Evolutionary ecology of non-genetic inheritance and epigenetics

Principal organizers

Benoit Pujol (EDB – CNRS)
Christoph Grunau (IHPE-Université de Perpignan)
Arnaud Sentis (EDB – Université de Toulouse III)

Session description

Evidence is accumulating that non genetic mechanisms of inheritance shape the phenotypic diversity and the ability of populations to adapt to environmental challenges. New results on the ecological significance of developmental, parental, and social inheritance are emerging on a daily basis. In many cases, these different inheritance systems are combined with epigenetic marks that modify the chromatin structure and can be transmitted across generations. Epigenetic responses to the environmental demand are expected to play a key role in the evolutionary ecology of populations. Ongoing work in many research teams aims at determining the ecological significance of epigenetic inheritance and its role in evolution. The aim of this symposium is to highlight novel results and synthesize current knowledge in evolutionary ecology on non-genetic inheritance (NGI) and epigenetics. We expect talks and posters stemming from multiple areas of ecology. This is a field of research with implications for a broad scientific community in ecology. SFEcologie 2016 in Marseille will be a great opportunity to unify these fields of research and get a glance at exciting novel results. We expect the symposium in Marseille to be very exciting and fruitful.

Speakers

- Etienne Danchin (EDB- CNRS). Recent developments in the field of nongenetic inheritance.
- Frank Johannes (Technical University Munich). Population epigenomics in plants.
- Stéphane Maury (Université Orléans). Towards a role of DNA methylation in plant phenotypic plasticity.
- Clementine Vitte (CNRS Gif-sur-Yvette). Understanding how the genome shapes the epigenome in plants.
- Kevin N. Laland (University of St Andrews). Inclusive inheritance and the extended evolutionary synthesis.