

Towards actionable knowledge: Leveraging computer science advances for knowledge synthesis in ecology

Prof. Dr. Tina Heger

TUM School of Life Sciences; Leuphana University

Mobilizing scientific ecological knowledge is key for addressing the global biodiversity crisis. It is far from obvious, however, how to best approach this aim. An interdisciplinary team including ecologists, data scientists, computational linguists and philosophers currently explores this challenge. The main vision is to use state-of-the-art computational technologies to extract information from published papers (later extending to more diverse sources), and to weave them together to create the 'EcoWeaver', an openly accessible ecological knowledge base and a set of tools to create, manage and access this knowledge base. The EcoWeaver will (i) support generating novel insights, (ii) enhance ecological understanding and (iii) empower people to make informed decisions.

Importantly, it will adhere to the FAIR and CARE principles and will be fully open. The first application of EcoWeaver is the Toolkit for Restoration Knowledge (TReK), aiming to enhance ecological restoration.

The goal is to engage diverse teams of practitioners and other users during the development of TReK and EcoWeaver. The presentation will give an overview on the ongoing work of this initiative.

Dept Life Science Systems

Winter term 2025/26

Monday, 20.10.2025, 16:15–17:00

Zoom Meeting: [https://tum-conf-zoom-x.de/j/69079483987?pwd=eIJ6bStBbXo0RHQ4aUJjVGhqRVpLdz09](https://tum-conf.zoom.us/j/69079483987?pwd=eIJ6bStBbXo0RHQ4aUJjVGhqRVpLdz09)

Meeting-ID: 690 7948 3987; Kenncode: 021482

Prof. J. Kollmann (Tel. 08161-714144, johannes.kollmann@tum.de)