F. Paul Spitzner

Franz Paul Spitzner

Somewhere down the line of my studies I realized that I love to code and to tinker with tech—sometimes more than doing the actual research. I also love to write texts that are easy to get and to create figures that make people understand all the crazy things we scientists came up with.

What's it all about if not for making science accessible to everyone?

Personal Information

Address
MPIDS
Am Faßberg 17
37077 Göttingen

Date of birth
December 23 1990

Email
paul.spitzner@ds.mpg.de

Hobbies and Passion

- **Cycling**
- **Photography**
- **Webdesign**
- **Clean code**
- **Open source software**

Outreach

Website
https://makeitso.one

GitHub
pSpitzner

LinkedIn
pSpitzner

Education

Dr. rer. nat. · Göttingen University

2023 Physics of biological and complex systems

Thesis: *Spreading processes in complex networks of cultured neurons and society*

Grade: *summa cum laude*

Master of science · Leipzig University

2017 International physics studies program

Thesis: *Two perspectives on the condensation-evaporation transition of the Lennard-Jones gas in 2D*

Bachelor of science · Leipzig University

2015 International physics studies program

Thesis: *Generating long-range power-law correlated disorder*

Research Experience

Max Planck Institute for Dynamics and Self-Organization

2018–2023 · PhD student, Priesemann group

Developed an open-source Python toolbox (*Mr. Estimator*)
Modeled neuronal cultures using numeric simulations
Studied human contact networks and disease spread

University of Barcelona

2019 · Laboratory rotation, Soriano lab

Designed and performed experiments on neuronal cultures *in vitro*

Leipzig University

2017–2018 · Research assistant, CQT group

Studied finite-size scaling of equilibrium phase transitions

Leibniz Institute for Tropospheric Research

2015–2017 · Research assistant, part time

Developed an atmospheric model using OpenCL,
running on GPUs and heterogeneous computing environments

Character

- Self-motivated
- Openminded
- Organized
- Solution-oriented

Soft skills

- Attention to detail
- Critical thinking
- Teamwork
- Leadership

Communication

- Figures and design
- Conflict resolution
- Scientific writing
- Presentations
- Posters

Languages

- German *native*
- English *fluent*
- Spanish *intermediate*

Programming, software and tools

- Python
- C++
- OpenCL
- JavaScript
- Bootstrap
- PHP
- HTML, CSS

- Bash
- SSH
- Git
- CI/CD
- Unit testing
- Docker compose

- Virtualization
- macOS
- Linux
- HPC

- Kanban
- PARA

- Serif Affinity Suite
- Final Cut Pro
- Blender

- LaTeX
- Markdown
- Apple/MS Office

Research links

Google Scholar

ORCID

arXiv

Training and development

Attended workshops and conferences on computational physics, neuroscience and scientific writing

Organized and lead conference workshops and group retreats

Lead seminars on illustration, scientific writing and productivity tools

Supervised students for their theses

Worked in internships and part-time jobs involving sales, programming, product design and project management

Former board member in a voluntary association organizing student venues

Selected publications

Yamamoto* et al. 2023 · Science Advances
Modular architecture facilitates noise-driven control of synchrony in neuronal networks

Zierenberg* et al. 2023 · New J. Phys.
How contact patterns destabilize and modulate epidemic outbreaks

Neto* et al. 2022 · Plos CB
Sampling effects and measurement overlap can bias the inference of neuronal avalanches

Spitzner et al. 2021 · Plos ONE
Mr. Estimator, a toolbox to determine intrinsic timescales from subsampled spiking activity

Dehning* et al. 2020 · Science
Inferring change points in the spread of COVID-19 reveals the effectiveness of interventions

* equal contribution

References

Viola Priesemann

Johannes Zierenberg