

# Engineering of genomes

**Coordinator** : Christine LELANDAIS

**Teaching Team** : Christine LELANDAIS, Céline SORIN, Ioana POPESCU, Speakers (may change depending on the year).

## Course organization:

The EU takes place over a period of 2 weeks.

Lecture: Genome engineering technologies, synthetic biology and RNA interference: principles, underlying molecular mechanisms and applications.

Exercices with examples of applications.

An experimental and practical approach will be carried out on silenced transgenic plants.

## Targeted learning objectives:

The objectives of this course are:

- 1) to train students in genome engineering and editing methodologies, synthetic biology and RNA-mediated technologies
- 2) to describe the molecular basis of the non-coding RNA-mediated gene regulation and DNA repair/recombination mechanisms underlying these technologies
- 3) to present the envisaged developments and applications in the fields of plant production and health
- 4) to reflect on the societal, environmental and ethical challenges associated with the development of these biotechnologies