ENGINEER/POST-DOC POSITION OFFER : in Stretchable Electronics & Optics for Artificial Skin – 12 months

Type of contract : fixed-term public contract / full-time – 1 year
Category : Engineer/Post-doc

Job family : Engineer / Post-doc
Field of activity : Research and innovation

Place of work : Gardanne (13), France
Earliest start date : 03/2027
Unit : Mines Saint-Etienne/ CMP / 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 Postdoctoral Researcher or Research Engineer, you will perform research and innovation activities in the field of soft electronics and optical sensing for artificial skin applications. Within the Centre of Microelectronics and the Flexible Electronics Department (FEL), you will contribute to the development of stretchable optical waveguides and their integration into artificial skin demonstrators.

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.

Stretchable electronics can also be combined with optical systems such as waveguides. These devices will be developed to create artificial skin with pressure and temperature sensing capabilities.
Within this project, the work will focus on the fabrication and characterization of stretchable optical waveguides, as well as on fabrication and integration techniques for optical components (LEDs /

photodiodes). A related publication is “Transparent, Optical, Pressure-Sensitive Artificial Skin for Large-Area Stretchable Electronics” (https://doi.org/10.1002/adma.201200523).
The main activities will include:

- Fabrication and characterization of elastomer waveguides for pressure and temperature sensing applications.
- Integration of optically pressure- or temperature-sensitive materials into the elastomer waveguides.
- Characterization and validation of complete sensing devices.

The fabrication processes and experimental setups are already available. However, good knowledge of Python is important for operating and further developing the test benches. **Hands-on laboratory work is essential** and will be partly performed in our clean room facility.
The expected outcome is the demonstration of radically new soft optical sensing devices with features and functions that cannot be achieved with conventional electronic approaches. This work is part of a European project involving multiple partners across Europe, including ETH Zurich (ETHZ), the University of Oxford, Johannes Kepler University Linz, EMPA…

What we are looking for ?

You hold:

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

And you have:

- You should be autonomous, curious, rigorous, and passionate about technological innovation. A strong interest in practical work and experimentation is essential, together with the ability to develop a rigorous scientific approach.
- Knowledge of optics, photonics, soft electronics, materials science is an asset.
- Knowledge of clean room environment is an asset.
- Good knowledge of electronic design and circuitry is highly appreciated.
- Good programming skills in Python; experience with Arduino and/or Raspberry Pi is an advantage.

🌎 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: 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 materials (resume, cover letter, letter of recommendation if applicable, proof of identity) should be submitted via the RECRUITEE platform :

https://institutminestelecom.recruitee.com/o/engineerpost-doc-position-offer-in-stretchable-electronics-optics-for-artificial-skin-12-months

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

Additional Information

Employment Terms :

o Application deadline: December 15, 2026
o 12-month fixed-term contract under public law
o Full-time
o Executive-level position
o Desired start date: March 1, 2027

- The positions offered are open to all, with accommodations available upon request for candidates with disabilities.
- Position open to civil servants (Category A) and/or contract employees
- Any application may be subject to an administrative investigation
- Proposed salary range: €35,553 to €37,092 + annual bonus + 3% geographic location allowance—depending on profile.
  Compensation is determined based on the candidate's profile (job category, age, employment track, salary guarantee period), in accordance with the rules defined by the Institut Mines Télécom management framework.

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→ Category II – Job Category P or R – Postdoctoral Researcher or Research engineer, according to the Management Framework

→ Category and job category of internal staff eligible to apply: Doctoral Student

The selected candidates, after review of their applications, will be invited for interviews.

Contacts

- For the content of the position:
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- For HR and administrative aspects:
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