

#ScientistInstrumentation
#MaterialsScience
#NumericalModeling
#MultiDisciplinarity

GPM

« Groupe de Physique
des Matériaux »

gpm.univ-rouen.fr

RESEARCH
laboratory



GPM lab is supported by CNRS (French national research center for science, label UMR6634), Normandy University of Rouen and INSA Rouen Normandy. This laboratory is associated to the doctoral school "PSIME" and the Normandy network for research "Materials and Energy".

Research fields

- ✓ Scientific instrumentation
- ✓ Materials science and mechanics
- ✓ Nanostructures, nanoscience and nano-technologies
- ✓ Polymers and disordered systems
- ✓ Nanoparticles, health and environment

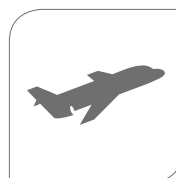
Application areas



Scientific instrumentation



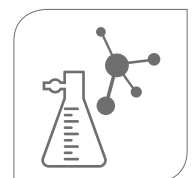
Energy



Space and aircraft industry



Automotive industry



Biology and physics

Staff over

170

Founded in

1967

5

ventures with
industrial
partners

Know-how and expertise

✓ Scientific instrumentation

The GPM lab is one of the world leaders in the design and development of the Atom Probe tomography technique covering both the improvement of performances and the application in materials science, including correlative microscopy.

✓ Nanoparticles, health and environment

Original and interdisciplinary approach. Physicists, doctors, toxicologists, and biologists all contribute to answering questions about the impact of nanoparticles on the environment and health.

✓ Materials science and mechanics

Up to date research in physical metallurgy is carried out on advanced alloys thanks to unique facilities at all possible scales, from atomic scale microscopy to thermo-mechanical testing. This experimental work is supported by advanced numerical modeling.

✓ Nanostructures

Advanced materials for application in nano-electronics, optical and magnetic materials and materials for micro-electronic systems are investigated with a special emphasis on the relationship between structure and properties. It also includes the durability and reliability of micro-electronic devices.

✓ Polymers and disordered systems

Investigation of physical properties, aging behavior and durability of organic polymers (including biopolymers), nanocomposite and composite materials with natural fibers.

🔗 A wide range of collaborations

The GPM lab has several joint ventures with R&D labs from industries (EDF, Manoir Industries, CEEVA CRT and "Analyses et surface CRT") and shares an innovation center with Volum-e (additive manufacturing). A joint international lab has also been founded with University Nebraska Lincoln, and the lab expertise is shared in various joint projects with other teams in Europe, USA, Japan, China and India.

Facilities

A unique facility platform and up-to-date characterization techniques

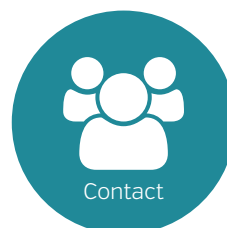
The research activities of the GPM are based on up-to-date techniques: atom probe tomography, high resolution electron microscopy (scanning and transmission), NanoSIMS, Nano and pico-indentation, mechanical tests, X-ray diffraction, Mössbauer spectroscopy, Photoluminescence... Besides, a unique instrumental

platform [GENESIS] is dedicated to the experimental characterization down to the atomic scale of radio-active materials and materials for the nuclear industry. An additive manufacturing platform is also operated by the lab.

Keep in mind

INSA Rouen Normandie is the first public engineering technical university of Normandy. The 10 different engineer education tracks, the 7 masters in research and the 2 masters in applied sciences are deeply connected to its 8 research laboratories.

INSA Rouen Normandie provides three education tracks directly connected to the GPM lab: engineer in mechanics, master in engineering and design, and master in materials science.



Contact

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