Fritz Alexander Francisco

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Personal

Born on Januar 07, 1989 in Macomb, Illinois, USA
US/German Citizen

Education

2023 – *current*	**Postdoctoral Researcher**, University of Massachusetts Boston, Boston, USA
2019 – 2023	**PhD rer. nat.**, Humboldt Universität zu Berlin, Berlin, Germany
2016 – 2019	**M.S. Biology**, Max Planck Institute for Ornithology, Radolfzell, Germany
2011 – 2014	**B.S. Biology**, University of Konstanz, Germany

Work Experience

2022	**Field Assistant**, J. Krause, Teapa, Mexico
2018 – 2019	**Beekeeper / Lab Assistant**, G. Galizia Lab, Konstanz, Germany
2017	**Diver / Field Assistant**, A. Jordan Lab, Mpulungu, Zambia
2017	**Diver / Field Assistant**, I. Couzin Lab, Eilat, Israel
2017	**Translation work**, University of Konstanz, Konstanz, Germany
2015	**Field Assistant / Lab Technician**, P. Buston Lab, Southwater Caye, Belize
2009 – 2015	**Landscape Gardener**, H&W Irrigation systems, Steina, Germany
2009 – 2012	**Beekeeper**, APICON Apiary, Egglham, Germany
2009 – 2010	**Civil Service**, Regional Hospital, Pfarrkirchen, Germany

Grants, Fellowships and Awards

2024	UMB IEW Photo Contest (Winner)
2024	Joseph P. Healey Research Grant, University of Massachusetts Boston (10.000$)
2010	Illinois State University Dean's List

Academic Conferences

Annual Conference of the Gesellschaft für Ichthyologie GfI e.V., Vienna, Austria - 17-20.11.22
[Talk] Title: Experienced social partners hinder learning performance in naive clonal fish

Poeciliid Conference, Wageningen, Netherlands - 03-05.10.22
[Poster] Title: Collective jumping behaviour in the Amazon molly (Poecilia formosa)

Annual Conference of the Gesellschaft für Ichthyologie GfI e.V., Bonn, Germany - 02-04.12.21
[Talk] Title: Social Learning and Individual Differences in Learning Performance in the Clonal Amazon Molly (Poecilia formosa)

Annual Conference of the Gesellschaft für Ichthyologie GfI e.V., Bonn, Germany - 08-10.11.19
[Talk] Title: A low-cost, open-source framework for tracking animals in aquatic ecosystems

ASAB Summer Conference, Konstanz, Germany - 26-28.08.19
[Poster] Title: A low-cost, open-source framework for tracking animals in aquatic ecosystems

Alpine Tanganyikan Cichlid Symposium, Konstanz, Germany - 19/20.07.2018
[Talk] Title: Understanding *Lamprologus callipterus* as a dynamic natural network

Symposium on Lake Tanganyikan Cichlid Behaviour, Konstanz, Germany - 05.02.2017
[Talk] Title: Exploring the rolling school behavior in the Tanganyika cichlid *L. callipterus*

Invited Appearances

Berlin Science Week 2021, virtual - 10.11.2021
[Talk]: Why Behaviour?

Invited Speaker, Undergraduate Journal Club, Freie Universität, Berlin, Germany - 01.02.2021
[Open discussion]: Early career advice for scientists in ethology and neurobiology

Weekly Departmental Meeting, Leibniz-Institute of Freshwater Ecology and Inland Fisheries, Berlin, Germany - 19.02.2021
[Talk]: A low-cost, open-source framework for tracking animals in aquatic ecosystems

Other Research Training

DINACON, DreamSpace Academy, Batticaloa, Sri Lanka, 01 - 14.07.2022

CAJAL Summer School on Quantitative Approaches to Behaviour, Champalimaud, Lisbon, Portugal, 22.05 - 11.06.2022

Complex Networks and Collective Information Processing Workshop, Humboldt University, Berlin, Germany, 02 - 03.10.2021

Physics of Behavior Workshop (Virtual), TMLS, Emory University, USA, 30.04.2020

DeepLabCut Workshop, Munich, Germany, 10 - 11.12.2018

Workshop on the Evolution of Social Complexity, Arolla, Switzerland, 25 - 27.07.2018

Summer School LabEx Tulip, Integrative Biology & Ecology. Midi-Pyrénées, France, 15 - 21.07.2017

Memberships and Associations

PhD Representative on the Executive Board of the Excellence Cluster "Science of Intelligence", Berlin, Germany, 2019-2022

Guest Researcher at the Leibniz-Institute of Freshwater Ecology and Inland Fisheries, Berlin, Germany, 2019-2022

Personal Qualifications

Excellent experience in behavioral experiments, fish husbandry and process automation

Good programming skills in HTML, LaTeX, R, Python, Arduino IDE and C++

Good experience with UNIX Systems, OpenCV and Git

Certified European Scientific Diver (KFT-ESD D-340)

Certified AAUS Scientific Diver

German motorboat and sailing license (A,D, Patent Nr.: 6375678)

Languages

Fluent in both English and German

Publications

Journal Articles

Sampaio, E., Sridhar, V.H., **Francisco, F.A.** et al. (2024). Multidimensional social influence drives leadership and composition-dependent success in octopusfish hunting groups. Nat Ecol Evol.

Escurra-Alegre, A., **Francisco, F. A.**, Schäfer, F., Wuertz, S., Kloas, W., & Bierbach, D. (2024). Behavioral repertoire of Arapaima gigas (Schinz, 1822) reared in captivity and its implication for welfare protocols: Behavior of the arapaima. Tropical Aquaculture, 2(1).

Kao, A. B., Banerjee, S. C., **Francisco, F. A.**, & Berdahl, A. M. (2024). Timing decisions as the next frontier for collective intelligence. Trends in Ecology & Evolution.

Ehlman, S. M., Scherer, U., Bierbach, D., **Francisco, F. A.**, Laskowski, K. L., Krause, J., & Wolf, M. (2023). Leveraging big data to uncover the eco-evolutionary factors shaping behavioural development. Proceedings of the Royal Society B, 290(1992), 20222115.

Majoris, J. E., **Francisco, F. A.**, Burns, C. M., Brandl, S. J., Warkentin, K. M., & Buston, P. M. (2022). Paternal care regulates the timing, synchrony and success of hatching in a coral reef fish. Proceedings of the Royal Society B, 289(1982), 20221466.

Bierbach, D., Gómez-Nava, L., **Francisco, F. A.**, Lukas, J., Musiolek, L., Hafner, V. V., ... & Krause, J. (2022). Live fish learn to anticipate the movement of a fish-like robot. Bioinspiration & Biomimetics.

Bierbach, D., **Francisco, F. A.**, Lukas, J., Landgraf, T., Maxeiner, M., Romanczuk, P., ... & Krause, J. (2021). Biomimetic robots promote the 3Rs Principle in animal testing. In ALIFE 2021: The 2021 Conference on Artificial Life. MIT Press.

Rodriguez-Santiago, M., Nührenberg, P., Derry, J., Deussen, O., **Francisco, F. A.**, Garrison, L. K., Garza, S. F., Hofmann, H. A. and Jordan, A. (2020). Behavioral traits that define social dominance are the same that reduce social influence in a consensus task. Proceedings of the National Academy of Sciences, 117(31), pp.18566-18573.

Francisco, F. A. & Nührenberg, P. and Jordan, A., High-resolution, non-invasive animal tracking and reconstruction of local environment in aquatic ecosystems. Movement Ecology 8.1 (2020): 1-12.

Majoris, J. E., **Francisco, F. A.**, Atema, J. and Buston, P. M., Reproduction, early development, and larval rearing strategies for two sponge-dwelling neon gobies, Elacatinus lori and E. colini. Aquaculture 483 (2018): 286-295.

Journals Reviewed

Animal Behaviour • Ecology and Evolution • Methods in Ecology and Evolution • Behavioral Ecology and Sociobiology • PCI Ecology • Journal of Fish Biology

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