



## Science Program

### Diversity Dynamics

The Science Program Diversity Dynamics deals with the interplay of abiotic and biotic factors on multiple temporal and spatial scales. Our task is assessing the relative role of these factors on the distribution and diversity of organisms. Besides basic research, our efforts also aim at scientifically informed predictions on the fate of ecosystems. Here we emphasize the role of global climate change on modern ecosystems. Our long-term goal is assessing the impact of life on the evolution of system earth.

This Science Program covers multiple organismic (populations, communities, ecosystems, biogeographic provinces and realms) and temporal scales (hours to geological times). Our methods ranges from field studies and quantitative collecting to isotope geochemistry development and analysis of large databases.

### Projects of the Science Program

- Intrinsic and environmental controls of evolutionary rates in Triassic to Palaeogene marine bivalves (Dr. Martin Aberhan)
- The Precambrian-Cambrian Biosphere Revolution: TP 6 ? Controls on global biodiversity patterns and skeletal mineralization during the Cambrian radiation (Prof. Dr. Wolfgang Kiessling)
- Evolutionary rates of zooxanthellate and azooxanthellate corals and their controlling factors (Prof. Dr. Wolfgang Kiessling)
- Selective survival and diversity patterns of terrestrial vertebrates during the end-Cretaceous mass extinction (Prof. Dr. Wolfgang Kiessling)
- Controls of ecological stability of marine ecosystems over long temporal scales (Prof. Dr. Wolfgang Kiessling)

## Museum für Naturkunde: Diversity Dynamics

- The Permian Triassic boundary and the Early Triassic in Transcaucasian pelagic sections (Dr. Dieter Korn)
- Evolutionary rates and evolutionary trends in Carboniferous and Permian ammonoids (Dr. Dieter Korn)
- Biostratigraphic and macroevolutionary analysis of Antarctic Neogene radiolarians (Dr. David Lazarus)
- Early angiosperms from northern Gondwana (Crato Formation, Brazil): phylogeny, ecology and evolution (PD Dr. Barbara Mohr)
- Biotic and abiotic factors promoting the diversification of caenophidian snakes (Prof. Dr. Johannes Müller)
- Biodiversity loss and fragmentation ? Matrix effects and ecosystem consequences using a hyperdiverse Malagassi amphibian assemblage as an example (PD Dr. Mark-Oliver Rödel)
- Adaptive capacity of selected species to global climatic change: subprojects Dragonflies and Amphibians (PD Dr. Mark-Oliver Rödel)
- The Precambrian-Cambrian Biosphere Revolution: TP2 ? Global trends in nutrient dynamics during the Ediacaran-Cambrian period as revealed in nitrogen isotope signatures (Dr. Ulrich Struck)
- Degradability of arctic, terrigenous carbon in the sea (ATKiM) (Dr. Ulrich Struck)

## Spokesperson



PD Dr. Mark-Oliver Rödel

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## Former Spokesperson

Prof. Dr. Wolfgang Kiessling