German Centre for Integrative Biodiversity Research (iDiv) Halle-Jena-Leipzig

Workshop "Chemodiversity in Metabolomic data"

- Date: 29.06.2023 9am-3pm
- Mode: Hybrid
- Location: iDiv (Puschstraße 4, Leipzig) / Zoom
- Teacher: Dr. Hampus Petrén (Evolutionary Ecology of Plants, Department of Biology, Philipps-University Marburg)
- Charge: Free
- Registration Deadline: 31.05.2023

Chemodiversity or phytochemical diversity based on metabolomic data is a method of characterizing the phytochemical phenotype that is increasingly often used. This approach involves analyzing the chemical diversity and complexity of mixtures of metabolites produced by plants. Such measures of diversity can vary in response to changes in their environment, such as temperature, water availability, and nutrient availability; and may be functionally important for shaping ecological interactions between plants and the organism with which they interact.

By using appropriate indices (e.g. Shannon diversity) and understanding their interpretation, researchers can identify chemical differences between treatments, species or communities, and evaluate the chemical complexity of natural products. Without a clear understanding of chemodiversity and its corresponding indices, it can be challenging to extract valuable information from metabolomic data. Therefore, it is important to educate and train researchers on the appropriate usage of chemodiversity and its indices to ensure the accuracy and reliability of metabolomic analyses.

I would like to extend an invitation to you to join our upcoming one-day workshop on chemodiversity in metabolomics. We want to address the following topics:

- The fundamentals of chemodiversity
    - how to statistically analyze it
    - what kind of indices are there
    - how are they calculated
    - how do they differ from each other
- The ecological roles of that diversity
    - in what way does chemodiversity vary
    - how can we expect it to be associated with ecological function?
    - what evidence is there in the literature?
- How to quantify different aspects of diversity for my metabolomic data set?

This workshop will include a lecture, discussions rounds, exercises and a hands on session with the R package "chemodiv".

If you´re interested to join this workshop or if you have further questions please contact Henriette.uthe@idiv.de

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