

Fan Yang

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The Whitney Laboratory for Marine Bioscience, University of Florida
9505 N Ocean Shore Blvd, St Augustine, FL 32080, US

EDUCATION

Joint Ph.D	Swiss Federal Institute of Technology in Zurich Laboratory of Hydraulics, Hydrology and Glaciology Supervisor: Prof. Robert Boes & Dr. Ismail Albayrak	Feb 2022 – Feb 2023
M.A. & Ph.D	Wuhan University School of Water Resources and Hydropower Engineering Supervisor: Prof. Yuhong Zeng	Sep 2018 – Jun 2023
B.A.	Sichuan University College of Water Resources and Hydropower Supervisor: Prof. Hongtao Li	Sep 2014 – Jun 2018

WORK EXPERIENCE

Post-doc	University of Florida The Whitney Laboratory for Marine Bioscience Mentor: Prof. James C. Liao	Mar 2025 – Present
Post-doc	Technical University of Denmark National Institute of Aquatic Resources, Section of Marine Living Resources Mentor: Senior Researcher Sebastian Nikitas Politis	Jul 2023 – Dec 2024

RESEARCH INTEREST

- (Field) Fish movements in natural hydrodynamic conditions.
- (Lab) Fish interactions with complex flow conditions.
- Collective behavior of fish schools.
- 2D and 3D video-based fish identification and tracking.

PROJECTS

2024-2025	Reproductive behavior and success of Baltic cod – does size matter? (ReBeBacod) Project manager under the BalticWaters Scholarship Project for Early-Career Researchers
2023-2024	Advanced tagging technology to discover the European eel spawning area (TAG-EEL) Post-doc researcher at the Fish Biology Group of DTU Aqua (in process)
2022-2023	National Post-graduate Programme for Building Highly Qualified Universities Visiting PhD student at ETH Zurich for one year
2022-2023	Development and application of key technologies for restoration of bio-migratory passages in Yangtze River (National Key Research Program) Sematic analysis of the ecological behavior of typical targeted fish species
2020-2021	Main fish species and fish passage at Chemabi Reservoirs of Qujing, Yunan Province (In Collaboration with Hydropower Survey and Design Institute of Yunan) Evaluate the swimming performance of targeted fish species, and combine it with hydraulic

conditions within the fish passage

2019-2020 Study on Dynamic Characteristics of Buoyant Seeds Propagated by Water Media

(General Program)

Development of the settling model for irregular particles (including seeds)

2018-2019 Mixed layer and coherent structure of near-shore vegetated river flows (General Program)

Model development for the velocity distribution in open channel flows with submerged vegetation

PUBLICATIONS

Published:

- **Yang, F.**, Moldenhauer-Roth, A., Marschall, Y., Vetsch, D., Selz, O., Zeng, Y.H., Boes, R., & Albayrak, I. (2025). A curved-bar rack bypass system with innovative foil shaped bars: hydraulics, operational aspects, and swimming behavior of downstream moving brown trout (*Salmo trutta*). *Water Resources Research* (In press).
- **Yang, F.** & Zeng, Y. H. (2024). Collective swimming pattern and synchronization of fish pairs (*Gobiocypris rarus*) in response to flow with different velocities. *Journal of Fish Biology*, 1-11.
- **Yang, F.**, Moldenhauer, A. (2024). FishSeg: Fish tracking using image segmentation [Software]. Zenodo. <https://doi.org/10.5281/zenodo.13819372>
- **Yang, F.**, Moldenhauer-Roth, A., Boes, R. M., Zeng, Y., & Albayrak, I. (2023). FishSeg: 3D Fish Tracking Using Mask R-CNN in Large Ethohydraulic Flumes. *Water*, 15(17), 3107.
- Wan, Y., Zeng, Y., Li, M., & **Yang, F.** (2022). Oscillation and dispersion of live grass carp egg settlement in static water: Laboratory experiments and theoretical models. *River Research and Applications*, 38(9), 1620-1628.
- Huang, R., Zeng, Y., Zha, W., & **Yang, F.** (2022). Investigation of flow characteristics in open channel with leaky barriers. *Journal of Hydrology*, 613, 128328.
- **Yang, F.**, Zeng, Y., Huai, W., Zha, W., & Wan, Y. (2022). Responses of cyprinid (*Ancherythroculter nigrocauda*) to flow with a semi-circular cylinder patch. *Journal of Fish Biology*, 100(4), 884-893.
- **Yang, F.**, Zeng, Y. H., & Huai, W. X. (2021). A new model for settling velocity of non-spherical particles. *Environmental Science and Pollution Research*, 28(43), 61636-61646.
- **Yang, F.**, Huai, W. X., & Zeng, Y. H. (2020). New dynamic two-layer model for predicting depth-averaged velocity in open channel flows with rigid submerged canopies of different densities. *Advances in Water Resources*, 138, 103553.

On the way:

- **Yang, F.**, Benini E., Sorensen, S., Albertsen, M.C., Tomkiewicz, J., & Politis, N.S. (2025). European eel larvae are sensitive to vibration and light. *Under review in Aquaculture*.

- **Yang, F.,** Kalli, A., Sorensen, S., Aarestrup, K., Tomkiewizs, J., & Politis, N.S. (2025) Effects of innovative tagging technology on behavior and spawning of European eel (*Anguilla anguilla*) during sexual maturation. *In final revision for submission at Scientific Reports.*

RESEARCH TECHNIQUES AND SKILLS

- **Language:** IELTS 7.5, professional academic writing & fluency in oral communication
- **Programming:** proficient in MATLAB, Python and R
- **Data processing:** image and video analysis, deep learning (for fish classification, detection, and tracking), statistical analysis and modelling
- **Experiment:** live-fish tests and video analysis
 - familiar with hydraulic instruments, such as ADV and PIV.
 - experienced in live-fish tests and video analysis for fish behaviors.

GRANTS AND HONORS

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| • Baltic Waters Scholarship for early career researchers | 2024 |
| • Academic Scholarship for Postgraduate Students of Wuhan University | 2019, 2022 |
| • Outstanding Freshman Scholarship of Wuhan University | 2018 |
| • National Encouragement Scholarship of Sichuan University | 2017 |