

# Dr. Markus Bauer

State: 2026-01-09

[ORCID](#) | [Google Scholar](#)  
[GitHub](#) | [Stackoverflow](#)  
[LinkedIn](#)  
<https://markus1bauer.github.io/>

## Professional Experience

- Since 08/2023 [Postdoc \(75%\): Chair of Restoration Ecology \(TUM\)](#)
- Since 06/2022 [Self-employed vegetation mapper \(25%\): Landschaftsökologie Bauer, Freising](#)  
Biotope mapping, Bavarian Compensation Ordinance, vegetation monitoring
- 01/2019–07/2023 [Research assistant: Chair of Restoration Ecology \(TUM\)](#)  
Development of a monitoring concept, a restoration substrate with bricks

## Education

- 06/2021–03/2024 [Dr. rer. nat. Restoration Ecology](#)  
Technical University Munich
- Dissertation: [Seed–substrate combinations for restoration of urban and dike grasslands under environmental fluctuations](#)  
Supervisor: Prof. Dr. Johannes Kollmann
- 10/2016–12/2018 [M.Sc. Environmental planning and ecological engineering \(Project studies\)](#)  
Technical University Munich
- Thesis: [Monitoring of the Garchinger Heide. Vegetation ecological studies of a reference ecosystem under changed environmental conditions over 34 years](#)  
Chair for Restoration Ecology
- 10/2012–10/2016 [B.Sc. Landscape architecture and planning \(Project studies\)](#)  
Technical University Munich
- Thesis: [Zweites Monitoring von Rohbodenstandorten des Inns nach Renaturierungsmaßnahmen](#); Chair for Restoration Ecology
- 09/2011–08/2012 [Apprenticeship landscape gardener \(not completed\)](#)  
MGM-Landschaftsbau, Hebertshausen
- 04/2011 [Abitur \(Paper about the restoration of river Isar in Munich\)](#)  
Gymnasium Markt Indersdorf

## Internships

2013–2018  
(each 6–12 weeks) **Landscape planning consultancy** ('peb', Dachau), **Lower conservation authority** (Munich); **Research assistant** (TUM)

## Stays abroad

- 2025  
(3.5 months) **Sabbatical:** Restoration Ecology Lab, Michigan State University, USA  
Visited Professor: Lars Brudvig | Experiment: Tall grass prairie restoration
- 10/2014–02/2015 **Internship abroad:** Botanical Garden, Léon, Nicaragua  
Construction of butterfly house, plant care, guided tours
- 07/2014  
(1 month) **Vegetation ecology excursion:** Kyrgyzstan and Kazakhstan  
Guide: Professor Jörg Pfadenhauer (Chair of Restoration Ecology)
- 03–04/2014  
(2 months) **Internship abroad:** Rooiklip Research Camp (TUM), Namibia  
Seed predation experiments with *Crotalaria podocarpa*
- 2013–2019  
(each 3–10 days) **Multi-day ecology excursions:** Lake Neusiedel, Sardinia, Tagliamento, Alps, Luxemburg, Colorado (Vegetation); Lake Garda (Zoology)

## Selected Publications

- 2024 **Bauer M**, Huber J, Kollmann J (2023) Beta diversity of restored dike grasslands is strongly influenced by uncontrolled spatio-temporal variability. – *Journal of Vegetation Science* 35, e13293.
- 2023 **Bauer M**, Huber J, Kollmann J (2023) Fit by design: Developing substrate-specific seed mixtures for functional dike grasslands. – *Journal of Applied Ecology* 60, 2413–2424.
- 2023 Teixeira LH\*, **Bauer M\***, Moosner M, Kollmann J (2023) River dike grasslands can reconcile biodiversity and different ecosystem services to provide multifunctionality. – *Basic and Applied Ecology* 66, 22–30
- 2020 **Bauer M**, Albrecht H (2020) Long-term vegetation change in a 100-year-old calcareous grassland reserve in Germany. – *Basic and Applied Ecology* 42, 15–26.
- Since 2016 All papers (see [Google Scholar](#))

## German Publications

- 2023 **Bauer M**, Huber J, Kollmann J (2023) Fluktuiierende Vegetationsbestände. Eine Herausforderung für die naturschutzfachliche Bewertung. – *Nodium des Alumni-Clubs Landschaft TUM* 15, 106–107.
- 2020 **Bauer M**, Kiefer J, Albrecht H (2020) Vegetationsveränderungen auf Dauerbeobachtungsflächen im Naturschutzgebiet Garchinger Heide. – *Berichte der Bayerischen Botanischen Gesellschaft* 90, 43–66.

## Conferences

2025	ESA (Ecological Society of America)	Baltimore, MY, USA	Talk
	IAVS (International Association of Vegetation Science)	Greeley, CO, USA	Talk
2024	GfÖ (Ecological Society of GER, AUT and SUI)	Freising, GER	Talk
	SERe (Society of Ecological Restoration Europe)	Tartu, EST	Talk
2023	GfÖ (Ecological Society of GER, AUT and SUI)	Leipzig, GER	Poster
2022	GfÖ (Ecological Society of GER, AUT and SUI)	Metz, FRA	Talk
	IAVS (International Association of Vegetation Science)	Madrid, ESP	Talk
2021	PopBio (Plant Population Biology group of the GfÖ)	Online	Poster
	SER (Society of Ecological Restoration World)	Online	Talk
2019	GfÖ (Ecological Society of GER, AUT and SUI)	Münster, GER	Talk
	IAVS (International Association of Vegetation Science)	Bremen, GER	Poster
2017	SERe (Society of Ecological Restoration Europe)	Freising, GER	
Since 2019	FlorSoz (Luxemburg, Rostock, Freising (guide), Koblenz, Oldenburg)		

## Grants

2025–2027	Research (F+E) project for grassland restoration on dikes with the VERBUND Innkraftwerke GmbH (219k EUR)
2021–2024	Doctoral Scholarship of the Deutsche Bundesstiftung Umwelt (DBU) (62k EUR)

## Awards

2024	Award for the best dissertation at the TUM. Awarded by the TUM president Prof. Thomas Hofmann for the Johannes B. Ortner foundation
2020	Best Master's thesis of the department landscape architecture and planning. Awarded by the major of the city Freising Tobias Eschenbacher

## Invited presentations

2025-12-15	University of Bozen-Bolzano: Conference on Restoration under Climate Change
2025-09-05	Michigan State University: Plant Biology Seminar

## Teaching

Lecture and Seminar	Population and Community Ecology (WS 23/24, 24/25, 25/26)
Course	Analysis of Ecological Data (SuSe 2024, WS 24/25, 25/26)
Projects	Master's landscape planning projects (4 groups)   Experimental Ecology (2 groups)

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Excursions	Bavarian Forest (2024)   Mountain forest at Benediktenwand (Alps) (2019, 2020, 2024)   Floodplain forests at estuary of river Isar (2019, 2025)   Beech forests of Kelheim and Siegenburg (2019, 2020, 2024)   Garchinger Heide (2022)
Training	Training course for postdocs: Foundations of teaching (45 hours) (2024)

## Supervision/Mentoring

PhDs	Max Thiele (since 2025), Xue Zhao (mentor since 2025)
Master' thesis	Sophia Reiser (2026)
Bachelor's thesis	Anna Lazarev (2022)

## Service

Journal Referee	Restoration Ecology (6), Flora (2), Journal of Vegetation Science (2), Applied Vegetation Science (1), Perspectives in Plant Ecology, Evolution and Systematics (1)
University administration	<b>Quality Management Board</b> (eQMZ, "erweiterter Qualitätsmanagementszirkel") for the master programmes "Naturschutz und Landschaftsplanung" and „Ingenieurökologie“ <b>Examination Board</b> for the master programmes "Naturschutz und Landschaftsplanung" and „Ingenieurökologie“ <b>Data Management</b> at the chair Restoraion Ecology to implement the FAIR principles
Engagement current	<b>Advisory Board of Freising for Nature Conservation</b> (since 2024, member for Bund Naturschutz) <a href="#"><u>Advisory Board of „Heideflächenverein Münchner Norden e.V.“</u></a> (since 2024, member for TU Munich, association for management of several conservation areas between Munich and Freising) <b>Wikipedia</b> (since 2022, active author for ecological topics)
Engagement past	<a href="#"><u>Alumni-Club Landschaft</u></a> (Freising; secretary 2020–2025; editor of the club journal 2019–2023)
Memberships	<a href="#"><u>International Association of Vegetation Science</u></a> (IAVS, since 2023) <a href="#"><u>Ecological Society of Germany, Austria and Switzerland</u></a> (GfÖ, since 2023) <a href="#"><u>Floristisch-Soziologische Arbeitsgemeinschaft</u></a> (FlorSoz, since 2019) <a href="#"><u>Bavarian Botanical Society</u></a> (BBG, since 2019)

## Skills

Languages	English (C1), Spanish (A2), French (A2)
Computer	<a href="#"><u>Frequentist</u></a> and <a href="#"><u>Bayesian</u></a> statistics and <a href="#"><u>data wrangling</u></a> with R (very good) Package development with R <a href="#"><u>Shiny with R</u></a> (advanced) <a href="#"><u>GIS with R</u></a> and QGIS (good) GitHub (good) MS Office (good), MS Access (advanced)

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License

Driving license B