

Cologne Evolution Colloquium

Molecular Basis of
Evolutionary Innovations

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How ecological networks "memorize" species diversity in assembled communities

Ecological communities are shaped by population dynamics in the local habitat, together with migration from a pool of available species. The network of species interactions, a central object in ecology, is affected by these processes in ways that are still largely unknown. Using a systematic analytical framework we show how community network properties differ from those of the pool. Even if interactions between all pool species are completely random, correlations emerge between these quantities within the community. Nonetheless, these correlations are not sufficient to account for the diversity of species in the community. Rather, the species abundance is maintained by a pattern that is closely related to patterns suggested as models for memory in neural networks.

SFB 680

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Hosted by Michael Lässig