheries, Rostock, Germany
- 08/2016 – 09/2016 (2 months)
- 06/2016 – 02/2017 Research assistant, Mecklenburg-Vorpommern Research Centre for Agriculture and Fisheries, Institute of Fisheries, Research Station Aquaculture, Born a. Darss, Germany
- 09/2015 – 10/2015 Internship, Mecklenburg-Vorpommern Research Centre for Agriculture and Fisheries, Institute of Fisheries, Research Station Aquaculture, Born a. Darss, Germany

Supervision of students

08/2022 – 05/2023 **Supervision** Master thesis of Lucas Bergmann, 'Microplastics pollution and animal swimming behaviour', Master of Sustainable Development, University of Basel, Switzerland

06/2021 – 03/2022 **Mentorship** Master thesis of Nandhakumar Govindasamy, 'What is the physical benefit of staying close to the ground in flowing water in benthic fish?', Master of Sustainable Development, University of Basel, Switzerland

Teaching

SpS (Spring semester) 2022 Tools and Methods of Natural Sciences Research, 3 ECTS (Credit Points)

FS (Fall semester) 2019, FS 2020, FS 2021, FS 2022 Critical Reading Seminar, Master of Sustainable Development, University of Basel, 1 ECTS

02/2020 One-day workshop 'Fischwohl und Forschung' in 'Fachkurs Aquakultur' of the University of Applied Sciences Bern, Switzerland

FS 2018 – FS 2022 Organisation of the Life Science Kolloquium, Master of Sustainable Development, University of Basel, 1 ECTS

Review activity for scientific journals

06/2020 Article review for 'Journal of Aquacultural Engineering'

10/2020 Article review for 'Journal of Great Lakes Research'

08/2021 Article review for 'Ecology and Evolution'

11/2021 Article review for 'Ecology and Evolution'

Acquired third-party funds

12/2022 Postdoc.Mobility fellowship of the Swiss National Science Foundation (SNSF), amount: 187,639 CHF, project number: 214358, duration: 24 months

SpS 2021 Funding for scientific assistant support for one semester from the program 'Get on Track' of the University of Basel to support PhD students in parenthood (ca. 2,800 CHF)

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Prizes and Awards

08/2022 Second Prize 'Best Poster' at the International Congress of Ecology (INTECOL) in Geneva, Switzerland

Personal skills

IT:

R	Daily use
Matlab	Good skills
Python	Daily use
Blender	Good skills
FreeCad	Daily use

Continuing education during the PhD

SpS 2021 Course: Konstruktive Konfliktlösung (30 h working hours), organizer: University of Basel, Switzerland

SpS 2021 Course: Boost Your Career: Fit for Own Third-Party Funding (30 h working hours), organizer: University of Basel, Switzerland

02/2021 Course: Python Crash Course (for Beginners) (10 h working hours), organizer: University of Basel, Switzerland

FS 2020 Course: Meine erste Lehrveranstaltung unter Berücksichtigung der digitalen Lehre (30 h Arbeitsaufwand), organizer: University of Basel, Switzerland

FS 2020 Course: Writing for Publication in the Natural and Life Sciences (30 h working hours), organizer: University of Basel, Switzerland

FS 2020 Course: Writing Workflow: Forming Your Next Research Article (30 h working hours), organizer: University of Basel, Switzerland

05/2019 Course: Optimizing Research Data Management (14 h working hours), organizer: University of Basel, Switzerland

FS 2019 Course: Rapid prototyping for measurement systems, automation, control, artificial intelligence, and virtual reality (60 h working hours), organizer: University of Basel, Switzerland

01/2019 Course: Das Tierwohl (Bestandteil des Fachkurses Aquakultur) (8 h working hours), organizer: University of Applied Science Bern, Switzerland

FS 2018

12/2018	Course: Filmmaking for Scientists (30 h working hours), organizer: University of Basel, Switzerland
10/2018	LTK Moul 6E: Weighing of interests (6 h working hours), organizer: ETH Zürich, Switzerland
03/2018	Tierschutz-Kurs P: Arttypisches Verhalten: Haltung, Betreuung und Pflege von Fischen in der Praxis (6.5 h working hours), organizer: Ecotoxsolutions, Switzerland
	LTK Modul EGA: Introductory Course in Laboratory Animal Science (8 h working hours), organizer: ETH Zürich, Switzerland

Additional Qualifications

Basics of Laboratory Animal Science according to FELASA B

Exam for Ordinance on Aptitude of Instructors of the Chamber of Commerce and Industry, Rostock, achieved points: 89 / 94, grade: good

International Certificate for Operators of Pleasure Craft in Inland Waters

International Certificate for Operators of Pleasure Craft on the Waterways navigable by sea-going ships

Driver's license, class B

Journal articles

Wiegler, J., Hirsch, P. E., Seidel, F., Rauter, G. & Burkhardt-Holm, P. (2023). Round goby [*Neogobius melanostomus* (Pallas, 1814)], gudgeon (*Gobio gobio* L.) and bullhead (*Cottus gobio* L.) show distinct swimming patterns in a vertical slot fish pass, *Frontiers in Environmental Science*, 11, 1156248
<https://doi.org/10.3389/fenvs.2023.1156248>

Wiegler, J., Hirsch, P. E., Seidel, F., Rauter, G. & Burkhardt-Holm, P. (2022). Impact of hydraulic forces on the passage of round goby (*Neogobius melanostomus*), gudgeon (*Gobio gobio*) and bullhead (*Cottus gobio*) in a vertical slot fish pass, *Ecology of Freshwater Fish*, 32(2), 416-430 <https://doi.org/10.1111/eff.12696>

Wiegler, J., Hirsch, P. E., Seidel, F., Rauter, G. & Burkhardt-Holm, P. (2022). Flow, force, behaviour: assessment of a prototype hydraulic barrier for invasive fish, *Hydrobiologia*, 849, 1001-1019
<https://doi.org/10.1007/s10750-021-04762-z>

Egger, B., **Wiegler, J.**, Seidel, F., Burkhardt-Holm, P., & Emanuel Hirsch, P. (2021). Comparative swimming performance and behaviour of three benthic fish species: The invasive round goby (*Neogobius melanostomus*), the native bullhead (*Cottus gobio*), and the native gudgeon (*Gobio gobio*). *Ecology of Freshwater Fish*, 30(3), 391-405 .
<https://doi.org/10.1111/eff.12592>

Wiegleb, J., Hirsch, P. E., Egger, B., Seidel, F., & Burkhardt-Holm, P. (2020). Flow field-induced drag forces and swimming behavior of three benthic fish species. *Limnologia*, 84, 125812. <https://doi.org/10.1016/j.limno.2020.125812>

Lutz, E., Hirsch, P. E., Bussmann, K., **Wiegleb, J.**, Jermann, H.-P., Muller, R., ... Adrian-Kalchhauser, I. (2020). Predation on native fish eggs by invasive round goby revealed by species-specific gut content DNA analyses. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 30(8), 1566-1577. <https://doi.org/10.1002/aqc.3409>

Wiegleb, J., Kotterba, P., Hammer, C., & Oesterwind, D. (2018). Predation of the round goby (*Neogobius melanostomus* Pallas, 1814) on Atlantic herring eggs in the Western Baltic Sea. *Marine Biology Research*, 14(9-10), 989-1003. <https://doi.org/10.1080/17451000.2019.1577977>

Manuscripts in preparation

Govindasamy, N., Rauter, G., Seidel, F., Burkhardt-Holm, P., Hirsch, E. P. & **Wiegleb, J.**. Swimming at the bottom- A hydraulic advantage for benthic fish (*Neogobius melanostomus* Pallas, 1814) in flowing water?, in preparation.

Contributions to conferences, presentations, and posters

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| Poster | Wiegleb, J. & Kemp, P. (2023) Lessons from a gummy fish: How do fish modulate their swimming trajectories when swimming through critical flow? (Fisheries Society of the British Isles (FSBI) Symposium 2023 in Colchester, UK). http://dx.doi.org/10.13140/RG.2.2.24125.64480 |
| Poster | Wiegleb, J. , Hirsch, P. E., Seidel, F., Rauter, G. & Burkhardt-Holm, P. (2022). Swimming competition! Who beats the flow in a hydraulic barrier for invasive fish? (International Congress of Ecology 2022 in Geneva, Switzerland). http://dx.doi.org/10.13140/RG.2.2.13227.31520
This poster won the second price of the 'best poster' competition. |
| Presentation | Wiegleb, J. (2022). Holistic management of the invasive round goby in Switzerland (ICES workshop WKSTARGATE to explore the potential for economic use of round goby and sticklebacks in the Baltic Sea in Copenhagen, Denmark) |
| Presentation | Wiegleb, J. , Hirsch, P. E., Seidel, F. & Burkhardt-Holm, P. (2020). 3D-Forces in current experienced by the round goby and two native benthic fish species during fish pass passage (Goby meeting in Starnberg, Germany) |
| Poster | Wiegleb, J. , Hirsch, P. E. & Burkhardt-Holm, P. (2018). Do round gobies overcome strong currents in fish passes? –Application of 3D-printed fish (Goby meeting in Chioggia, Italy) |
| Poster | Wiegleb, J. , Oesterwind, D., Kotterba, P. & von Nordheim, L. (2017). Trophic interactions of |

invasive round goby (*Neogobius melanostomus*) and Baltic herring eggs (Bonus Symposium in Tallinn)
<http://dx.doi.org/10.13140/RG.2.2.27651.58408>

Presentation

Oesterwind, D., Bock, C., Förster, A., Gabel, M., Henseler, C., Kotterba, P., Menge, M., Myts, D., Winkler, H., **Wiegleb, J.** (2017). Integration of the invasive round goby (*Neogobius melanostomus*) into the coastal ecosystem of the Western Baltic Sea (Conference BONUS Symposium in Thallinn)

Scientific Reports

ICES. 2022. Workshop on Stickleback and Round Goby in the Baltic Sea (WKSTARGATE). ICES Scientific Reports. 4:77. 56 pp.
<https://doi.org/10.17895/ices.pub.21345291>

Outreach activities

Wiegleb, J. (2019). Schwarzmundgrundeln in der Schweiz. *Regio Basiliensis*, 60(2), 89-96.

Presentation of the Goby Project from the Program MGU at local markets in the Kanton Basel Land in the program 'Uni am Markt'

Round goby Apéro: Stakeholder-interaction event of the round goby-research group of the Program MGU, University of Basel, Switzerland, November 2018, 2019, 2020.