

## Advances in landscape ecology

### Principal organizers

[Benjamin Bergerot](#) (ECOBIO – Rennes)

[Françoise Burel](#) (ECOBIO – Rennes)

[Aude Ernoult](#) (ECOBIO – Rennes)

[Clélia Sirami](#) (INRA-Toulouse)

### Session description

Landscape ecology investigates the relationships between spatiotemporal patterns at the landscape level and ecological processes. In Europe, landscape ecology is rooted in heterogeneous and fragmented human-dominated landscapes and studies processes across individual, population and community levels. In recent years, the socio-ecological debate has produced new complex ecological questions that often require approaches at the landscape level. These questions are triggering new conceptual developments, emerging research topics and novel methods. The objective of this symposium is to synthesize recent advances in the field of landscape ecology and present an overview of the forefront research conducted across six major topics of this discipline:

- Within the growing development of urban ecology, the role of the spatio-temporal structure of cities and ecological continuities are being increasingly studied worldwide.
- The challenge of water quality restoration underlines the role of land-water interfaces. Studying the role of watersheds' land use and spatio-temporal heterogeneity provides critical clues to improve their management.
- The role of landscape configuration for the dispersal of pollutants through biotic fluxes as well as their accumulation is increasingly being acknowledged.
- Understanding the combined effects of climate and land use changes on ecosystems and biodiversity is becoming urgent to better manage landscapes in a context of interacting global changes.
- Novel modelling approaches and molecular techniques provide new insights for the development of landscape genetics.
- Conservation studies and population management guidelines are being revisited thanks to new mapping tools, spatio-temporal models and sampling methods at the landscape level.

### Speakers

- [Mark J. McDonnell](#) (University of Melbourne, Australia) – Keynote
- [Michel Baguette](#) (MNHN-Paris) Genetic flux and landscape ecology
- [Solène Croci](#) (COSTEL, Rennes) Linking structure of cities and landscape ecology
- [Thomas Delattre](#) (INRA-Avignon) Climate change impacts and landscape ecology
- [Clémentine Fritsch](#) (Université de Franche-Comté) Landscape ecology contribution to ecotoxicology studies
- [Clélia Sirami](#) (INRA-Toulouse) Managing landscape spatio-temporal heterogeneity for biodiversity conservation
- [Gilles Pinay](#) (ECOBIO-Rennes) Drainage basin functioning and landscape ecology