sDiv working group meeting report
" sUnderfoot - Functional diversity of belowground plant strategies in a rapidly changing world"

In our first working group meeting, attendees from South Africa, Brazil, the United States, France, the Czech Republic and Germany met virtually to begin the synthesis of belowground plant ecology. Participants located in Germany met physically at iDiv. The 9-hour time difference allowed us to work only for 4 h as a whole group while we were able to focus on specific tasks in work groups for 13 hours per day. The group includes experts in 1) rooting depth and horizontal extent, 2) bud banks, 3) clonal growth organs and traits and 4) fine root economics traits. The first workshop had the goal to harmonize the different terminologies and conceptual frameworks, facilitate the synthesis of the database and build a positive group feeling in order to collectively follow the project plans. We focused our discussions on determining a short list of traits that represent key aspects of belowground function, including resource uptake, storage, anchorage, regeneration and multiplication.

Presentations were given by experts in each of the belowground realms. The presentations focused on conceptual frameworks and existing databases. Joseph Tumber-Davila and Ying Fan discussed rooting depth and lateral extent. Alessandra Fidelis discussed bud banks in the Cerrado. Jitka Klimesova discussed clonal traits and organs. Daniel Laughlin discussed the fine root economics space. Each presentation was followed by a group discussion of the ideas and concepts.

The data wrangling subgroup worked diligently all week to give the group a glimpse of the new synthesized database. Individual databases were presented to the whole group by experts to introduce the existing data and discuss overlaps and gaps. This included GRooT (fine roots), CLOPLA (clonal traits), RSIP (root systems of individual plants), and bud bank databases from the Global South. This first synthesis yielded very promising results that we already have a great start toward analyzing the covariation among these many belowground traits. We discussed methods, potential data contributors and sampling possibilities and now have a plan to fill in as many gaps as possible over the next 10 months before our second working group meeting takes place.

Subgroups worked on tables that synthesize empirical and theoretical relationships between belowground traits and functions. We used googledocs so that virtual participants could work on the same tables simultaneously. For collective conceptual thinking and ice-breaking activities we used jamboard which turned out to nicely complement individual concept drafting of the breakout groups. The technical set-ups by sDiv worked smoothly as did the local arrangements for rooms and snacks even though our working hours were quite unusual due to the time-zone juggling.

At the end of the workshop, we discussed upcoming tasks to fulfill deliverable 1.1 (prelim database) and 1.2 (final database) as well as to prepare deliverable 2 (conceptual paper).

This included discussions about lead- and co-authorship and specifically the challenge of including data contributors around the globe.

The general working atmosphere was very positive. Virtual and hybrid meetings can be challenging, but everybody was fully present and brought great energy to the discussions - a testament to the good selection of group membership. We managed to reach and excel our predefined goals while also including group games and casual chats in between. The meeting ended with a sense of new friendships and collegiate relationships, and we all are very much looking forward to meeting in person in Leipzig!