CALL FOR POSTDOC POSITIONS AT ENSEMBLE^3

Centre of Excellence for nanophotonics, advanced materials and novel crystal growth-based technologies

ENSEMBLE^3 is a new Centre of Excellence for nanophotonics, advanced materials, and novel crystal growth-based technologies located in Warsaw, Poland, created jointly by the Łukasiewicz Institute of Microelectronics and Photonics, the University of Warsaw (Poland), the Karlsruhe Institute of Technology (Germany), the Sapienza University of Rome (Italy), and the Nanoscience Research Center nanoGUNE (Spain). The ENSEMBLE^3 Centre will work on the development of novel material technologies and advanced materials with unique electromagnetic properties, with potential applications in fields such as photonics, optoelectronics, telecommunication, solar energy conversion, medicine, and aerospace.

A postdoc researcher position is open in the "Electrocharacterisation & New Product" group, led by Dr. David Mackenzie. The Electrocharacterisation & New Product group at ENSEMBLE^3 is dedicated to the comprehensive analysis and measurement of the electrical properties of materials, devices and wafers, alongside the introduction of innovative products for our customers. Our focus spans both the fundamental physics of material carrier transport and the practical application of these materials in wafers, transistors, sensors, resonators, and photonic elements. We use state-of-the-art methods to investigate material composition, electrical properties, and doping inhomogeneity. We pay attention to the accuracy of measurements, with a focus on devices and applications. In collaboration with the Functional Materials Technology, Oxide Single Crystal, Photonic Elements, Next Generation Energy systems and Light-Matter Interaction Theory groups, we rigorously verify novel material design concepts through detailed investigation of electrical and electromagnetic properties. Our ultimate goal is to create device prototype cycles and develop new products from Ensemble3's combined research efforts.

Job type:	Postdoc researcher in the "Electrocharacterisation & New Product" group (full-time employment)
No of job offers:	1
Monthly remuneration:	Up to 12,000 PLN gross (depending on experience and expertise)
Position start:	From March 2025(depending on applicant's availability)
Initial contract agreement:	Until December 2026 (with possibility of extension)

Key responsibilities:

- Conduct in-depth analysis and measurement of the electrical properties of materials, devices, and wafers
- Propose new ideas
- Disseminate results to the scientific community and to the public

Profile of candidates/requirements:

- PhD degree in physics, material science, electrical engineering, or similar.
- Research achievements reflected by publication track record appropriate for PhD age.
- Experience of electrical characterisation, and knowledge of at least a few of the following: dual-configuration van der Pauw, finite element simulations of electrical properties, cryogenic transistor measurements, device reliability measurements, wafer scale electrical characterisation, Hall mobility, doping inhomogeneity, Raman microscopy mapping, device fabrication, scanning gate microscopy, Instrument control in LabVIEW or python, six-sigma thinking, 2D materials transfer and device fabrication, design of experiment, metrology
- Strong motivation for science and scientific research
- Creativity, critical thinking, organizational skills, proactive approach to perform tasks and reach objectives
- Strong ability to work independently as well as in a team, social competence, personal responsibility
- Strong communication skills in English

We offer:

- Innovative scientific environment
- Outstanding facilities
- International cooperation with experienced researchers
- Administrative support for visa and related documentation

Required application documents:

CV with a full list of publications and projects; Proof of PhD; Cover letter specifying what motivates you for joining the group, and how you meet the search criteria (max 1 page); Names and contact details of two or more senior researchers who may act as referees.

Application deadline: 30th March 2025
Competitive candidates will be interviewed before the appointments are made.

For further information, visit: www.ensemble3.eu

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European Funds Smart Growth

FNP Foundation for Polish Science

European Union European Regional Development Fund

For questions, please contact: recruitment@ensemble3.eu, david.mackenzie@ensemble3.eu

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