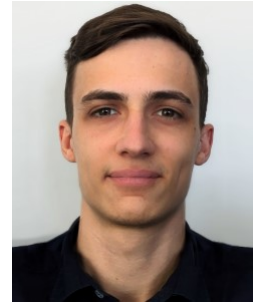


Stefan Fallert

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I'm a PhD student in the field of computational ecology, focusing on building complex simulations to predict how human activity will influence biodiversity. I enjoy solving problems through code and have gained experience in various areas of software engineering and data science, both through my research and other projects. Moving forward, I would like to work on projects that allow me to apply these skills, preferably in ways that bridge the gap between programming and sustainability.

Experience / Education

Doctoral Candidate 2021 - present	Graduate School of Life Sciences University of Würzburg "Biodiversity in Germany under Anthropogenic Threats"
Researcher 2021 - 2023	Part of "bayklif", the Bavarian network for climate research Contributed simulations for climate impact on insects in Bavaria
Student Assistant 2019 - 2021	University of Würzburg Technical support including data analysis and teaching assistance
Master of Science 2019 - 2021	Biosciences: 1.2 University of Würzburg "A Mechanistic Range Model for Orthoptera in Bavaria"
Research Internship 2019	Black Forest National Park Machine learning-based species classification
Bachelor of Science 2015 - 2019	Biology: 1.9 University of Würzburg "Changes in Avian Biodiversity along a Gradient of Bark Beetle Disturbance"

Skills

Languages:	German (first language), English (fluent), Dutch (understanding)
Programming languages:	R (fluent), JavaScript (proficient), C++, Python, Julia (familiar)
Tools:	Git, SVN, Linux, CI/CD, DevOps, Unit testing, HPC cluster (SLURM)
Model development:	Data pre-processing, Parameter optimization, Model selection
Data analysis & visualization:	Statistics, Time series, Predictions, Uncertainty analysis, Spatial data
Game development:	OSS contributor; UI / UX, Game Logic, Random map generation
Web development:	Hand-crafting responsive websites (HTML, CSS, JavaScript)

Main thesis programming project: "metaRange"

I developed and still maintain an open-source R package and framework that allows users to simulate multiple species and their interactions in a high resolution, changing environment. It consists of R code (user API) and C++ code (application core) and is accompanied by extensive documentation (across multiple websites) that details its possible uses.

Grants

Doctoral scholarship : Deutsche Bundesstiftung Umwelt (DBU) | 01.09.2021 - 31.08.2024

Conferences

- 2024 | Poster : Ecological Forecasting Initiative (EFI) - Helsinki
- 2023 | Poster : European Conference on Ecological Modelling (ECEM) - Leipzig
- 2023 | Talk : Young Modellers in Ecology (YoMos) - Hohenroda *
- 2022 | Talk : International Biogeography Society (IBS) - Vancouver / Online
- 2022 | Talk : Young Modellers in Ecology (YoMos) - Online *
- 2021 | Talk : Young Modellers in Ecology (YoMos) - Online

* Note: I was also part of the organization team of YoMos / of the marked conferences

Publications

metaRange: A framework to build mechanistic range models

2024-03-10 | Preprint | DOI: 10.1101/2024.03.07.583922

Stefan Fallert; Lea Li; Juliano Sarmiento Cabral

The road to integrate climate change projections with regional land-use-biodiversity models

People and Nature

2023-05-24 | Journal article | DOI: 10.1002/pan3.10472

Juliano Sarmiento Cabral; Alma Mendoza-Ponce; André Pinto da Silva; Johannes Oberpriller; Anne Mimet; Julia Kieslinger; Thomas Berger; Jana Blechschmidt; Maximilian Brönnner; Alice Claßen; **Stefan Fallert** et al.

User-Centered Engineering of an Interactive Land Use Exploration Tool

Workshop on Visualisation in Environmental Sciences (EnvirVis)

2023 | Conference paper | DOI: 10.2312/envirvis.20231109

Tobias Buhl; David Marcomin; **Stefan Fallert**; Jana Blechschmidt; Franziska Bönisch; Robert Mark; Juliano Sarmiento Cabral; Sebastian von Mammen; Soumya Dutta; Kathrin Feige et al.
