The research conducted at IMT Atlantique ranges from highly fundamental to fully applicable. We take pride in maintaining this continuum in order to create a context favourable to the generating new knowledge, which is the basis for excellence in both teaching and innovation. Research in mathematics focuses on algorithms for signal processing, statistical methods for data analysis, machine learning algorithms, multi-objective optimisation, formal methods for code analysis and proof, algorithms for coding, decoding and information processing, and neuro-inspired algorithms for artificial intelligence.

The spectrum covered in physics concerns the study of elementary particles (quarks and gluons), as well as the search for dark matter and cosmic rays, the physics of the nucleus or the study of the properties of radio-elements. Our work includes understanding flows at fluid-solid interfaces in order to study transfer phenomena, multi-physics and multi-scale modelling and for studying porous structures on a nanometric scale.
Research Consortia (Chaires)

- STOCKAGE: Radioactive waste storage and disposal

Some partners

- GIP ARRONAX
• LabEx **IRON**, Health Radiotherapy for the Pays de la Loire
• LabCom TESMARAC with Triskem International
• IRN NEUTRINO

**Research projects**

**PREDIS**

PRE-DISposal management of radioactive waste

• H2020 Project

**HeavyQGP**

Observation of beauty and quarkonia with the upgraded ALICE at the LHC

• H2020 Project

**KM3NeT**

Cubic Kilometre Neutrino Telescope

• European project

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