

Daniel Vedder

Curriculum Vitae

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Current Position

2022 - **Doctoral Researcher**
current German Centre for Integrative Biodiversity Research (iDiv),
Helmholtz-Centre for Environmental Research – UFZ,
Friedrich-Schiller-Universität Jena, Germany
Thesis supervisor: Guy Pe'er

Education

2021 **M.Sc. Ecology**
Julius-Maximilians-Universität Würzburg, Germany
Evolutionary Rescue by Introgressive Hybridisation in Zosterops
Thesis supervisor: Juliano Sarmiento Cabral
Final grade: 1.3

2018 **B.Sc. Biology**
Julius-Maximilians-Universität Würzburg, Germany
Modelling Species Invasions: Factors Affecting Invasion Success
Thesis supervisor: Juliano Sarmiento Cabral
Final grade: 1.8

2014 **Abitur**
Jack-Steinberger Gymnasium Bad Kissingen
Final grade: 1.3

Prizes & Awards

2024 iDiv Science Communication Award
2022 GAP Essay Prize (IFES Europe Postgrad Initiative)

Publications

Paper Díaz Iturry, G., Matthies, M., Pe'er, G., Vedder, D.
(2025) AquaCrop.jl: A Process-Based Model of Crop
Growth. Journal of Open-Source Software, 10(110), 7944,
<https://doi.org/10.21105/joss.07944>

- Paper Vedder, D., Fischer, S. M., Wiegand, K., & Pe'er, G. (2024). Developing multidisciplinary mechanistic models: Challenges and approaches. *Socio-Environmental Systems Modelling*, 6, 18701. <https://doi.org/10.18174/sesmo.18701>
- Paper Cabral, J. S., Mendoza-Ponce, A., da Silva, A. P., Oberpriller, J., Mimet, A., Kieslinger, J., ... Zurell, D. (2023). The road to integrate climate change projections with regional land-use–biodiversity models. *People and Nature*, 6(5), 1716–1741. <https://doi.org/10.1002/pan3.10472>
- Paper Vedder, D., Lens, L., Martin, C. A., Pelikka, P., Adhikari, H., Heiskanen, J., Engler, J. O., & Sarmiento Cabral, J. (2022). Hybridization may aid evolutionary rescue of an endangered East African passerine. *Evolutionary Applications*, 15(7), 1177–1188. <https://doi.org/10.1111/eva.13440>
- Paper Vedder, D., Ankenbrand, M., & Cabral, J. S. (2021). Dealing with software complexity in individual-based models. *Methods in Ecology and Evolution*, 12(12), 2324–2333. <https://doi.org/10.1111/2041-210X.13716>
- Paper Vedder, D., Leidinger, L., & Sarmiento Cabral, J. (2021). Propagule pressure and an invasion syndrome determine invasion success in a plant community model. *Ecology and Evolution*, 11(23), 17106–17116. <https://doi.org/10.1002/ece3.8348>
- Paper Leidinger, L., Vedder, D., & Cabral, J. S. (2021). Temporal environmental variation may impose differential selection on both genomic and ecological traits. *Oikos*, 130(7), 1100–1115. <https://doi.org/10.1111/oik.08172>

Work in progress

(Manuscripts available upon request.)

- Paper Vedder, D., Matthies, M., Díaz Iturry, G., Pe'er, G. (*in review*) Persefone.jl: Modelling Biodiversity in Dynamic Agricultural Landscapes. Preprint: <https://doi.org/10.32942/X20S8K>
- Paper Vedder, D., Rakowski, J., Kolb, L., Theilen, G., Lakner, S., Pe'er, G. (*in review*) Building Bridges Between Ecological and Economic Agent-Based Models of Agriculture. Preprint: <https://doi.org/10.32942/X2GH1H>
- Paper Vedder, D., Fallert, S., Seitz, J., Lengfeld, T., Fischer, J.E., von Mammen, S., Sarmiento Cabral, J., Knote, A. (*in review*) Natural Heritage: A Teaching Game for Biodiversity Conservation.

- Paper Vedder, D. (*in review*) The Conservation Movement Needs to Engage With the Christian Worldview.
- Paper Pe'er, G. et al. (*in review*) An expert-based mapping of crises reveals a global poly-crisis of social-ecological systems.

Presentations

- Talk “Persefone.jl: Simulating biodiversity in dynamic agricultural landscapes”, iDiv Conference, Halle (Saale) 2025
- Talk “Persefone.jl: Simulating biodiversity in dynamic agricultural landscapes”, GfÖ annual meeting, Würzburg 2025
- Invited Talk “Persefone.jl: modelling agriculture, biodiversity, and policy”, Bonner Institute of Organismic Biology, Bonn 2025
- Invited Talk “Developing a multi-disciplinary model of agricultural landscapes - the design of Persefone.jl”, Ecosystem Modelling Department, Göttingen 2025
- Talk “Persefone.jl: modelling agriculture, biodiversity, and policy”, iDiv Conference, Leipzig 2024
- Talk “Developing multidisciplinary models for sustainable land use”, GfÖ annual meeting, Freising 2024
- Invited Talk “Modelling the impacts of agricultural land use on biodiversity”, College of Life and Environmental Sciences, Birmingham 2024
- Talk “Persefone.jl: an adaptable open-source model of agriculture and ecosystems”, European Conference on Ecological Modelling, Leipzig 2023
- Poster “Persefone.jl: simulating landscape-scale biodiversity impacts of agricultural practices”, GfÖ annual meeting, Leipzig 2023
- Talk “Nitrogen in agriculture: too much of a good thing”, Symposium: Toxicity in-between the humanities and the natural sciences, Würzburg 2022
- Talk “Evolutionary Rescue by Introgressive Hybridisation in *Zosterops silvanus*”, Young Modellers in Ecology Workshop, 2021
- Talk “Fast Code: Performance Optimisation in Julia”, Young Modellers in Ecology Workshop, 2021
- Poster “Modelling Species Invasions on Oceanic Islands”, annual meeting of the specialist group Macroecology of the GfÖ, Würzburg 2019

Teaching experience

- 2024 **Graduate school course instructor**
Practical Introduction to Julia for Biodiversity Research (iDiv)
(4 day workshop for doctoral and post-doctoral researchers)
- 2019 – 2021 **Research and teaching assistant**
Center for Computational and Theoretical Biology, Würzburg
(Tasks included developing and conducting software development training and undergraduate course assistance)
- 2018 **School teaching internship**
Biology teacher at Amano Christian School, Zambia
(3 months, responsible for classes in grades 8–10)

Third-party funding applications

- 2025 **iDiv seed fund**
project ALIAD; lead author; rejected
- 2024 **Horizon Europe**
project LAFERIA; contributed to work-package planning; accepted
- 2021 **DBU PhD fellowship**
lead author; rejected in final selection round

Professional service

- Society GfÖ AK Agrarökologie
- Peer review The American Naturalist
- Peer review Socio-Environmental Systems Modelling

Science communication

- Article “Wie Kuckuck und Kranich den Weg in den Süden finden”,
Magazin LebenPlus, August 2025 [Link]
- Talk “Klimakrise, Artensterben & Co.: Was können wir von der
Bibel über den Umgang mit Gottes Schöpfung lernen?”, Lukas-
gemeinde Berlin, May 2025
- Policy event CAP4GI Abschlussveranstaltung, Berlin, January 2025
- Exhibition Long Night of Science Jena, November 2024
- Talk “Staunen über die Schöpfung: Naturschutz und die Bibel”,
Leipzig English Church, July 2024
- Talk “Staunen über die Schöpfung: Naturschutz und die Bibel”,
Brüdergemeinde Hohenrad, June 2024
- Policy event CAP4GI Parlamentarisches Frühstück, Berlin, May 2024

- Talk “Warum ist die Natur schützenswert? Umweltethik und christlicher Glaube”, SMD Halle, January 2024
- Talk “Frieden mit der Schöpfung: Umweltethik und christlicher Glaube”, SMD Erlangen, January 2024
- Talk “Bebauen und Bewahren – Das Miteinander von Landwirtschaft und Umweltschutz in der christlichen Ethik”, SMD Triesdorf, December 2023
- Talk “Hope for a dying planet?”, FEUER Conference, Spain, November 2023
- Podcast “EU Agrarpolitik: Neue Wege für vielfältige Landschaften”, Deutscher Naturschutzring, August 2023 [\[Link\]](#)
- Talk “Natur und Landwirtschaft: Wie kann eine moderne, naturfreundliche Landwirtschaft aussehen?”, Landesverband Sachsen, Bündnis 90 – Die Grünen, July 2023
- Talk “A Christian Perspective on Environmental Care”, European Leadership Forum, Poland, May 2023 [\[Link\]](#)
- Article “Mit jedem Hektar Land stirbt ein bisschen Schönheit”, Magazin LebenPlus, November 2022 [\[Link\]](#)
- Talk “Why protect nature? A Christian perspective”, FEUER Conference, Greece, October 2022
- Article “Caring for Creation: Nature Conservation Within a Biblical Worldview”, Gospel and Academia Project, July 2022 [\[Link\]](#)
- Science slam “Reclaiming the Wonder”, iDiv Science Slam, April 2022 [\[Link\]](#)
- Talk “Staunen über die Schöpfung: Naturschutz und die Bibel”, Vineyard Würzburg, January 2022 [\[Link\]](#)
- Talk “Staunen über die Schöpfung: Naturschutz und die Bibel”, Christliche Gemeinde Bad Kissingen, 2021
- Article “Hausmeister der Schöpfung”, STEPS Leaders, 2020 [\[Link\]](#)

Volunteer work

- 2023 – current **Church council member**
Leipzig English Church
- 2019 – 2021 **State delegate, Chairman**
national leadership committee of the Hochschul-SMD
- 2017 – 2021 **Group delegate, Spokesperson**
Evangelische Allianz Würzburg
- 2017 – 2018 **Student group Leader**
Co-Leader of the SMD Würzburg

- 2014 – 2015 **Gap year**
Dormitory assistant at Amano Christian School
- 2013 – 2014 **CATO blog founding member**
Political writing platform for youths
- 2013 – 2023 **Youth work**
Summer and weekend camps for teens and young adults

References

1. Dr. **Guy Pe'er**, Department of Biodiversity and People,
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German Center for Integrative Biodiversity Research (iDiv)
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2. Prof. Dr. **Aletta Bonn**, Department of Biodiversity and People,
Helmholtz Center for Environmental Research - UFZ
German Center for Integrative Biodiversity Research (iDiv)
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3. Prof. Dr. **Juliano Sarmiento Cabral**, Ecological Modelling Lab,
Department of Plant Biodiversity, Bonner Institute of Organismal Biology,
University of Bonn
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