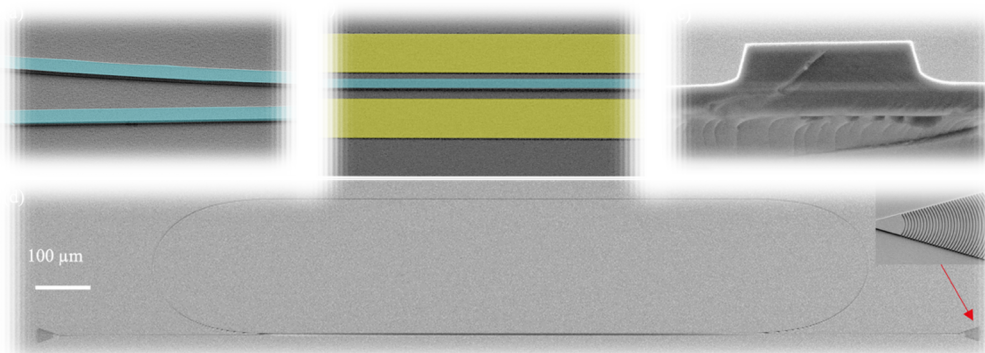


Job titlePostdoc position in *Integrated Lithium Niobate Photonics***Your mission**

The Hybrid Photonics Laboratory at EPFL is seeking for talented and ambitious postdoctoral scientists with strong fabrication skills (or a big interest to acquire such skills) to work in the young and dynamic field of Integrated lithium niobate photonics, with applications in frequency conversion, metrology, spectroscopy, quantum and sensing.



As a successful candidate, you will shape the future of integrated lithium niobate photonics in a young, ambitious lab. You will develop first-of-their kind hybrid platforms that enable ultra-sensitive, ultra-precise and ultra-compact chips that enable metrology functions, millimeterwave photonics or quantum spectroscopy. Depending on your personal strengths and interests, you will pursue also your own research interests and lead the experimental effort: technical (optical measurement setup design, high-frequency electronics and mechanical components), fabrication (develop scalable and reliable hybrid photonic devices on electro-optic platforms) and conceptual (develop novel measurement and generation schemes, explore measurement precision limits). In the lab, you will learn about optical technologies and engineering, ultrafast fiber lasers and electro-optical transducers. You will contribute to the automatization of measurement routines, comprehensive characterization of fabricated samples and to bridging the area of microwave/millimeterwave/terahertz science and technology with the most modern fabrication techniques.

Main duties and responsibilities include

- Contribute to grant applications to grow your own research agenda and promote your scientific independence (a goal is to apply together for Marie Curie grants or similar).
- Supervise younger scientists and their thesis work (ideally starting from Bachelor level), as to enhance your mentorship skills.
- Lead international collaborations and deliver periodic reports that describe your progress within the project.
- Push our low-loss nanofabrication protocols of electro-optic platforms (with or without superconductors) in the cleanroom.
- Develop novel optical setups, together with their driving software/hardware, automatize measurement procedures.
- Develop and invent novel hybrid optical-terahertz electronics nanostructures and integrated photonic circuits, using simulations software.
- Write scientific publications, file patents, disseminate work at national and international conferences.

Your profile

- Strong interest in integrated photonics, high-frequency electronics, quantum metrology and/or electro-optic transduction are mandatory. Prior experience in any of these fields is desired.
- Strong nanofabrication skills. Prior experience with TFLN is desirable but not mandatory.
- Strong simulation skills in Python, Matlab, Labview, Inventor, Illustrator, Tidy 3D, CST Microwave studio and Comsol.
- Analytical skills for modelling photonic systems.
- Hands-on attitude and an interest for taking on new challenges are important for young and ambitious group. In return, you get to design your own experiences!
- Enjoy collaborations with various other scientific groups, take on a leading role in international teams.

We offer

- A unique opportunity to contribute and take on entirely new avenues in the field terahertz photonics in a young and dynamic team.
- Excellent infrastructure through the [cleanroom at EPFL](#), the Lausanne center for ultrafast science, and the Quantum Science Center at EPFL.
- Competitive salary, coverage of conference costs, a dynamic and inspiring scientific community.

Start date :

1. January 2027 or later

Work rate :

100%

Duration :

(si CDD)

Renewable every year.

Contact : *(optional / warning : it may trigger a high number of contacts as well as job applications sent outside the e-Recruitment platform)*

To apply for this position, please send your CV and list of publications together with the contact of two references to Prof. Cristina Benea-Chelms at cristina.benea@epfl.ch. The position will remain open until filled. It is highly indicated that you write a short statement (half a page to max. one page) where you outline why you want to join this group, what your specific interests are (academically or towards a job in industry), and importantly, how being part of this group enriches your experience to reach that goal. Until our EPFL website is ready (currently under construction), please consult [the following personal website](#) for more info.