

Post-doc position at the University of Bordeaux (France)

InP DHBT on-wafer RF noise characterization and LNA demonstrator circuit design

At University of Bordeaux (UB), the IMS laboratory is a joint research unit for the CNRS, University of Bordeaux and Bordeaux-INP. IMS brings together fundamental research, engineering and technology, emphasizing on integration of systems in the disciplines of Information Technologies.

In the framework of the European research project 'Move2THz' (Fig. 1), we are looking for a motivated post-doctoral candidate who will be working on the on-wafer high-frequency noise characterization and modelling of Indium-Phosphide Double Heterojunction Bipolar Transistors (InP DHBT), combined to RF circuit demonstrator design. These InP DHBT technologies are developed by our partners at NOKIA III-V Lab and ETH-Zurich are intended to be integrated on silicon platforms to address the next generation of mobile communication (6G). The new Indium-Phosphide On Silicon (InPoSi) technology, targeted in the Move2THz project, will then benefit from the superior performances in the sub-THz band (0,1-1 THz) of InP DHBT and the very large scale integration of silicon platforms.

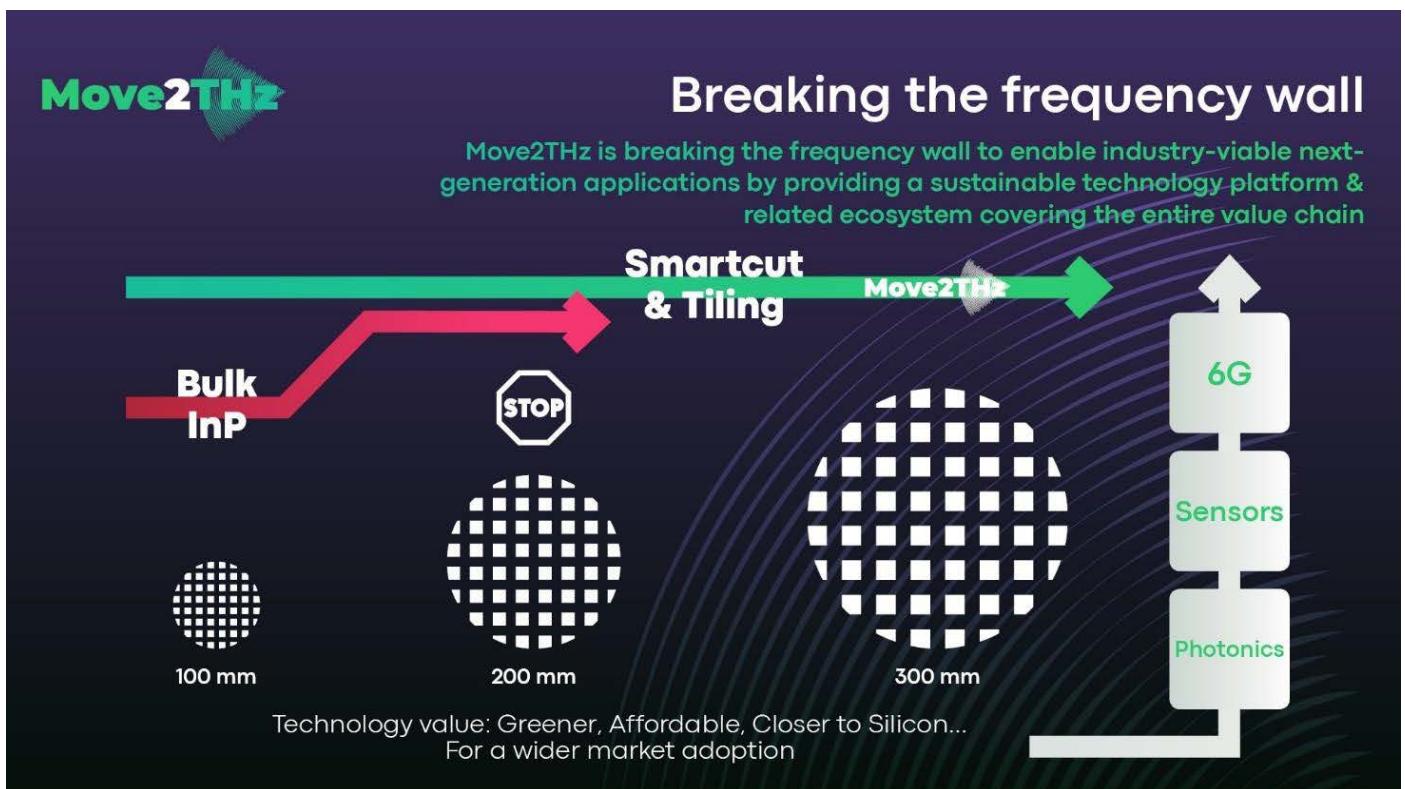


Fig. 1 - **Move2THz** aims to break the THz frequency wall with a technology disruption

The main tasks for this post-doc position will be to contribute to:

1. On-wafer transistor **high frequency noise characterization** beyond 60 GHz of InP DHBTs
2. **Noise model** parameter extraction of InP DHBTs
3. **LNA circuit blocks design** as demonstration for technology and model validation
4. Participation in the writing of deliverables and reports for the European commission
5. Participation in the supervision of a PhD student in the same topic

Your Profile:

- Outstanding PhD in Electrical Engineering
- Strong experience in RFIC design, especially LNA, ideally using III-V technologies
- Experience with EM simulation and on-wafer measurements
- Interest in device physics and modelling
- Good technical comprehension, professional English communication and writing skills
- Ability to work in an international team environment
- Autonomy and ability to advise engineers and PhD students

The following Skills are a plus:

- Experience with small-signal equivalent circuit and noise modelling

We offer:

- Individual supervision and preparation for CNRS "Chargé de recherche" competition
- Contribution to cutting-edge nanoelectronic research within an interdisciplinary consortium
- Access to various characterization platforms and industrial simulation environments
- Knowledge transfer from experts in the field
- Salary based on French research organization standards: between 2200 and 2500 euros net, depending on experience

Period:

- Planned starting date: September 2025
- Duration: 13 months with possibility of renewal
- Location: IMS Bordeaux, 351 cours de la Libération, 33405 Talence Cedex

For further information and applying for this position, please contact:

Marina Deng, Associate Professor, University of Bordeaux, France
E-mail: marina.deng(at)ims-bordeaux

Chhandak Mukherjee, CNRS Researcher, University of Bordeaux, France
E-mail: chhandak.mukherjee(at)ims-bordeaux.fr



Move2THz - Sustainable Indium Phosphide (InP) platform and ecosystem upscaling, enabling future mass market (sub-)THz applications.

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