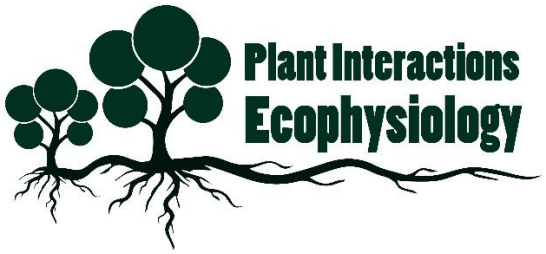

2019 – a retrospection

Looking back at the accomplishments of the Plant Interactions Ecophysiology Group in 2019, the focus was on starting and running massive-scale experiments, hosting collaborators and interns from around the world, and doing lots of lab work on myriads of samples from the 2018 experiments.

January to March was filled with continuing our two major projects, the transparent soil project and COCOA, while getting the lab set up and running after our move to the new room in November 2018. Especially for project COCOA it meant getting through the analyses of three thousand samples collected in the previous year before the start of the final – and largest – experiment studying the effects of climate change on tree interactions with regard to N acquisition and internal allocation to N pools. This experiment provides novel insights on future forest management strategies, especially important in the view of the current public climate debate. On a similar note, the joint project Judy applied for with colleagues from the Universities of Göttingen and Freiburg on the adaptation strategies of beech forests to changing environmental conditions at different management intensities was – after 2 years – finally approved and field work will start in 2020.

From April onwards, things in the lab began to fall into place. Natalie joined us for her Bachelor research project to study the amino acid pools in different temperate tree species. Katja started with her Masters research supporting Ise and Leia with the transparent soil project. Team COCOA aka Robert, Sandra, and Leia set up the climate change experiment. In words: 20 climate chambers at the forest field site, each containing 20+ mesocosms with 7 woody seedlings in intra- or interspecific competition. The treatments commenced in June when Oscar joined the project as a RISE summer intern for three months. Liza joined the project in July as an IAESTE intern shared with the Ecology group. Considering the in total 400+ mesocomsms and regular watering, adding nutrient solution, etc. this additional help was greatly appreciated. For further support throughout the year we thank our student and research assistants: Yannick Albrecht, Joelle Clot, Mina Eberlein, Vera Grießer, Sharif Islam, Danijel Jovicic, Celina Kilian, Inna Koleber, Julia Krause, Laura Laws, Marc Leiber, Natalie Oberhuber, Marina Schlieker, Benedikt Speißer, Nele Stockmayer, and Nadja Vögtle.

Regarding activities outside the lab, in April, Judy visited the University of Copenhagen, Denmark, with the Erasmus+ Teaching Mobility Program for five days filled with giving lectures and discussing science with peers at the Plant Ecophysiology Group led by Elizabeth Neilson. An additional plus… catching up with Lizzie who did her honours year back in Melbourne when Judy was finishing up her PhD research in the same lab. In July, Judy gave a well-received talk at Rhizosphere 5 in Saskatoon, Canada. As an author, editor, and lecturer/teacher, Judy visited the book fair in Frankfurt/Main, Germany, in October, which took place parallel to Scienceathon 2019, thus she was live-tweeting from the book fair. In November, Judy presented as a nominee for the Maria Gräfin von Linden Prize 2019 at the Symposium „What women research – A scientific kaleidoscope“ held by the Verband Baden-Württembergischer Wissenschaftlerinnen. Unfortunately, she did not make first place, but „Horst, the enzyme“ was a tough competitor. Furthermore, she and Katja participated in the „Forum Experiment!“

organised by the VolkswagenStiftung in Hannover to present the current status of the transparent soil project. Last, but not least, Robert was invited for a lightning talk for his poster at the Annual Meeting of the British Ecological Society in Belfast, Northern Ireland, in December.

Apart from working on our projects and presenting our findings at conferences, we also set up new collaborations for future experiments. Euan James – an expert on biological N_2 fixation in plants from the James Hutton Institute in Dundee (Scotland, UK) – visited us in May and gave a talk on developing rhizobial inoculants to improve grain legume crops in the UK at the weekly faculty seminar. For future projects currently planned, we have also set up several new collaborations with experts from universities in the US and UK. Judy and Bartosz (LUKE, Helsinki, Finland) finalised their research topic with Frontiers in Plant Science on Plant secondary compounds in forest ecosystems under global change: from defense to carbon seqestration including an editorial. Andrea´s second thesis paper on the „Species specific outcome in the competition for nitrogen between invasive and native tree seedlings“ was published. Her last manuscript is currently in revision. The manuscript on the results from our mycorrhiza experiment conducted together with Nico Eisenhauer (see 2017 retrospection) is also current revised. However, the probably most celebrated event this year was Andrea´s thesis defence in December.

In conclusion, we had a very busy year with two large projects running, several people joining the group as interns or for their Bachelor and Masters research. Hundreds of images have been processed, hundreds of mesocosms have been monitored and harvested, and thousands of samples have been weighed, ground, and analysed, A new major project has started, with more to come in the next year. Thus, we can be very proud of what we have accomplished in 2019. We have several opportunities for Bachelor and Master research projects and also advertised two internships with the IAESTE for summer 2020 (i.e. DE-2020-1083-1 and DE-2020-1083-2). So, if you are interested in our work and would like to join us, check out our website and/or get in touch.