



## MÉMOIRES POUR L'INTERNET DES OBJETS

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| Lecturers : 0.0 | TC : 0.0 | PW : 16 | Autonomy : 0.0 | Study : 4 | Project : 0.0 | Language : FR

### Objectives

During this course, the students will have to understand the different physical properties that can be found inside a unic ferroelectric material with high potential for innovating applications. They will also elaborate, characterize and use miniaturized and ultrafast digital memories pour the Internet of Things (IoT).

The higher electronic mobility will be one of tomorrow challenges, such as IoT. In the future, the interaction with objects will not be done only using electronic chips or specific commands transmitted by a touch screen, but also by objects themselves.

**Keywords :** Ferroelectric material, digital memories, internet of things, elaboration, characterization.

### Programme

BE1 (2h): clean room technologies, X-Ray diffraction.

TP1 (4h): nanomaterials deposition in clean room and elaboration of integrated digital memories.

TP2 (2h): structural characterization of ferroelectric digital memories.

TP3 (2h): electrical characterization of ferroelectric digital memories.

TP4 (8h): conception of electrical systems from digital memories.

BE2 (2h): presentation of the results and scientific discussions.

### Learning outcomes

- Understand the challenges and problematics of the Internet of Things.
- Know and use clean room techniques and structural/electrical characterization methods.
- Conceive the architecture of an electrical system.
- Present results in a relevant, rigourous and critical manner, in view of an analysis.

### Independent study

**Objectifs :** This activity is not concerned with framed autonomy activities outside personal work.

**Méthodes :** This activity is not concerned with framed autonomy activities outside personal work.

### Core texts

### Assessment

Final mark = 30% Knowledge + 70% Know-how

Knowledge = 100% written report of the work

Know-how = 40% continuous assessment (active involvement and participation) + 60%