Senckenberg BiK-F Seminar Series SS 2016

SENCKENBERG
world of biodiversity

Thursday, 28.04.2016 – 11:00 AM in "Hörsaal" (Lecture Hall)

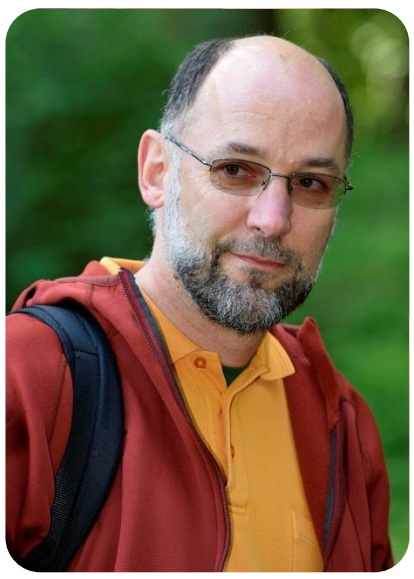
Prof. Dr. Alexandre Antonelli
(University of Gothenburg, Biological and Environmental Sciences)

The co-evolution of mountains and biodiversity

Mountains are key features of the Earth's surface and contain a substantial proportion of the world's biodiversity. In this talk I will present our current efforts to understand how mountain building may have contributed to generate and maintain diversity, focusing on the relationship between current diversity and abiotic variables, and how the relative roles of climate change, surface uplift and biotic processes on diversification may be analytically disentangled.

Alexandre Antonelli is Professor in Systematics and Biodiversity at the University of Gothenburg, Sweden. His research group focuses on the evolutionary history of tropical South America, by performing cross-taxonomic biogeographic and macroevolutionary analyses using molecular, fossil, and species distribution data. Empirical studies are complemented by the development of bioinformatic tools. More on his research and publications can be found at http://antonelli-lab.net.

Friday, 13.05.2016 – 11:00 AM in Wallace



Prof. Dr. Harald Bugmann
(ETH Zürich, Environmental Systems Sciences)

Spatially explicit, dynamic ecological interactions in forests: the potential of landscape models

Compared to the vast amount of studies, knowledge and insights that are available in ecology at the point (patch) scale and the many inferences that are being drawn at the global scale (e.g., Dynamic Global Vegetation Models), there is still a relative scarcity of investigations at the intermediate, "wicked" landscape scale where spatial interactions can have an overwhelming influence on ecological dynamics, from migration processes (including seed dispersal) to large-scale biotic disturbances (e.g., insect attacks) and abiotically dominated processes (e.g., wildfires).
Over the past decade, we have been developing a quantitative dynamic model, LandClim, to integrate and synthesize point-scale with spatially explicit processes, giving rise to emergent properties at the landscape scale. In the presentation, I will discuss the rationale, approach, and current state of modeling and model applications using LandClim. I will particularly emphasize seed dispersal and plant migration processes, as they may provide an interface to a new study on the interaction between the spotted nutcracker (*Nucifraga caryocatactes*) and the regeneration of Swiss stone pine (*Pinus cembra*) that is being conducted at BiK-F.

Harald Bugmann, originally a limnologist working on ecotoxicological problems, over time mutated into a full professor of Forest Ecology at ETH Zurich. The research of his group focuses on tree demography and community ecology under the influence of a changing climate, comprising mostly observational (forest inventories, tree-ring data sets) and modeling approaches (dynamic models at the stand and landscape scale). He has a deep passion for the Swiss Stone pine-larch forests of the inner parts of the European Alps.

Thursday, 23.06.2016 – 11:00 AM in "Hörsaal" (Lecture Hall)

Dr. Henri A. Thomassen
(University of Tübingen, Institute of Evolution and Ecology)

A bird's-eye view on the origin and preservation of biodiversity

Understanding the processes that generate and maintain biodiversity is crucial to mitigating and predicting the impacts of human-induced habitat change. I will present examples from my work within the field of landscape genetics that aims to 1) help improve our fundamental knowledge of evolutionary processes, and 2) aid in informing conservation prioritization efforts by mapping and protecting environmentally-associated intraspecific variation, with the goal to maximize a species' evolutionary potential.

Henri Thomassen has always been fascinated by the diversity of life, and has felt a strong drive to help in its protection. Making the connection between evolutionary ecology and conservation has thus been at the center of his research. In his current work he focuses on the relative roles of neutral and adaptive processes in population divergence, and the development of novel conservation strategies that take into account the potential impacts of human-induced environmental changes.

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Tuesday, 07.06.2016 – 11:00 AM in Wallace

Dr. Miklós Bán
(University of Debrecen, Hungary)

OpenBioMaps - an open tool for conservation and science

I will talk about our experiences of using and developing biodiversity related databases and the impact of open data. In Hungary it is very typical that institutes and research groups develop their own databases. These are maintained for a while (mostly few years), the data are not publicly available and the databases are not compatible with each other. Some databases have a public web interface but the data are not fully accessible. People usually do not use and trust remote databases to share and manage their own data. We have developed a flexible database framework - OpenBioMaps – for researchers and for citizen science as well. This database framework can incorporate independent databases with different purposes. However there are common tools, which can realize permeability among these distinct databases. It is not one-server/one-application, but a network of servers, which are maintained by different institutes. At this time we have five servers in three nodes in Hungary and Romania. We hope that these novel approaches can help to promote the public availability of important data sets, which were till now unreachable. Our aim is to launch an open-source distributed system, which provides flexible and friendly tools for data collectors, researchers and conservationist to make advances towards open data access.

Dr. Miklós Bán is a lecturer at the University of Debrecen in Hungary. He teaches programming and human evolution to university students. His main interests are behaviour ecology and computer application development. He has been developing computer applications for 15 years. In the last 10 years he has focussed on developing ecology/ biodiversity related databases and open data.

Wednesday, 06.07.2016 – 11:00 AM in Wallace

Prof. Dr. Katrin Rehdanz
(University of Kiel)

A human well-being approach for assessing the value of the natural environment

In many cases society ignores that nature's services are particularly worthy of protection. This in turn implies that the trade-offs between the use of the goods and services provided by nature and their preservation is not always taken sufficiently into account. Using the EU Biodiversity Strategy as an example, requiring the member states to assess their ecosystems and the economic value of their ecosystem services by 2020, the objective of this talk is to present the subjective well-being approach as one approach to measure people's attitudes towards and preferences for nature's services. Based on this approach the value of changes in natural land cover are assessed. Results at the NUTS 2 level for European countries indicate (a) that marginal willingness-to-pay estimates tend to be higher for natural areas that are scarcer, and (b) that a nonlinear relationship between land cover and well-being is preferred to a linear relationship indicating decreasing benefits from individual landscape amenities.

Katrin Rehdanz is associate professor for environmental and resource economics at the University of Kiel associated with the Kiel Institute for the World Economy. She holds a diploma and a PhD in economics from the University of Hamburg. She has a strong background in environmental valuation and environmental-economy modeling. Her main areas of research are environmental and climate policies research, global environmental problems, sustainable development, computable general equilibrium modeling.