University Bourgogne Europe is recruiting

Research Engineer in Physical Chemistry / Process

Public Law Postdoctoral Contract

For the laboratory: UMR PAM – PCAV Team

ASSIGNMENT

- Assignment Laboratory: Institut Agro Dijon – UMR PAM, PCAV team
- Laboratory Description :

The National Institute of Higher Education for Agriculture, Food and the Environment (Institut Agro) holds the status of EPSCP Grand Establishment. It comprises 1,200 staff members and 4,500 students. Institut Agro is structured into three internal schools: Institut Agro Dijon, Institut Agro Montpellier, and Institut Agro Rennes-Angers.
The position is part of Institut Agro Dijon, a public higher education and research institution in agronomy and food sciences, under the joint supervision of the Ministry of Agriculture and Food and the Ministry of Higher Education, Research and Innovation. It trains engineers in these fields, hosts co-accredited master's degrees, specialized master's programs, and conducts research within Joint Research Units. It also contributes to supporting the educational system of technical agricultural education.
The position is located within the UMR Pam (Food and Microbiological Processes), in the PCAV team (Physico-Chemistry of Food and Wine). This team aims to understand dynamics occurring during the structuring or preservation of food: reactions, transfers, molecules. Research is conducted in three thematic areas: Oxidative stability of food and wine; Structuring of active materials and small molecule transfer; Molecular dynamics and functionalities of proteins.
To learn more: https://institut-agro-dijon.fr / https://www.institut-agro.fr / https://www.umr-pam.fr

PROJECT AND RESEARCH AREA

Projet de recherche :

- The regional project CASSISMATIC aims to valorize blackcurrant processing by-products, particularly blackcurrant pomace, rich in valuable molecules such as polyphenols, anthocyanins, and polysaccharides. Currently, these pomaces are used for animal feed or methanization but generate no financial value for processors. The project seeks new valorization pathways in higher value sectors such as cosmetics and materials.

  To achieve this, the project is structured into four tasks: WP1 focuses on chemical and structural characterization depending on variety and harvest year; WP2 focuses on extrusion processes to optimize biomass deconstruction to increase extraction yields of valuable compounds while preserving properties; WP3 compares extrusion with emerging technologies (microwaves and supercritical fluids); WP4 explores two branches: material

development from extracted polysaccharides, and integrating polyphenols into cosmetic formulations.

This position is part of WP2 and WP3 and focuses on using green technologies to deconstruct the biomass structure and improve extraction efficiency

MISSIONS and ACTIVITES

The research engineer will set up and conduct extrusion trials, microwave- and ultrasound-assisted extraction. They will perform biochemical and physico-chemical characterizations, plan tests and measurements, process data, and present results (written reports and oral presentations).

More specifically, the engineer will determine:

- Parameters enabling biomass deconstruction
- Biomass structure via microscopy
- Molecular structure via spectroscopy
- Total polyphenol and anthocyanin content
- Antioxidant activity of extracts
- Techno-functional properties (thickening / gelling) of polysaccharides

The candidate will perform literature reviews, develop experimental methods adapted to the matrix, work autonomously, and co-lead biweekly project meetings.

PROFILE

REQUIRED DEGREE – QUALIFICATION – FIELD OF STUDY

PhD in Food Science, Process Engineering, or Biochemistry

The candidate must have obtained their PhD less than three years before the start of the contract (after February 2023).

REQUIRED SKILLS

Knowledge	**Savoir-faire / Savoir-être**
PhD level: Food science, process engineering, biochemistry	• Green extraction techniques • Processes: extrusion, microwaves, ultrasound • Good laboratory practices • Biochemical and physico-chemical analytical tools • Statistical processing • Teamwork • Autonomy • Organizational skills • Ability to synthesize information • Motivation and scientific curiosity • Meeting facilitation skills • Writing skills in English

LANGUE

Englisg : Excellent / Mother Tongue

POSITION INFORMATION & WORKING CONDITIONS

- Category : A
- Full-time, 40h/week. Telework is not compatible with this position
- Location: Dijon (France), UMR PAM, PCAV team, Epicure building
- Rights and obligations, particularly those relating to professional ethics and intellectual property: The beneficiary (postdoctoral researcher) shall be bound by professional secrecy with regard to third parties, not only concerning the laboratory's activities relating to the field of study and research, but also concerning any other laboratory activities of which they may become aware. He/she may only publish or communicate in writing or orally on his/her research after obtaining the prior consent of the Scientific Director of the project. The postdoctoral fellow's publications and communications must be co-signed by the scientific director of the research, who is a full member of the laboratory. The results of the research, whether patentable or not, shall be the full and entire property of the laboratory, which may file patents in its name to protect the inventions made.

- Work Environment and Benefits
  - Campus with sports facilities
  - Access to university libraries
  - Access to Atheneum cultural center
  - Staff associations
  - Campus accessible by tram/bus, bicycles
  - Sustainable mobility benefits
  - Partial coverage of health insurance
  - Multiple dining options
  - Staff social services

CONTRACT

- Duration : 12 months
- Expected start: February/March 2026
- Salary: €2,271 gross

APPLICATION

- Document required
  - **Full CV**
  - Cover letter

- Contact : Aurélie Lagorce (aurelie.lagorce@agrosupdijon.fr)
- Application dead line : **January 9, 2026**