

CLE Newsletter 2022

While the beginning of the year could be entitled with "getting back to normal", meaning step-by-step relaxing Covid regulations, returning to in-person meetings, and to office work, in the second half of the year we were again faced with change management: The UFZ has a new scientific director and also in the leadership of our Department some changes happened.

Changes in the Department Management



Prof. Dr. Ralf Seppelt

In the past year, we all enjoyed being back at the institute having many conversations face-2-face in the hallways. This also made it possible to communicate the bigger changes in the Department easily. On July 1st, Ralf took over as head research unit from Dr. Stefan Klotz, who left UFZ due to retirement. Martin Volk was established as co-lead of the Department, which means he does most of the related work - Ralf still has an eye on what is happening in CLE, but has now also the freedom to take care of the research unit and its strategic development. Ralf retains his own small working group and hands over the leadership of the Department to Martin, being supported by Michael Beckmann as deputy.



Prof. Dr. Martin Volk



Dr. Michael Beckmann

New research group "SAT-IRE"



Community-supported Agriculture and Transformation (SAT-IRE) is increasingly recognized as a promising to support a transformation towards sustainable, productive and resilient food systems. However, respective scientific evidence remains scarce. In the research group "SAT-IRE", led by Lukas Egli, some of these knowledge gaps will be addressed.

In the project "LeVe-SoLawi: food use in community-supported agriculture" it has been found that yields in CSA are comparable to conventional yields or even higher, if food losses and waste are considered. In the project "InnoLand-Sachsen: Innovative models for a sustainable and regional value chain: synergies and potentials of

community-supported agriculture in Saxony" ecological, social and economic aspects are assessed to identify synergies and potential trade-offs. In the new project "nascent-SolaRegio: community-supported agriculture in the context of regional innovation ecosystems" the role of different stakeholders to promote the diffusion of CSA through its integration in existing farms CSA will be studied. This project is led by the University of Siegen in collaboration with the UFZ and the German CSA network. It will be funded with 1.21 m€ by BMBF („REGION.innovativ“) and run for three years. Read more about [Lukas Egli](#) and [LeVe-SoLawi](#).

Congratulations



Dr. Andrea Kaim finished her PhD and graduated at Martin-Luther-

University Halle-Wittenberg under the supervision of Martin Volk and Thomas Köllner (University of Bayreuth) in February 2022. She continues working in our Department as Postdoctoral Researcher in her junior research project "AgriScape". Read more about [Andrea Kaim](#).

New staff members



Christian Neumann finished his M.Sc. in Natural Resource Management at Martin Luther University, Halle-Wittenberg. During his thesis, he investigated the impact of changing climate (e.g., rising temperatures, altering precipitation patterns), and land-use intensification on community structure and composition of various functional traits. Starting in January 2023, he will work on the TRANSPATH project. The overall objective of TRANSPATH is to synthesize and construct promising transformative pathways which can contribute significantly to sustainable change towards a biodiversity-positive, and climate-proofed society.



Alfred Burian finished his PhD in aquatic ecology at Stockholm University in Sweden. He had his first PostDoc position at the Environmental Sustainability Research Centre, University of Derby in the UK. He is specialized in biodiversity research and community ecology with focus on statistical and conceptual modelling and is experienced in working as consultant in Mozambique before joining the UFZ as scientist in October 2022.

His current aim is now assessing the impact of conventional over-intensification on biodiversity in agricultural landscapes.

Elina Takola studied Forestry with a major in Wildlife Conservation, in Greece. She obtained a PhD in Behavioural Ecology from the University of Jena in 2022.

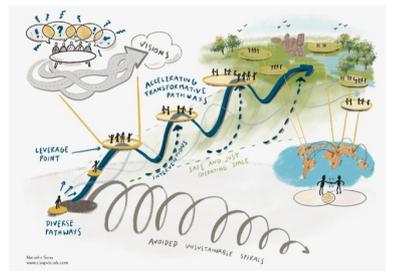


Her thesis describes how the ecological niche concept can be scaled down at the level of individuals. Her research interests include meta-analyses and evidence syntheses applications on various topics.

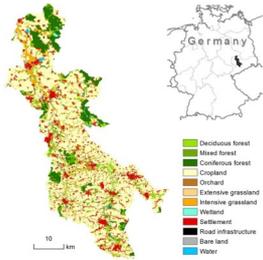
From November 2022, she started as scientist at the UFZ, focussing on data synthesis to explore the relationship between biodiversity and landscape features.

New project "TRANSPATH"

Since Nov 1st 2022, CLE is part of the TRANSPATH consortium, a year EU H2020 project, which aims at identifying leverage points for enabling transformative changes towards biodiversity-positive and climate-proofed societies. In collaboration with the University Wageningen we will synthesise existing Europe/global scenarios to pathways archetypes and provide model-based assessment of the combined effects with respect to outcomes for climate, biodiversity and other SDG outcomes for short-, medium- and long-term time frames (2030, 2050, 2100). Christian Neumann, also new to CLE, works on that project.



Publications "Editor's Choice"



Jungandreas, A., Roilo, S., Strauch, M., Václavík, T., Volk, M., Cord, A.F., (2022): Response of endangered bird species to land-use changes in an agricultural landscape in Germany. *Reg. Envir. Chang.* 66 (5), art. 5³. DOI: [54.544¹/s54557-022-01878-3](https://doi.org/10.1016/j.landusepol.2022.106320)

By modelling the impact of three stakeholder-supported land-use scenarios (business-as-usual, land sharing, land sparing) on bird habitats the paper confirms that balancing the different, often contrasting habitat requirements of multiple species is a key challenge in conservation and landscape management. Land sharing, which local stakeholders identified as the most desirable scenario, is a promising strategy for the conservation of endangered birds in agricultural landscapes like our study region (Middle Mulde River Basin, Germany).

Paulus, A., Hagemann, N., Baaken, M.C., Roilo, S., Alarcón-Segura, V., Cord, A.F., Beckmann, M., (2022): Landscape context and farm characteristics are key to farmers' adoption of agri-environmental schemes. *Land Use Pol.* 121, art. 106320.

DOI: [10.1016/j.landusepol.2022.106320](https://doi.org/10.1016/j.landusepol.2022.106320)

Agri-environmental schemes (AES) are important tools for fostering sustainable agricultural practices. In this paper, we show that the adoption and allocation of these schemes in a case study area in Saxony are driven by farm characteristics as well as landscape context. Our finding that AES are typically placed on agriculturally marginal fields suggests that their uptake is driven by economic rather than environmental considerations.



Rodriguez-Barrera, M.G., Kühn, I., Estrada-Castillón, E., Cord, A.F., (2022): Grassland type and seasonal effects have a bigger influence on plant functional and taxonomical diversity than prairie dog disturbances in semiarid grasslands. *Ecol. Evol.* 12 (7), e9040. DOI: [10.1002/ece3.9040](https://doi.org/10.1002/ece3.9040)

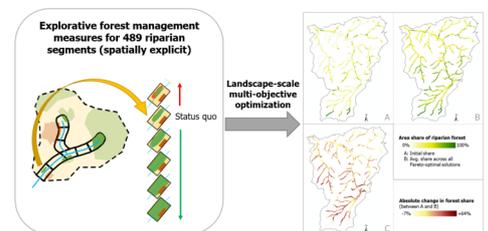
Prairie dogs (*Cynomys* sp.) are considered ecosystem engineers due to their grazing and burrowing activities. Here, we compared how plant taxonomical diversity, functional diversity metrics, and community-weighted trait means (CWM) respond to the disturbance of the Mexican prairie dog (*C. mexicanus*) across grassland types and seasons in a priority conservation semiarid ecosystem. The study increases knowledge on the risks and vulnerability of semiarid grasslands which will be critical to understand future dynamics under climate change conditions.

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Witing, F., Forio, M.A.E., Burdon, F.J., Mckie, B., Goethals, P., Strauch, M., Volk, M., (2022): Riparian reforestation on the landscape scale – Navigating trade-offs among agricultural production, ecosystem functioning and biodiversity. *J. Appl. Ecol.* 59 (6), 1456 - 1471.

DOI: [10.1111/1365-2664.14176](https://doi.org/10.1111/1365-2664.14176)

The study demonstrates the potential of landscape optimization algorithms to support the management and design of multifunctional stream-riparian networks. We identified riparian reforestation solutions for the Zwalm River (Belgium) that minimized trade-offs between specific natural values and societal needs. The spatially explicit approach allows for an integration into spatial planning and can inform policy design and implementation.



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