Engineer/Post-doc Position Offer:

Wireless Implanted Sensor for Animals'Sleep study – WISAS Project CDD 18 mois

Type of contract: fixed-term public contract/full-time **Category**: non-managerial position : Engineer/Post-doc
Job family: Engineer or postdoc **Field of activity**: Research
Place of work: Gardanne (13) - FRANCE **Earliest start date**: second quarter of 2026 **Unit**: Mines Saint-Etienne/ Centre CMP / department FEL **The position reports hierarchically to**: Marc RAMUZ

Joining Mines Saint-Étienne means committing to an institution where **science and innovation build a more sustainable future**. It is a school of excellence where everyone has the **opportunity to unlock their full potential** and **contribute to tackling the challenges of tomorrow**.

Ranked among the top engineering schools in France and recognized worldwide, our school, a member of the *Institut Mines-Télécom*, educates the talents of tomorrow while actively addressing major industrial, digital, and environmental challenges. By joining us, you become part of a community of 500 members of staff, 2,500 students and take part in an ambitious project: combining academic excellence, cutting-edge research, and positive societal impact.

The *Institut Mines-Télécom* brings together France's leading *Grandes Ecoles* to tackle major industrial, digital, energy, and environmental challenges. With its eight public *Grandes Écoles* and two affiliated Graduate Schools, it is the leading public institute dedicated to engineers and managers. Together, we imagine and build a sustainable future by educating the leaders who will shape tomorrow's transitions.

What we expect from you

As **a postdoc / engineer,** you will be at the heart of our missions in education, research, and innovation. Within this centre of Microelectronics and the flexible electronics department, you will combine your passion for science and for societal impact.

The flexible electronics department develops technological and scientific knowledge in the field of soft electronics. The department has a strong knowledge in the field of material and interface electrical and mechanical characterization. The activities of the department are regrouped in the 660m2-area platform. This technological platform regroups facilities and technological equipment for R&D activities in Micropackaging, micro and nano-electronics, in a clean room of 220m² 1000-class and 400m² 10000-class.

The overall objectives of the project are the development of a new implantable, flexible, and wireless electrophysiological sensor, with the following tasks: 1) Fabrication of the implantable sensor (EEG) and electronics; 2) Data and energy transmission through a layer of skin using a radio-frequency (RF) approach; 3) Energy transfer through the skin using an optical approach; 4)Sleep studies on animals

As part of this multi-partner project, the FEL department is leading the fabrication of electronics on ultra-thin (micrometer-range) substrates and the development of energy transmission through the skin (tasks 2 and 4).

To achieve this work, it will be necessary to:

- Design, integration, and testing of the sensors and electronics on a flexible substrate (i.e. Parylene-C).
- Develop an optical approach to transfer energy through the skin in order to power the implanted device.
- Additional missions or projects may be undertaken, including work on implantable soft electronics for biomedical use or electronic skin (e-skin) for haptic applications.
- Communication and Promotion : Emphasis will be placed on promoting these demonstrators through various means: internal meetings, participation in both internal and external events, publications, etc.

Experimental work in the laboratory is essential and will partly be conducted in our cleanroom.

🔍 What we are looking for

You hold a:

- Bac + 5 diploma or equivalent, or a PhD degree in engineering sciences, electronics and embedded systems, or a related field

And you have:

- Knowledge of electronic design and circuitry would be highly appreciated
- Strong teamwork skills and good oral and written communication in English are essential
- You should be autonomous, curious, and passionate about technological innovation.
- A strong interest in practical work and experimentation is **essential**, along with the ability to develop a rigorous scientific approach in the spirit of a "maker" culture.
- Knowledge in bioelectronics is an asset

🌍 Why join Mines Saint-Étienne?

We support each of our employees on the path to excellence, with the conviction that together, **we can have a lasting and significant impact on our world.**

Joining Mines Saint-Etienne is the opportunity to find:

- **A stimulating environment:** Cutting-edge experimental resources, a welcoming working environment and a solid international network (T.I.M.E., EULIST).
- **A real impact:** Contractual research projects worth €11 million/year, mainly with industrial partners, A science culture centre, *La Rotonde*, which has been committed to science outreach for 25 years, welcoming over 50,000 visitors per year.

- **An incomparable quality of life:** 46/49 days of paid leave, partial remote working, 75% reimbursed public transport, financial support for carpooling and cycling and a social barometer where 83% of employees praise the quality of life at work.

Let's build a more sustainable future, through **science, engineering**, and **projects that make sense**.

📨 Apply now!

APPLICATION DEADLINE : 31/03/2025 or until fulfil

START DATE : during the second quarter of 2026

PLACE OF WORK: Gardanne (13) – FRANCE

CONTRACT DURATION : 18 months – renewable

➿ Submit your application to our dedicated platform Recruitee :
https://institutminestelecom.recruitee.com/o/engineer-post-doc-position-offer-wireless-implanted-sensor-for-animals-sleep-wisas-project-cdd-18-mois

As part of its Equality, Diversity, and Inclusion policy, the École des Mines de Saint-Étienne is committed to fair treatment of all applicants.

+ Additional information

- Remuneration set according to the candidate's profile, according to the rules defined by the management framework of the *Institut Mines Télécom*
- The positions offered for recruitment are open to all with, on request, facilities for candidates with disabilities
- Position open to civil servants (category A and B) and/or people on public contracts
- All applications may be subject to an administrative investigation

For internal use at *Institut Mines Télécom :*

- Catégorie II – Métier R – Ingénieur, selon le Cadre de Gestion
- ou Catégorie II – Métier P – Post-Doctorant, selon le Cadre de Gestion.

The selected candidates, after review of their applications, will be conducted as applications are received.

📞 Contacts

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