

sDiv Workshop
**"Synthesising population, community, genetic and evolutionary
dynamics in a simulation platform: a tool for theory and application
– RangeShifter #2"**
08.-12.09.2014
Workshop Summary

German Centre
for Integrative
Biodiversity Research (iDiv),
Halle-Jena-Leipzig
Deutscher Platz 5e
04103 Leipzig, Germany
phone +49 (0)341 97-33103
info@idiv-biodiversity.de
www.idiv-biodiversity.de

Summary

This workshop was the fifth workshop of the joint initiative "EcoEvol - Eco-evolutionary approaches to understanding and predicting the response of species and ecosystems to climate change", coordinated by the DIVERSTIAS core projects biogenesis and bioDISCOVERY. It was the second workshop in the series hosted by sDiv. sDiv provided an inspiring environment for intensive discussions and the development of new collaborations.

The workshop series targets at synthesising theory and empirical findings on biotic processes in the modelling platform "Rangeshifter" to develop a mechanistic understanding of species range shifts.

Main workshop topics

1. Development of models describing biotic processes (evolution, competition and response to environmental gradient). Implementation of the models in the Rangeshifter software.
2. Running preliminary simulation experiments on a set of case studies.
3. Synthesising the impact of biotic processes to understand species responses to climatic shifting. Lessons for range projections in practice.

Workshop program

During the first day we summarized outcomes from ongoing working group projects and identified common issues that had to be tackled during this meeting. A public iDiv seminar lecture presented empirical evidence on evolutionary response to global warming. Further lectures addressed recent developments to the Rangeshifter software, species range change after invasion and the consideration of biotic interactions in the Science and Technology Alliance for Global Sustainability's new major initiative Future Earth.

The majority of the workshop time was then dedicated to progressing the work of the subgroups. A great advantage was that the subgroups worked directly together with dedicated modellers. Analysis and modelling strategies were devised and at the same time partially implemented.

In summarising sessions the subgroups presented their detailed follow up, work plans and some of them already preliminary results.

Summary of workshop outcome

This second sDiv-workshop provided an important and fruitful platform to advance the work of the subgroups. Some subgroups enhanced their research plans and one new subgroups formed as a follow-up to the first workshop.

Several publications were designed. The required research tasks were operationalised and thoroughly described to structure and ease the workshop participants' follow-up contributions.

A potential new application of the Rangeshifter software was suggested by a participating independent sDiv postdoc and future discussions were planned to facilitate this synergistic development.

Participant list:

Name	First Name	Institution	Homepage
Barton	Kamil	University of Aberdeen	
Bocedi	Greta	University of Aberdeen	
Bridle	Jon	University of Bristol	http://www.bristol.ac.uk/biology/people/jon-r-bridle/index.html
De Meester	Luc	Katholieke Universiteit Leuven	http://www.kuleuven.be/wieiswie/en/person/u0008482
Godsoe	William	University of Canterbury	http://www.biol.canterbury.ac.nz/people/godsoe.shtml
Hendry	Andrew	McGill University	http://biology.mcgill.ca/faculty/hendry/
Holt	Robert	University of Florida	http://people.biology.ufl.edu/rdholt/
Huth	Andreas	UFZ – Helmholtz Centre for Environmental Research	https://www.ufz.de/index.php?de=3983
Johst	Karin	UFZ – Helmholtz Centre for Environmental Research	http://www.ufz.de/index.php?de=3732
Karreman	Xavier	Katholieke Universiteit Leuven	http://bio.kuleuven.be/eeb/laeec/whoiswho/00054085
Krug	Cornelia	DIVERSITAS – bioDISCOVERY	http://www.diversitas-international.org/activities/research/biodiscovery
Mihoub	Jean-	UFZ – Helmholtz	http://www.ufz.de/index.php?en=3210

	Baptiste	Centre for Environmental Research	5
Palmer	Steve	University of Aberdeen	http://www.abdn.ac.uk/biologicalsci/staff/details/s.palmer
Pantel	Jelena	Katholieke Universiteit Leuven	http://jhpantel.com/
Pe'er	Guy	UFZ – Helmholtz Centre for Environmental Research	http://www.ufz.de/index.php?en=15885
Pittman	Shannon	Purdue University/ Davidson College	
Singer	Alexander	sDiv, German Centre for Integrative Biodiversity Research/ UFZ – Helmholtz Centre for Environmental Research	https://www.ufz.de/index.php?de=20148
Travis	Justin	University of Aberdeen	http://www.abdn.ac.uk/biologicalsci/staff/details/justin.travis
Urban	Mark	University of Connecticut	http://hydrodictyon.eeb.uconn.edu/people/urban/
Zollner	Patrick A	Purdue University	http://www.agriculture.purdue.edu/fnr/faculty/zollner/

Remote participation:

Hellmann	Jessica	University of Michigan	http://biology.nd.edu/people/faculty/hellmann/
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