



NATIONAL INSTITUTE FOR LIFE, FOOD AND HORTICULTURAL SCIENCES AND LANDSCAPING

Join our **AGROECOLOGY** program for 1 semester as an exchange student and **get 30 ECTS!**



AGROCAMPUS OUEST 's Agricultural Engineering MSc in **AGROECOLOGY** is based on a transdisciplinary approach of agroecosystems with a highlight on agronomical, ecological, environmental, economic and social issues.

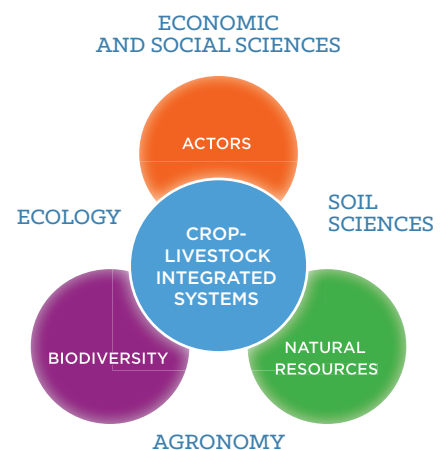
# AGROECOLOGY at **AGROCAMPUS OUEST**

Rennes, France

From September 2017 to January 2018\*

## Our program prepares students for a **WIDE RANGE OF MISSIONS:**

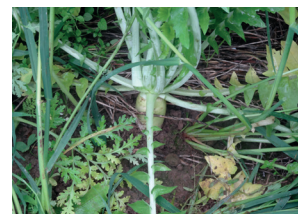
- **Emphasize** positive interactions within agroecosystems in order to propose agroecological practices which encourage functional biodiversity and appropriate crop rotations and help the natural regulation of populations and the management of bioagressors
- **Manage** soil fertility and complete biogeochemical cycles by developing synergies between livestock farming and crops
- **Develop** a systemic vision of agroecosystems to support, improve and increase farm sustainability
- **Evaluate** farm sustainability through multicriteria assessment including biodiversity, natural resources and the society
- **Help** farmers evaluate the relevance of their practices and compare them with those of other farmers, and encourage them to design possible changes
- **Reflect** and open up to new ideas while considering the goals, needs and interests of the stakeholders
- **Contribute** to the development of transdisciplinary research in agroecology.



Emphasis is given to the integration of disciplines focusing on crop-livestock integrated systems that value and preserve biodiversity.

\* A shorter semester between September to December 2017 is possible under certain conditions

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| <b>TU 1.</b> An introduction to Agroecology <b>(1 ECTS)</b>   |   |
| <b>TU 2.</b> Global socio-economical analysis <b>(3 ECTS)</b>   | <ul style="list-style-type: none"> <li>• Historic views of agroecology, from social movements to scientific concepts</li> <li>• Public support for agroecology</li> </ul>   |
| <b>TU 3.</b> Theoretical basis of agroecosystem functioning <b>(8 ECTS)</b>                                       | <ul style="list-style-type: none"> <li>• Theories of ecology and biodiversity measurements</li> <li>• Soil fertility and ecosystem services</li> <li>• Basics on animal sciences and livestock farming</li> <li>• Ecology and biodiversity (interactions between soil/plant/organisms)</li> <li>• Landscape management and biogeochemical flows</li> <li>• Modeling applied to agroecology</li> </ul> |
| <b>TU 4.</b> Sustainability analysis of agroecological agroecosystems <b>(4 ECTS)</b>                             | <ul style="list-style-type: none"> <li>• Multicriteria analysis applied at a farm scale</li> <li>• Economy</li> <li>• Evaluation and change proposals</li> </ul>  |
| <b>TU 5.</b> Management levers of agroecological agroecosystems <b>(5 ECTS)</b>                                   | Agroecological management of soil fertility, plant health, forage resources, plant breeding   |
| <b>TU 6.</b> From functional ecology to an integrated management of crop-livestock agroecosystems <b>(4 ECTS)</b> | <ul style="list-style-type: none"> <li>• Soil biodiversity and biochemical cycles</li> <li>• Plant composition, forage quality</li> <li>• Closing biochemical cycles by animal waste re-use and crop diversification</li> <li>• Land use for animal production : introduction of agroforestry</li> <li>• How to support farmers in managing agroecosystems</li> </ul>                                 |
| <b>Statistical and spatial engineering tools (1 ECTS)</b>   |   |
| <b>Trandisciplinary project (4 ECTS)</b>  |   |



## Application Deadline

**May 30th, 2017**

## Requirements

**Bachelor's degree** with a background in Agronomy, Crop science, Animal science, Soil science, Ecology, Economic and Social sciences.

**B2 level** English proficiency.

## More info & Registration

[student.mobility@agrocampus-ouest.fr](mailto:student.mobility@agrocampus-ouest.fr)

## Program Features

- Individual and group-based learning
- Short projects on experimental sites
- A transdisciplinary project in a real farm

The aim is to test and practice the knowledge and skills acquired by the students through the lectures and seminars.

- All courses in English

## Support offered by AGROCAMPUS OUEST

- Single Welcome Desk
- Free French Language Courses
- Housing Support