

Quantitative vegetation reconstructions using the Landscape Reconstruction Algorithm (PPEs, REVEALS, LOVE)

This workshop will introduce participants to the tools needed to translate pollen data into vegetation cover and species abundance. Quantitative modelling of pollen data is widely applied in Europe and North America, giving insights into past landscape change and human impact, as well as being an essential component in climatic modelling.

During the workshop a theoretical introduction will be given, followed by practical computer training. For training purposes, example pollen data will be provided.

Program: (bold are lectures/theory)

30 minutes (lecture): General introduction on pollen-vegetation relationship: differentiating local and extralocal pollen, various distance weighting techniques, dispersal models, other factors affecting pollen loading (basin size and type, production, spatial distribution) – Petr Kuneš, Martin Theuerkauf

30 minutes of exercise computer training on pollen production and dispersal (R-value, characteristic radius, ...)

15 minutes (lecture): theory of REVEALS + validation examples from the literature, data requirements etc. – Martin Theuerkauf

60 minutes practicals: using example data to introduce programme by Shinya Sugita and the R code. By that, we will compare the output and discuss the role of pollen dispersal in REVEALS modelling.

15 minutes (lecture) of theory of LOVE + validation examples from literature – Petr Kuneš

60 minutes: 'using' LOVE (again with examples) with programme by Shinya Sugita

30 minutes of discussion on 'how to use this in your own work' including approaches to generating data for PPE calculations

Software to download and install prior to the workshop:

MS Office or similar open source software (e.g. LibreOffice)

R (<https://www.r-project.org/>)

R-studio (optional) (<https://www.rstudio.com/>)

R-packages: DISCOVER (<http://discover.botanik.uni-greifswald.de/>)

Shared folder, where all data will be available to participants:

<https://drive.google.com/folderview?id=0B5WsdX-SXEBacnIRalNqUy1tS2c&usp=sharing>