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iDiv sabbatical project report

"Placing ecological succession in an applied global change and restoration context"

by Cynthia Chang, University of Washington-Bothell

Scientific hosts:
Prof Stan Harpole, Dr Emma Ladouceur, Prof Ingolf Kühn, Dr Christiane Roscher

Feedback:

- What where your objectives for your sabbatical and what progress did you make?

My objectives were to begin the succession synthesis project by brainstorming ideas with Dr. Ladouceur, Prof. Harpole, and Prof. Kühn. I wanted to narrow down the types of datasets we could synthesize and compare across natural succession, restoration, and global change studies. I wanted to reach out to PIs in charge of other long-term natural succession studies to gauge their interest in a synthesis project. I was able to reach out and meet (over Zoom) with a handful of PIs. I also wanted to better understand how the Global Restore project was assembled. It was helpful to learn from Dr. Ladouceur what types of datasets are being included, how the data is being organized, and what their short-term analyses and publication goals were to better understand how we could compare natural succession studies to a subset of the Global Restoration datasets. I was able to learn from Prof. Kühn more about the primary succession studies that he has ongoing, and also brainstorm novel ways to compare longitudinal succession sites with chronosequence sites (eg. glacial retreat sites). Finally, I wanted to explore options for the analytical tools to use for the synthesis. I was able to connect with Dr. Becks Spake for potential future collaborations on ways to think about scale across natural succession studies, an important question to properly compare across very different disturbance sites (and across restoration and global change studies). Overall, I was able to begin many of these collaborations, and I look forward to steadily build on this progress when I am back at UWB to continue these ongoing collaborations.

- How did being at iDiv help you achieve your objectives?

Being at iDiv allowed me to connect with my collaborators in person to discuss ideas, papers, and work out methodology. In addition, I was able to meet other iDiv scientists who were doing research in plant succession to come up with potential new grant ideas. For example, I was able to form new connections with Dr. Bettina Ohse and Dr. Becks Spake, both of who also thinking about similar questions in disturbance, succession, and restoration ecology. It was also a great experience connecting with Dr. Marten Winter and all the sDiv postdocs, hearing about their research work, and forming a supportive research community. Finally, I had the opportunity to join Prof. Jon Chase's lab group meeting where it was so helpful to hear about exciting synthesis research from his lab members and exchange ideas. As a faculty member at a primarily undergraduate

institution, it was wonderful to be back in an environment where everyone was pursuing exciting new research ideas and tackling similar research problems. Being surrounded by all the great iDiv members helped me stay on top of the current literature and get insight into groundbreaking research topics, something I am not often able to do on a regular basis at my own institution.

- Other notable accomplishments, outcomes, collaborations while at iDiv?

In addition to working with my hosts, Prof. Harpole and Dr. Ladouceur, I made connections with scientists at iDiv that I would not have known to reach out to if I had not been physically there. I had a lot of other researchers approach me after I gave my seminar talk to talk about similar ideas. For example, I was able to connect with Dr. Bettina Ohse and Dr. Nadja Rüger over our shared interest in succession. Dr. Rüger invited me to meet the sDiv working group, sUCCESS, which was a great opportunity to meet tropical forest ecologists thinking about succession and hearing about their great synthesis work.

In addition, I was able to form a new collaborative partnership with Dr. Erik Hom, another iDiv sabbatical fellow. We have started a new research project examining the biocrusts on primary succession sites on Mount St. Helens, looking at how biocrusts shape the local environment for plant community assembly. He was able to come out to Mount St. Helens summer 2022 to collect field samples with me and we are excited to continue in this new line of research together. I am pursuing this line of research in one of my undergraduate research courses here at UWB.

- How was the living and working environment?

The working environment at iDiv was extremely positive. It is a wonderful vibrant research community. I had many opportunities to connect with scientists of all stages. iDiv was able to provide so much logistical, monetary, and intellectual support for my sabbatical stay. Living in Leipzig is a great experience. As a solo-parent of a 2 year old, I did face many childcare challenges (between covid, covid related closures, and many illnesses gotten from daycare), which unfortunately impacted my ability to meet many of my research goals. But these challenges were not inherent to living in Leipzig or working at iDiv. And iDiv was as supportive as possible about trying to help me find emergency back childcare when I needed, when it was possible.

- Advice for future fellows?

Be flexible and ready for new opportunities. Be prepared about living in Germany by getting as much information about logistics.