

Master's-level internship within a European project

“Development of edible polysaccharide-based coatings for fruits and vegetables preservation”

About the laboratory and project

The internship is part of a European project, named DurlnnPack (Innovative Packaging and edible coatings to guarantee post-harvest Durability of Mediterranean fruits and vegetables production), regrouping 8 research laboratories all around the Mediterranean area. The global aim of the project is to develop new protective edible coatings for fruits and vegetables, as a sustainable solution to reduce post-harvest losses. The coating will be produced from available, sustainable and renewable Mediterranean sources, extracting compounds of interest such as polysaccharides, nanomaterials and bioactive additives, and will then be directly applied to the fruit surface. The internship will be led within LGP2 laboratory (Laboratory of process engineering for biorefinery, bio-based materials and functional printing). LGP2 is a joint research unit (UMR 5518) of the French National Center for Scientific Research (CNRS). Its activities range from wood science to packaging converting and printing. The laboratory's distinctive feature is its multi-disciplinary approach to processes, chemistry and materials.

About the internship

This internship will focus on the formulation and characterization of several edible coatings. Coating suspensions will be analyzed as such (e.g. viscosity, surface tension, etc.), and will be used to produce films by solvent casting technique. The films will be characterized in terms of thermal, mechanical, optical and barrier properties. For formulation, different polysaccharides will be used along with different functional ingredients (nanomaterials, plasticizers, etc.) to understand the impact of each ingredient on the coating properties. The global aim is to better understand the surface and adhesion phenomena that occur between the fruit surface and the coating, which are key to ensuring good protection throughout the fruit shelf life.



Duration: 5-6 months (September 2025 – February 2026 or February 2026 – July 2026)

Location: Grenoble, France

Candidate requirements

- Engineering school or master's level with expertise in materials science or chemistry
- Knowledge of biopolymers would be a plus
- A good level of written and spoken English is required
- The ability to work in a team, autonomy and motivation are important selection parameters

To candidate, please send a CV and a motivation letter to:

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Deadline to apply: 11/07/2025