

Institute of Microelectronics of Barcelona IMB-CNM (CSIC)

Process Engineer

Fabrication of Micro and nano structured reticles for ZnO nanocrystals

The IMB-CNM is the largest institute in Spain dedicated to the research and development of Micro and Nano Technology and microsystems and with unique capabilities in silicon technology. It belongs to CSIC since its foundation in 1985 and is distinguished with the AEI María de Maeztu Unit of Excellence accreditation.

The main activities of IMB-CNM are basic and applied research and development, education and training in micro and nanotechnologies, components and systems. Its mission is to improve knowledge and contribute to the implementation of solutions based on these technologies in new products to solve societal challenges.

The IMB-CNM is located on the Autonomous University of Barcelona (UAB) Campus and contains the largest clean room facilities in Spain with full capability to process its own CMOS technologies and laboratories.

We are looking for a **Process Engineer** to work in the framework of the EU Synergy project “Smart Detectors for Darkfield X-ray Imaging (<https://web.tum.de/smartx/home/>)

Key Responsibilities

- Design of the photolithography mask
- Develop the photoelectrochemical process in silicon substrates
- Optimise the DEEP RIE process in glass and silicon substrates.
- Use of the Electron microscopy (SEM)
- Use of AFM, Raman, XPS techniques.
- Presentation of the results in meeting and conferences.

Qualifications: Master's degree in Micro- and Nanotechnologies, Chemistry or related fields.

Desirable Skills

Technical Skills:

- Proficiency in photolithography mask design using CAD tools (AutoCAD, L-Edit, KLayout, or similar).
- Hands-on experience with advanced photolithography techniques (spin coating, UV exposure, development processes).
- Strong expertise in photoelectrochemical process development on silicon substrates.

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- Deep knowledge and practical experience in Deep Reactive Ion Etching (DEEP RIE) process optimization on silicon and glass substrates.
- Proficient operation and analysis using Scanning Electron Microscopy (SEM).
- Skilled in material characterization techniques, including AFM, Raman Spectroscopy, and XPS.
- Strong data analysis and interpretation skills, with proficiency in software tools such as OriginLab, MATLAB, Python, and Excel.
- Experience in technical documentation, report writing, and preparation of scientific presentations for meetings and conferences.

Soft Skills:

- Exceptional attention to detail and high precision in experimental work.
- Strong analytical and problem-solving abilities to optimize and troubleshoot complex processes.
- Ability to work collaboratively in multidisciplinary and multicultural teams.
- Excellent time management and organizational skills, with the ability to prioritize tasks effectively.
- Clear and effective communication skills in English, both written and verbal.
- High adaptability and eagerness to continuously learn new techniques and technologies.

Experience

- Junior Position (2-3 years of experience)
- Experience working in a clean room

Job conditions

- Full time contract for the duration of the project (estimated at 3 years)
- Salary corresponding to CSIC M3 Category according to qualifications.
- Estimated start date: July/September 2025

This position will be integrated into the Radiation Detectors Group, under the supervision of Dr. **Giulio Pellegrini**, at the IMB-CNM, located on the UAB Campus.

How to apply

Applications should be submitted to talent@imb-cnm.csic.es stating the **job title as the Subject of the message** with CV and Motivation Letter.

Sending CVs to the above address implies consent to the Legal Advice | IMB CNM (csic.es).

Deadline for applications: June 18th 2025

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This offer can be found on: <https://www.imb-cnm.csic.es/en/about-center/careers/open-positions>.

More information on IMB-CNM: <https://www.imb-cnm.csic.es/en/>