DR SEBASTIAN FIEDLER (HE/HIM)

RESEARCH INTERESTS	Plant Ecology, Restoration Ecology, Socio-Economic and Ecological Functioning, Global Change
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PROFESSIONAL EXPERIENCES

07/2021 − PRESENT — **Universität Göttingen, Germany.** Postdoctoral researcher in Ecologial Modelling department led by Prof Dr Kerstin Wiegand. *CRC 990 Project B10: Landscape-level assessment of ecological and socioeconomic functions of rainforest transformation systems in Sumatra (Indonesia)*
– Refinement of agent-based land use change model written in NetLogo, Supervision of theses, Establishment of collaborations

03/2021 − 05/2021 — **Universität Bayreuth, Germany.** Research assistant in Ecological Modelling Group led by Prof Dr Michael Hauhs.
– Teaching

03/2020 − 12/2020 — **Universität Bayreuth, Germany.** Research assistant in Ecological Modelling Group led by Prof Dr Michael Hauhs
– Teaching

01/2020 − 03/2020 — **University of Alicante, Spain.** Scholarship for doctoral research stay in Dryland Ecology and Global Change Lab. Hosted by Prof Dr Fernando Maestre
– Synthesis across Mediterranean-type ecosystems

09/2019 − 12/2019 — **Lawrence Berkeley Laboratory, USA.** Scholarship for doctoral research stay at the Climate and Ecosystem Sciences Division. Hosted by Prof Dr Trevor Keenan
– Synthesis across Mediterranean-type ecosystems

07/2019 − 09/2019 — **Hebrew University of Jerusalem, Israel.** Scholarship for doctoral research stay. Hosted by Prof Dr José Grünzweig and Dr Efrat Sheffer
– Synthesis across Mediterranean-type ecosystems

02/2016 − 07/2019 — **Freie Universität Berlin, Germany.** Doctoral student in Theoretical Ecology Group led by Prof Dr Britta Tietjen
– PhD project, Supervision of theses, Workshop organisation, Teaching

08/2014 − 12/2015 — **Freie Universität Berlin, Germany.** Research assistant in Theoretical Ecology Group led by Prof Dr Britta Tietjen
– Grant proposal writing, Refinement of ecohydrological simulation model written in C++, Teaching

01/2012 − 08/2014 — **Universität Potsdam, Germany.** Research assistant in Plant Ecology & Nature Conservation Group led by Prof Dr Florian Jeltsch
– Refinement of ecohydrological simulation model written in C++, IT and administrative support (HPC, teaching), Teaching assistant

EDUCATION

10/2021 — **Freie Universität Berlin, Germany.** Dr. rer. nat. (magna cum laude). *Thesis: "Longterm Multifunctionality across Mediterranean-type ecosystems: Improving Restoration Outcomes through trait-based Modelling"* supervised by Prof Dr Tietjen, Dr Perring, Prof Dr Maestre

10/2013 — **Universität Potsdam, Germany.** Master of Science "Ecology, Evolution & Nature Conservation" (very good: 1.3). *Thesis: "Adapting an Ecohydrological Dryland Model for Simulating Soil Water and Vegetation Dynamics of the Qinghai-Tibetan Plateau"* supervised by Dr Geißler, Prof Dr Herzschuh, Prof Dr Jeltsch

EDUCATION (CONTINUED)

09/2010	**Universität Potsdam, Germany.** Bachelor of Science "Biology" (good:1.9). *Thesis: "Field Studies to Examine Preferences of Ants with Regard to the Dispersal of Diaspores" supervised by PD Dr Heinken*

FURTHER INTERNATIONAL EXPERIENCES

01/2023	**Field visit to Jambi province, Indonesia.**
09/2016	**Teaching and research stay at Ghent University, Belgium.** Collaboration with Prof Dr Dries Bonte and Dr Michael Perring
09/2017 – 10/2017 09/2016	**Field studies in Ridgefield, Western Australia.** Measuring plant traits and soil moisture for PhD project
11/2015	**Field studies in Namibia.** Measuring plant traits led by Dr Katja Geißler
07/2012 – 08/2012	**Field studies in Inner Mongolia and Qinghai, China.** Measuring plant traits and soil moisture led by Dr Jian Ni

FURTHER TRAINING (SELECTED)

04/2023 – 06/2023	**Producitivity and Project Management Course.** Mind Matters Ltd. FastForward
2016 – 2018 05/2017	**Bayesian calibration, forecasting and multi-model predictions of process-based vegetation models.** PROFOUND Spring School in Rencurel (France) led by D. Cameron, M. Dietze, F. Hartig, F. Minunno, B. Reineking
08/2016	**Practical Application of Multi-Criteria Analysis in Participative Ecological Restoration.** Training course in Freising (Germany) led by J. Cortina, M. Derak
09/2015	**The Use of Trait Based Approaches in Community Ecology and Stress Ecology.** Training course at University of Coimbra (Portugal) led by F. de Bello, M. P. Berg, L. Götzenberger

AWARDS / GRANTS / SCHOLARSHIPS

09/2019 – 03/2020	**Scholarship funded by German Academic Exchange Service (DAAD)** for Research Stays in Berkeley (USA) and Alicante (Spain). Volume: 11,548 €
07/2019 – 09/2019	**Scholarship funded by University Alliance for Sustainability** for a Junior Research Stay in Rehovot (Israel). Volume: 3,500 €.
05/2019	**Scholarship ERASMUS+ Staff Mobility for Teaching** in Ghent (Belgium). Volume: 3,299 €
05/2017	**Poster award** at the 12th Annual Workshop of the Young Modellers in Ecology (YoMos) in Buchenbach (Germany)
10/2016	**Grant funded by Dahlem Centre of Plant Sciences (DCPS) for Equipment.** Volume: 5,000 €. Proposal together with Selina Baldauf led by Prof Dr Tietjen.
02/2016 – 07/2019	**Grant funded by German Research Foundation (DFG).** Volume: 394,170 €. Proposal "Ecosystem services through restoration" led by Prof Dr Tietjen. *Employed between 08/2014 and 03/2015 to collaboratively work on the grant proposal for own PhD position, a 2-year PostDoc position, field work in SW Australia, and the organisation of an international workshop.*

TEACHING

LECTURER	**Geoecology: How to give a good scientific Presentation?** Seminar at Universität Bayreuth for Bachelor students (90 mins/week, ½ semester)
	Introduction to R. Lecuture and Practical at Universität Bayreuth for Bachelor students (90 mins/week, 1 semester)
	Simulation Modelling with NetLogo. Lecture and Practical at Universität Bayreuth for Bachelor students (3 hours/week, 1 semester)
	Dryland Ecology: Mediterranean-type Ecosystems. Lecture at Universität Potsdam for Master students (90 mins, 3 semesters)
	Introduction to Ecological Modelling with NetLogo. Lecture and Practical at Freie Universität Berlin for Master students (2 days, 2 semesters)
	Selected Methods in Ecological Modelling. Lecture and Practical at Freie Universität Berlin for Master students (4 hours/week, 2 semesters)
TEACHING ASSISTANT	Experimental Design and Introduction to R statistical software / Introduction to Botany / Programming in C++ for Ecologists and Introduction to Ecological Modelling / Individual-based modelling with Python / Agent-based Modelling with NetLogo

SUPERVISION

PHD THESES	Julia H. (in progress) **Analysis of trade-offs and synergies between the economic and ecological sphere of lowland rainforest transformation systems.** Together with Kerstin Wiegand
MSC THESES	Dejana G. (in progress) **Integrating water cycling processes into an agent-based land use change model of tropical transformation systems.**
	Niamh H. (in progress) **Developing a conceptual model for integrating payments for ecosystem services into an agent-based land use change model of tropical transformation systems.**
	Rebecca G. (2022) **Modelling the effect of landscape structure on biological pest control in rainforest transformation systems.**
	Madlen S. (2020) **Combined effect of land use and soil textures on water fluxes in a Mediterranean-type ecosystem.**
	Yari O. (2020) **Behavioral changes of the Common Eider in response to predation by the Arctic Fox – A simulation approach.**
	Julia A. (2018) **The role of plant functional diversity for water cycling in a Mediterranean-type ecosystem.**
BSC THESES	Theresa K. (2023) **The effect of tropical landscape structure on bird diversity at different spatial scales: A simulation modelling approach.**
	Pauline D. (2022) **Bird species distribution modeling from environmental predictor variables with multi-label machine learning algorithms.**
	Christian W. (2022) **The effect of landscape fragmentation on habitat quality in rainforest transformation systems.**
	Yannek K. (2022) **Land use impacts on water cycling in lowland Sumatra – A conceptual model through a literature review.**

SUPERVISION (CONTINUED)

MSC PROJECTS | Luka N. (in progress) **Effects of different landscape structures on flooding risk in an oil palm plantation dominated landscape.**

Marlen B. (2022) **The effect of environmentally friendly management on landscape-level habitat quality of rainforest transformation systems.**

Jana S. (2022) **The effect of biological pest control on rainforest transformation systems in Sumatra.**

Jannis W. (2019) **Climate change impacts on grassland communities and selected ecosystem services on the Tibetan Plateau.**

Yari O. (2019) **Modeling population dynamics of the Common Eider in Iceland.** Together with Florian Ruhland

Yari O. (2019) **Impact of different migration scenarios on Common Eider populations in Iceland.** Together with Florian Ruhland

Madlen S. (2018) **Modelling the effect of soil texture on water fluxes in a Mediterranean-type ecosystem.**

BSC PROJECTS | Theresa K. (2022) **A sensitivity analysis of the spillover effect in a bird diversity model in a land use transformation system in Indonesia.**

Andreas M. (2018) **Impact of the invasive American Mink on seabird populations in Iceland.** Together with Florian Ruhland

STUDENT HELPERS | Luka N. (04/2023 - present), Christian W. (04/2022 - present), Sebastian Elisa R. (04/2022 - 07/2022), Amsalia P. (02/2022 - present), Finn G. (01/2022 - 04/2022), Paul B. (11/2020 - 12/2020), Leonie G. (11/2020 - 12/2020), Jonas R. (02/2018 - 07/2019), Marie-Sophie R. (02/2017 - 01/2018)

FURTHER ENGAGEMENT

02/2023
09/2021 | **Political candidate at elections in Berlin**: Bundestagswahl lead candidate V-Partei³ Landesliste Berlin, Candidate Partei Mensch Umwelt Tierschutz Bezirksverordnetenversammlung Berlin Steglitz-Zehlendorf and Abgeordnetenhaus Berlin (Steglitz-Zehlendorf Wahlkreis 3)

11/2022 | **Co-organisation and main chair of the symposium** "Rainforest transformation into agricultural lands: current and future challenges" at International Conference on Ecological Sciences in Metz, France.

12/2020 – 09/2021 | **Leader of the state executive committee of the V-Partei³ Berlin** - Partei für Veganer, Vegetarier und Veränderer Berlin

01/2019 | **Co-organisation of the 2.5 days workshop** "The role of plant traits in determining trade-offs among ecosystem services across Mediterranean-type ecosystems - integrating empirical and modelling work" attended by 12 international researchers

10/2018 – 05/2019 | **Ambassador of foodsharing e.V. community in Berlin Steglitz-Zehlendorf**

2016 | **Student representative** for the PhD programme "Biodiversity, Evolution & Ecology" at Freie Universität Berlin

REFEREE ACTIVITIES (SINCE 2019)

Agronmomy / BOSQUE / Ecological Modelling / Forest Ecology and Management / Frontiers in Plant Science / One Earth / Plants

MEMBERSHIPS

Botanischer Verein Berlin-Brandenburg (since 2011), GfÖ – Ecological Society of Germany, Austria and Switzerland (since 2014), SER – Society for Ecological Restoration (since 2016), BES – British Ecological Society (since 2017)

CONFERENCE CONTRIBUTIONS

TALKS

Fiedler, S., et al. (2022) **Rainforest management effects on trade-offs and synergies among multiple ecological and socioeconomic functions.** SFE² GfÖ EEF Joint meeting in Metz, France.

Fiedler, S., et al. (2022) **Management towards multiple ecological and socio-economic functions in rainforest transformation systems: An agent-based modelling approach.** 13th Meeting of the European Society for Ecological Restoration in Alicante, Spain.

Fiedler, S., et al. (2022) **Ecosystem multifunctionality in Mediterranean-type ecosystems – a matter of species composition and environmental conditions.** 13th Meeting of the European Society for Ecological Restoration in Alicante, Spain.

Fiedler, S., et al. (2021) **Restoration ecologists might not get what they want: Global change shifts trade-offs among ecosystem functions.** 9th Meeting of the International Society for Ecological Restoration (virtual).

Fiedler, S., et al. (2018) **What should we plant to maximise the supply of multiple ecosystem services in the long-term?** 58th Annual Meeting of the Ecological Society of Australia in Brisbane, Australia.

Fiedler, S., et al. (2018) **What should we plant to maximise the supply of multiple ecosystem services in the long-term?** 11th Meeting of the European Society for Ecological Restoration in Reykjavik, Iceland.

Fiedler, S., et al. (2018) **What should we plant to increase ecosystem service supply in the long-term?** Annual Havel-Spree-Kolloquium in Berlin, Germany.

Fiedler, S., et al. (2017) **What is the optimal vegetation composition for restoring MTEs? - An integrated empirical and simulation modelling approach.** Joint annual meeting of BES, GFÖ, NECOV, EEF in Ghent, Belgium.

POSTERS

Fiedler, S., et al. (2017) **Resilient and multifunctional Mediterranean-type ecosystems: Improving restoration by trait-based simulation modelling.** 12th Annual Workshop of the Young Modellers in Ecology (YoMos) in Buchenbach, Germany.

Fiedler, S., et al. (2016) **Resilient and multifunctional Mediterranean-type ecosystems: Improving restoration by trait-based simulation modelling.** 10th Annual Meeting of the European Ecological Society for Restoration in Freising, Germany. DOI: 10.13140/RG.2.2.16245.45289.

Fiedler, S., et al. (2015) **Interactive effects of climate change and land use on simulated soil water and vegetation dynamics on alpine grassland ecosystems.** 45th Annual Meeting of the Ecological Society of Germany, Austria and Switzerland (GfÖ) in Göttingen, Germany.

Fiedler, S., et al. (2013) **Simulating soil water and vegetation dynamics on the Qinghai-Tibetan Plateau: How does climate change influence alpine ecosystems?** 43rd Annual Meeting of the Ecological Society of Germany, Austria and Switzerland (GfÖ) in Potsdam, Germany.

CONFERENCE CONTRIBUTIONS (CONTINUED)

POSTERS | Fiedler, S., et al. (2013) **The role of climate change and human pressure on forest decline in the early Holocene on Qinghai-Tibetan Plateau – an eco-hydrological modelling approach.** 6th International Symposium on Tibetan Plateau Joint Conference in Tübingen, Germany.

Fiedler, S., et al. (2013) **What caused forest decline on Qinghai-Tibetan Plateau? An eco-hydrological modelling approach.** 8th Sino-German Workshop on Tibetan Plateau Research, DFG Priority Programme 1372 (TiP) meeting in Chengdu, China.

PUBLICATIONS

PEER REVIEWED | Chen, B., Chen, H., Li, M., **Fiedler, S.**, Mărgărint, M. C., Nowak, A., Wesche, K., Tietjen, B., Wu, J. (2022) Climate Sensitivity of the Arid Scrublands on the Tibetan Plateau Mediated by Plant Nutrient Traits and Soil Nutrient Availability. *Remote Sensing* 14(18), 4601 DOI:10.3390/rs14184601. [cited: 1]

Fiedler, S., Monteiro, J., Hulvey, K., Standish, R., Perring, M., Tietjen, B. (2021) Global change shifts trade-offs among ecosystem functions in woodlands restored for multifunctionality. *Journal of Applied Ecology* 58(8) 1705–1717. DOI: 10.1111/1365-2664.13900. [cited: 3]

Wu, J., Li, M., Zhang, X., **Fiedler, S.**, Gao, Q., Zhou, Y., Cao, W., Hassan, W., Mărgărint, M. C., Tarolli, P., Tietjen, B. (2020) Disentangling climatic and anthropogenic contributions to nonlinear dynamics of alpine grassland productivity on the Qinghai-Tibetan Plateau. *Journal of Environmental Management* 281. DOI: 10.1016/j.jenvman.2020.111875. [cited: 30]

Pietzsch, B., **Fiedler, S.**, Mertens, K.G., Richter, M., Scherer, C., Widyastuti, K., Wimmler, M.-C., Zakharova, L., Berger, U. (2020) Metamodels for Evaluating, Calibrating and Applying Agent-Based Models: A Review. *Journal of Artificial Societies and Social Simulation* 23(2) 9. DOI: 10.18564/jasss.4274. [cited: 17]

Geissler, K., **Fiedler, S.**, Ni, J., Herzschuh, U., Jeltsch, F. (2019) Combined effects of grazing and climate warming drive shrub dominance on the Tibetan Plateau. *The Rangeland Journal* 41(5) 425–439. DOI:10.1071/RJ19027. [cited: 3]

Wu, J., Li, M., **Fiedler, S.**, Ma, W., Wang, X., Zhang, X., Tietjen, B. (2019) Impacts of grazing exclusion on productivity partitioning along regional plant diversity and climate gradients in Tibetan alpine grasslands. *Journal of Environmental Management* 231, 635–645. DOI:10.1016/j.jenvman.2018.10.097. [cited: 35]

Fiedler, S., Perring, M.P., Tietjen, B. (2018) Integrating trait-based empirical and modelling research to improve ecological restoration. *Ecology and Evolution* 8(12), 6369–6380. DOI:10.1002/ece3.4043. [cited: 10]

Guo, T., Weise, H., **Fiedler, S.**, Lohmann, D., Tietjen, B. (2018) The role of landscape heterogeneity in regulating plant functional diversity under different precipitation and grazing regimes in semi-arid savannas. *Ecological Modelling* 379, 1–9. DOI:10.1016/j.ecolmodel.2018.04.009. [cited: 14]

OTHERS | **Fiedler, S.** (2021) Long-term Multifunctionality across Mediterranean-type ecosystems: Improving Restoration Outcomes through trait-based Modelling. PhD Thesis. Freie Universität Berlin. DOI: 10.17169/refubium-31930.