



SCIENCE & CREATIVITY TO INVENT A SUSTAINABLE WORLD



Research Engineer

Life cycle assessment of batteries

Establishment :	IMT Mines Alès (Ecole nationale supérieure des mines d'Alès)
Main assignment :	Centre for Research and Education in Environment and Risks (CREER) – HSM
Administrative residence:	Alès (Gard Department – Occitanie Region)
Type of contract :	14-month fixed-term contract - Public law contract - Full-time
Start date :	February 1, 2027

Presentation of our establishment, the CREER Centre

The Institut Mines-Télécom

The Institut Mines-Télécom (IMT), a large institution within the meaning of the Education Code, is a public scientific, cultural and professional establishment (EPSCP) under the main supervision of the ministers in charge of industry and digital technology. The leading group of engineering schools in France, it brings together 11 public engineering schools spread across the country, which train 13,500 engineers and PhDs. IMT employs 4500 people and has an annual budget of €400 million, 40% of which comes from its own resources. IMT has 2 Carnot institutes, 35 industrial chairs, produces 2100 A-rank publications annually, 60 patents and carries out €110 million in contract research.

IMT Mines Alès

Purpose of the school: "With its membership of IMT and its territorial presence, IMT Mines Alès gives its students the best chances to achieve professional fulfilment in order to be responsible actors in the development of the Nation by preserving the wealth of the Planet." The values that drive us: boldness! Commitment, sharing, excellence.

Created more than 180 years ago, IMT Mines Alès currently has 1400 students (including 250 foreigners) and 380 staff. It has two campuses in Alès and is also located in Montpellier and Pau. Its students are general engineers, specialized engineers (by apprenticeship), doctoral students and students of master's or specialized master's degrees. It welcomes more than 500 trainees in continuing vocational training.

The school has 3 research and teaching centers of high scientific and technological level, which work in the fields of materials and civil engineering (C2MA), environment and risks (CREER), artificial intelligence and industrial and digital engineering (CERIS). These entities bring together around 85 permanent teacher-researchers, 40 research support staff, 100 doctoral students and post-doctoral fellows, who produce each year more than 130 A-rank publications and €3 million in research contracts, a third of which are direct contracts with companies. These research staff contribute to



6 research units, including 4 UMRs (joint research units). IMT Mines Alès is accredited to award the doctorate degree in 4 doctoral schools.

It has 12 technology platforms and 1600 partner companies. Creativity is a strong characteristic that permeates all its activities. The school was the first to create an incubator in 1984 (200 companies created to date, 1000 jobs). The school offers rich and varied career paths: teacher-researchers have opportunities for professional mobility in the various IMT schools and can also take on responsibilities within the school's functional departments (studies, research, international, economic development, etc.) for part of their time.

At IMT Mines Alès, each person is a key player in our Sustainable Development and Social Responsibility (SRCI) approach. We are committed to promoting environmentally responsible practices, fostering diversity and inclusion, and ensuring ethics in our operations. We encourage all our agents to take a responsible approach in their daily actions and to come up with innovative ideas that strengthen our positive impact on society and the environment.

The Centre for Research and Education in Environment and Risks (CREER)

Within the School, IMT Mines Alès, the Centre for Research and Education in Environment and Risks (CREER) conducts research activities in the fields of the industrial environment and risk. It brings together two research units:

- ▶ The HSM Joint Research Unit (HydroSciences Montpellier)
- ▶ The GARANCe Own Research Unit (Management of Industrial Activities and Risks to Prevent Future Changes)

The CREER Center also has 2 teaching departments ("Environment, Energy and Risks" and "Subsurface Engineering and Exploitation of Mineral Resources") and 4 technological platforms (DOREE, PAQMAN, SIMULCRISE and SPARK).

THE HSM UMR

The UMR HSM (University of Montpellier, IRD, CNRS, IMT Mines Alès) works on integrated water management using a wide range of skills capitalizing on research know-how in biology, chemistry, metrology, industrial ecology, life cycle assessment, geology, geostatistics, statistics and hydro(geo)logical modeling.

The variety of these disciplines makes it possible to meet the major challenges related to water and air that require various skills (monitoring, treatment, modeling, management, etc.) allowing the team to integrate into multidisciplinary projects and to get involved in several circles and communities, thus amplifying its influence. The CREER center has thus reached a size that allows it to have a rich scientific dynamic and influence at the regional, national and international levels, particularly within the framework of joint doctoral contracts.

In the field of Life cycle assessment, CREER - HSM contribute to assess the impacts of climate change mitigation (low carbon fuels, batteries) and adaptation (water reuse and natural based solutions) scenarios on water and mineral resources.

CREER-HSM, and to other unit research units of IMT Mines Alès, specialized in material research, C2MA-PCH, and C2MA-RIME are contributing to the national project 3MRBAT ("Skills and Professions for the Mining, Metals, and Battery Recycling Sector"), which was selected under the "Skills and Professions of the Future" (Compétences et Métiers d'Avenir) call for projects. With a budget of €2 million, this ambitious project aims to provide training for roles across the entire battery value chain—from the extraction of metals to the manufacturing and recycling of batteries

Job Description

The position is for a research engineer at Institut Mines-Télécom, within the CREER-HSM team. The role combines teaching and research activities. The successful candidate will contribute to life cycle assessments (LCA) of various Li-ion battery scenarios, including end-of-life stages, with a particular focus on resource use and impacts, especially those related to minerals and water.



The candidate will also contribute to the development of the curriculum for the PRINEC Specialized Master's programme, particularly a project which trains students to explore different battery supply and end-of-life scenarios. This role requires an interest in innovative teaching methods, such as serious games and project-based learning.

In addition, the candidate will work with local authorities and industrial partners involved in 3MRBAT, with the aim of grounding training modules in real-world case studies. Ideally, the candidate will have prior experience in collaborative approaches to developing educational content with external stakeholders.

Main missions:

The successful candidate will work within the framework of the AMI CMA 3MRBAT project, as a member of the HSM team at the CREER research centre of IMT Mines Alès, while collaborating with the RIME and PCH teams at C2MA.

Initially, its work will focus on assessing the environmental impacts of different life cycle scenarios for lithium-ion batteries, with the aim of identifying the main environmental hotspots. This assessment will draw on the expertise of the 3MRBAT project partners, technical data from major industrial projects currently under public debate in France, and the existing scientific literature. Particular attention will be paid to impacts on water resources, given the significant volumes of water required throughout the battery value chain.

Building on this initial assessment, the candidate will then contribute to the development of a training content for the PRINEC Specialised Master's programme at IMT Mines Alès. He/her will help design and deliver an interactive training module on the battery life cycle, illustrating how different scenarios involving raw material sourcing, manufacturing, use and end-of-life management influence environmental impacts. The module may incorporate innovative teaching tools, such as serious games, and will be developed through a series of workshops and/or interviews with students and industry professionals. The candidate will prepare the associated teaching materials and deliver the corresponding classes.

Finally, the candidate will contribute to the dissemination of the project's scientific findings. He/her will be encouraged to publish its research in international peer-reviewed journals, present their results at national and international conferences, and share key findings with project partners through dedicated briefings.

Desired profile and general evaluation criteria

Your manager and the team in place will support you in the development of your skills, while valuing your experience and talents.

Minimum level of education and/or experience required :

Beyond your degree, your personality will make the difference.

- ▶ Master's degree in environment

Skills, knowledge and experience required:

- ▶ Expertise in Life Cycle Assessment (LCA) applied to industrial systems and/or water footprint assessment.
- ▶ Knowledge of natural resource management, particularly water and/or mineral resources.
- ▶ Skills or experience in teaching and training, including project-based learning and serious games.
- ▶ Experience in participatory approaches.
- ▶ Good command of scientific English, both written and spoken.
- ▶ Ability to disseminate and communicate research findings through publications in international scientific journals and presentations at national and international conferences.
- ▶ Strong writing skills.



Skills, knowledge and experience appreciated:

- ▶ Battery manufacturing and/or recycling processes

Technical and transversal skills required:

- | | |
|-------------------------|-----------------------------|
| ▶ Dynamism | ▶ Rigour and methodology |
| ▶ Autonomy | ▶ Initiative |
| ▶ Involvement | ▶ Adaptability |
| ▶ Teamwork | ▶ Intellectual curiosity |
| ▶ Organizational skills | ▶ Creativity and innovation |

Application



Administrative conditions for application

The position offered by IMT Mines Alès is a 14-month, full-time, fixed-term contract, under public law under the provisions of the management framework of the Institut Mines-Télécom, profession R, research and development engineer, category II.

Salary: starting at €33,748 gross per year, depending on qualifications and experience



How to apply

Applications (CV and cover letter) should be sent **exclusively to:**

<https://institutminestelecom.recruitee.com/o/ingenieure-de-recherche-acv-des-batteries-cdd-14-mois-imt-mines-ales>

The people in charge of recruitment will study your application carefully.



Recruitment schedule

A jury composed of several people will receive you and will make sure to put you in the best conditions to make this meeting a success.

Deadline for applications: **November 16, 2026**

Expected indicative date of the jury: **November 30, 2026**

Desired start date: **February 1, 2027**



Contacts

If any elements of the application require further clarification, please do not hesitate to contact the following persons:

On the content of the position:

Guillaume JUNQUA, Lecturer and Researcher
(CREER - HSM)

✉ : guillaume.junqua@mines-ales.fr

On the administrative aspects:

Géraldine BRUNEL, Director of Human
Relations

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Job Integration

A serene integration for a successful start to the position

As soon as you arrive, you benefit from an integration period to help you discover your missions and your work environment. You will be welcomed by your HR referent, who will guide you through all the steps necessary for a serene start to your position.