

UMR A 42 - INRA / USMB

Department: UFR Sciences and Mountain

PhD school: Science and Engineering of Systems, of Environment and of Organization (SISEO)

TRANSVERSAL SKILLS

Fundamental Sciences, Earth sciences,
Environmental Sciences

KEY WORDS

Limnology ■ Ecology ■ Biogeochemistry ■
Biodiversity ■ Paleolimnology ■ Microbiology
■ Ichthyology ■ eDNA ■ Ecotoxicology ■ Lakes
■ Watersheds ■ Anthropization ■ Trophic food
webs ■ Global change

SECTORS

Water quality ■ Agriculture ■ Management
and planning of natural environments

CARTELT UMR is a shared Research Unit between INRA and Université Savoie Mont Blanc studying alpine aquatic ecosystems in the context of global change (climate, anthropogenic pressures). Founded in 1999, the UMR has developed knowledge on the functioning of alpine lakes and their watersheds, while creating bio indicators for the ecology and dynamic survey of the aquatic environment quality. The Unit has also worked on improving fisheries management.

RESEARCH THEMES

The research of the UMR CARTELT is organised around following departments:

■ Two research themes

- Aquatic Biodiversity: causality and functional consequences
- Lake meta ecosystems and global change

■ Technical platforms

- Biodiversity, molecular biology, sampling campaigns, chemistry, library (Algae, DNA Barcodes, etc.)

■ The LAke Observatory (SOERE OLA)

- Sustainable monitoring of the chemical and biological status of four large French alpine lakes (Lake Geneva, Annecy, Bourget, Aiguebelette) and of small mountain lakes (Alps, Massif Central, Jura).

SPECIFIC EQUIPMENT AND EXPERTISE

- Port and boats samples
- Sampling equipment (water, phytoplankton and zooplankton)
- Multi parameter probes
- Analytical Laboratories equipped with water chemistry, molecular biology, microscopy
- Experimental fish farming
- External experimental channels
- Collections of biological samples
- Experimental room illuminated and thermostated

PHD STUDENTS SKILLS

Algal Ecology ■ Ecotoxicology ■ Ichthyology ■ Lake food web ■ Microbiology and Molecular Biology ■ Paleolimnology ■ Modelling ■ Processing of statistical data (R)

NETWORKS / PARTNERSHIPS

Academic Partners

FREE-Alpes Research Federation ■ University of Geneva ■ University of Lausanne ■ IRSTEA ■ Blaise Pascal University (Clermont-Ferrand) ■ EPFL ■ ZABR (Rhône basin's Atelier Area) ■ ZAA (Alps Atelier Area)

Institutional Partners

CIPEL (International Commission for the Protection of Lake Geneva) ■ SILA (Lake of Annecy's Intermunicipal syndicate) ■ CISALB (Inter-union committee for remediation of Lake Bourget) ■ CCLA (Committee for Lake Aiguebelette) ■ AFB ■ EDF

INTERNATIONAL RELATIONS

Member of GLEON: Global Lake Ecosystem Network ■ "Diatomics" COST French Representative ■ Vice Chairman of COST DNAqua-Net 2016-20 Developing ■ New Genetic Tools for Bio Assessment of Aquatic Ecosystems in Europe ■ Member of the European Network of Intercalibration for the Water Framework Directive Fish Monitoring ■ Host international post-doctoral fellows and researchers (USA, Canada, India, Russia, Czech Republic, Chile, etc.)

KEY DATA*

- 13 researchers and professors (including emeritus)
- 23 administrative and technical staff
- 12 PhD students et post-doctoral students

* Academic year 2017-2018