


IMT Mines Alès
École Mines-Télécom


SCIENCE & CREATIVITY TO INVENT A SUSTAINABLE WORLD

Postdoctoral Researcher

Development of bio-based straw composites: selection, fractionation, microstructure and mechanical behaviour

Institution :	IMT Mines Alès (Ecole Nationale Supérieure des Mines d'Alès)
Research Teams :	UPR PCH et UMR DMS-LMGC
Administrative location :	Alès (Gard –Occitanie Region)
Contract :	18-month fixed-term contract- full-time
Starting date :	**01/04/2026**

Presentation of the institution and C2MA

Institut Mines-Telecom

Institut Mines-Télécom (IMT) is a public scientific, cultural and professional institution (EPSCP) under the primary supervision of the ministries in charge of industry and digital affairs. As the leading group of engineering schools in France, it brings together 11 public engineering schools across the country, educating 13,500 engineers and PhD graduates. IMT employs 4,500 staff and has an annual budget of €400 million, 40% of which comes from its own resources. IMT includes 2 Carnot Institutes, 35 industrial chairs, produces 2,100 A-rank publications per year, files 60 patents annually and carries out €110 million in contract research.

IMT Mines Alès

The school's mission statement is: "Building on its membership of IMT and its strong regional roots, IMT Mines Alès gives its students the best opportunities for professional fulfilment, enabling them to become responsible contributors to the development of the Nation while preserving the Planet's resources." Our core values are boldness, commitment, sharing and excellence.

Founded over 180 years ago, IMT Mines Alès currently hosts 1,400 students (including 250 international students) and employs 380 staff members. It has two campuses in Alès and additional sites in Montpellier and Pau. Its students include generalist engineers, specialist engineers (apprenticeship-based), PhD candidates, and master's and specialised master's students. The school also welcomes more than 500 trainees in continuing professional education.

The school has three high-level research and teaching centres operating in the fields of materials and civil engineering (C2MA), environment and risk management (CREER), and artificial intelligence, industrial and digital engineering (CERIS). These entities bring together around 85 permanent academic staff (half of whom hold HDR accreditation), 40 research support staff, and 100 PhD students and postdoctoral researchers. Together, they produce over 130 A-rank publications per year and €3 million in research contracts, one third of which are directly with industry. Research staff contribute to six research units, including four joint research units (UMR). IMT Mines Alès is accredited to award doctoral degrees within four doctoral schools.




The school operates 12 technological platforms and collaborates with 1,600 partner companies. Creativity is a defining characteristic that permeates all activities. IMT Mines Alès was the first institution to create a business incubator in 1984 (200 companies created to date, generating 1,000 jobs). The school offers rich and diverse career paths: academic staff may pursue professional mobility within the various IMT schools and may also take on functional management responsibilities (education, research, international affairs, economic development, etc.) on a part-time basis.

At IMT Mines Alès, each individual is a key contributor to our Sustainable Development and Social Responsibility (SD&SR) strategy. We are committed to promoting environmentally responsible practices, fostering diversity and inclusion, and ensuring ethical conduct in all our activities. Staff are encouraged to adopt responsible approaches in their daily actions and to propose innovative ideas that strengthen our positive impact on society and the environment.

The Centre for Materials of Mines Alès (C2MA)

C2MA is a research and teaching centre addressing industrial and societal needs in the field of materials through its three research teams:

- Durability of Eco-Materials and Structures (DMS), Alès
- Polymers, Composites and Hybrids (PCH), Alès
- Research on Materials–Environment Interactions (RIME), Pau

The activities of the UPR PCH (Polymers, Composites and Hybrids) and UMR DMS-LMCG (Durability of Eco-Materials and Structures) research teams aim to provide a comprehensive vision of eco-material development and their interactions with their service environments. The development of these materials combines mechanical strength, thermal stability and durability requirements, whether for civil engineering structures or high-performance industrial composites. Research topics span the entire materials life cycle (bio-based and recycled raw materials, processing and shaping, formulation and control of in-use properties), including end-of-life valorisation stages. A multidisciplinary approach is promoted, supported by a wide range of expertise from engineering sciences (process engineering, materials engineering, mechanical and civil engineering, etc.) to chemistry and physical chemistry (macromolecular and mineral materials, surfaces and interfaces), and by technological platforms equipped with high-performance facilities for processing, shaping and microstructural, thermal and mechanical characterisation of polymer and composite materials.

Job description:

The position is part of the European BEST-CROP project involving 18 partners across Europe (https://www.bestcrop.eu/), which aims to contribute to the development of the circular economy by providing new high-yield barley varieties (perspective article – BEST-CROP project). One component of the project focuses on supplying barley straws with optimised composition and/or microstructure for various applications, including the construction sector (particleboard and biocomposite manufacturing). Within this framework, the PCH and DMS teams are responsible for studying the influence of selection and fractionation of straw from different barley varieties, as well as the microstructure and mechanical behaviour of the resulting bio-based composites. The work will involve incorporating straw into thermoplastic matrices and evaluating and modelling the variability of mechanical behaviour in relation to straw composition and morphology, with the objective of developing high-performance thermoplastic composites. The research will also contribute to expanding the laboratory's extensive database on bio-based composites.



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Required profile and general evaluation criteria

Your supervisor and the team will support you in developing your skills while valuing your experience and talents.

Minimum required education and/or experience :

- PhD in mechanics or in polymer and composite materials science and engineerin

Required technical and transversal skills :

- Expertise in polymer processing technologies
- Skills in microstructural analysis and mechanical modelling
- Knowledge in plant biology and/or plant biomechanics

The selected candidate will be fully integrated into a large-scale European project involving assignments with project partners. He/she will be encouraged to produce scientific output (A-rank journal publications, oral presentations at national and international conferences, etc.).

Application

Administrative conditions

The position offered by IMT Mines Alès is an 18-month full-time fixed-term public law contract, governed by the management framework of Institut Mines-Télécom, profession P, Postdoctoral researcher, Category II.

Salary : Salary will be determined based on experience and associated skills.

Application procedure

Applications (CV and cover letter) must be submitted **exclusively via**: ⚠
https://institutminestelecom.recruitee.com/o/post-doctorante-elaboration-de-composites-biosources-a-base-de-pailles-selection-fractionnement-microstructure-et-comportement-mecanique-cdd-18-mois-imt-mines-ales

Applications will be carefully reviewed by the recruitment committee.

Recruitment schedule

A selection panel composed of several members will meet with candidates and ensure optimal conditions for a successful interview.

Application deadline: 14/02/2026

Indicative interview period: 24/02/2026

Desired starting date: 01/04/2026


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Contacts

If you require further information regarding any aspect of the application, please do not hesitate to contact the following individuals:

For information regarding the position :

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Stéphane CORN, Associate professor
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For administrative matters:

Géraldine BRUNEL, Director of Human Resources
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Onboarding

A smooth onboarding for a successful start

Upon arrival, you will benefit from an onboarding period designed to help you discover your missions and working environment. You will be welcomed by your HR contact, who will guide you through all necessary procedures to ensure a smooth start in your position.