The aim of the LECA is to understand the functioning and biodiversity of alpine ecosystems and to predict their response to global changes by using theoretical and applied tools from ecology and evolutionary biology. Integrated researches are then developed from molecular mechanisms of adaptation to global impact of the physical environment on ecosystems functioning and biodiversity preservation. The Chambery team is particularly interested in the interaction network, mechanisms of coexistence and the functional roles of the herbivores on the mountain ecosystems, in interaction with the plant communities.

**Research Themes**

LECA's research is organized around 6 departments:

- Adaptation, diversification and origins of biodiversity
- Network of specific interactions: functional perspectives
- Pressure of xenobiotics: adaptation and dysfunction in ecosystems
- Social system dynamics in a changing world
- Macroeconomy and the rules for assembling metacommunities: applications for modelling and conserving the biodiversity
- Biogeochemistry: links between diversity and recycling nutrients in permanent meadows

...and 2 emerging themes:

- Mathematics and algorithmics for studying biodiversity
- Paleoenvironments: long term perspectives of the trajectory of mountain ecosystems

**Specific Equipment and Expertise**

- Radio tracking VHF GPS
- Analysis of spatial and demographic data, SIG
- Molecular biology analysis
- Extraction equipment
- High Pressure Liquid Chromatography
- Laboratory and Field spectroscopy (UV-visible)
- Phytotron
- Microtome and Microscopy

**PhD Students Skills**

- Functional and spatial ecology
- Monitoring of animal and vegetal communities populations
- Statistical analysis of spatial and demographic data
- Functional traits measurements
- Analysis of plant metabolism
- Molecular ecology, phylogeny, phylogeography
- Modeling

**Networks / Partnerships**

Academic cooperations

- University of Tromso and Trondheim (Norway)
- University of Quebec at Rimouski; University of Laval (Canada)
- University College of Dublin (Ireland)
- University of Vigo (Spain)
- ETH Zurich and Federal Institute for Forest, Snow and Landscape Research WSL (Switzerland)
- University of Swansea

Institutional cooperations

- Office national de la Chasse et de la Faune Sauvage
- Office National des Forêts
- Geopark des Bauges
- Parc National des Ecrins

**International Relations**

- Cross-border cooperation with the University of Turin

**Key Data**

- 30 researchers and professors
- 21 administrative and technical staff
- 42 PhD students and post-doctoral students

* Academic year 2017-2018