

## sDiv working group meeting summary

### “Explaining the Latitudinal Diversity Gradient: synthesizing knowledge via data-driven mechanistic modelling” (sELDiG)

#### Feedback of PIs

During our second sDiv meeting, 11-15 June 2018, we made significant progress on our manuscript for TREE, as well as advancing a number of side projects.

In total, we spent 5% of the meeting doing presentations, 25% in discussions involving the entire group, and 70% of the meeting in subgroups editing, working on figures, and brainstorming. Relative to the first meeting, more time was spent in subgroups.

We came into the working group with a complete manuscript draft based on our work since the previous meeting. During the working group, we had group-wide discussions about the overall focus of the manuscript, which sections could be edited down the most, and how to improve the clarity and communication of figures. Subgroups were focused on different manuscript sections, text boxes, or figures.

We added a few new participants to the group for this meeting. The main presentation was by the new graduate student, Oskar Hagen, who presented on the eco-evolutionary simulation model he has been working on with Loic Pellissier. It was critical to understand this model which our group was planning to build on for a number of side projects.

There were several productive subgroup meetings that focused on adding new processes or mechanisms to Oskar’s model. Another subgroup which had started in the previous working group led by Rampal Etienne outlined a new paper using simple analytical models to characterize the different LDG hypothesis categories, and demonstrating implications for the likelihood of those hypotheses.

In the following months, we submitted our primary manuscript to TREE, revised it, and it is now in press (Ponarp et al. 2019; [https://www.cell.com/trends/ecology-evolution/fulltext/S0169-5347\(18\)30280-5](https://www.cell.com/trends/ecology-evolution/fulltext/S0169-5347(18)30280-5)). Rampal has written a complete draft of the new paper targeted for The American Naturalist with many contributions from other working group members.

For next steps, we believe it is beneficial for our entire group to meet again, not just for a writing retreat, but to continue important discussions that integrate the perspectives of empiricists and modelers, and scientists with different perspectives on modeling and the LDG. We have done the hard

work of understanding each other's perspectives and scientific language and this facilitates further progress. We have received a small amount of money from UC Berkeley through Rosie Gillespie and are now determining how to best use these funds to support another group meeting, probably in Europe in July 2019. We aim to advance several of the subprojects we brainstormed during our last meeting, and continue to add new functionality to Oskar Hagen's model in order to address some of the questions we outlined in our TREE paper.

The working atmosphere at sDiv and the logistical support was wonderful and well appreciated. I have no complaints or criticism.

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