

# URCA, A KEY PLAYER IN AGROSCIENCES, ENVIRONMENT, GREEN CHEMISTRY, BIOTECHNOLOGY AND THE BIOECONOMY

## THE UNIVERSITY OF REIMS CHAMPAGNE-ARDENNE

has recognized skills, know-how and state-of-the-art equipment in agrosiences, environment, green chemistry, biotechnologies, digital technology and the bioeconomy. Our technical resources and **multidisciplinary scientific skills**<sup>1</sup> in these domains enable us to offer innovative solutions that meet scientific and societal challenges, with a commitment to realism, competitiveness and sustainable development.

### Expertise<sup>2</sup> in the conversion of plant materials, in environment and in the bioeconomy

#### Biobased materials

- Development and characterisation of biobased composite materials
- Synthesis and characterisation of biobased polymers (thermoplastics, thermosets)
- Development and characterisation of nanomaterials
- Implementation processes

#### Biomolecules

- Biomass fractionation
- Synthesis and purification of biomolecules
- Functionalisation of biomolecules
- Characterisation of the structure / properties of biomolecules
- Bioproduction of biomolecules

#### Crop production

- Plant immunity and biocontrol
- Soil fertility and soil-air interactions
- Viticulture
- Smart agriculture

#### Soil management

- Study of soil fertility and biodiversity
- Study of the surface, properties and dynamics of soils
- Study of soil water and groundwater
- Study of organic and inorganic soil pollutants
- Modelling

#### Water management

- Ecotoxicological studies
- Development of biomonitoring tools and methods
- Dynamics of organic and inorganic contaminants
- Quantitative and qualitative characterisation of surface water and groundwater bodies

#### Socio-economic aspects of the bioeconomy

- Sustainable development, production and agro-resources
- Consumption and society
- Regions, change and sustainability

## 6 MAIN RESEARCH AREAS

- Biobased materials
- Biomolecules
- Crop production
- Soil management
- Water management
- Socio-economic aspects of the bioeconomy

Other related expertise is also being developed, such as eco-ethology, the study of geomaterials, and the study of the physico-chemical processes of wine effervescence.

## KEY FIGURES



**250** Researchers and teacher-researchers



**25** patents

**+ than 130** industrial collaborations



**30** European projects obtained in the past 5 years

**14** laboratories



## For applications in



Agriculture  
Viticulture



Fine  
chemistry



Healthcare



Society



Cosmetics



Materials



Environment



Bioenergy

Are you interested in our skills, equipment, know-how and technologies? Are you looking for future employees who have benefited from quality initial training? Do you wish to complete your studies or take advantage of our continuing education courses?

#### Contact us:

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<sup>1</sup>Mathematics, Physics, Earth sciences and astronomy, space. Chemistry, Biology, Medicine and Healthcare. Humanities, Social sciences, Engineering sciences, Information and communication sciences and technologies.

Agronomic and ecological sciences. Management of scientific heritage

<sup>2</sup>see specific presentation sheets