

**Cross-Fertilisation** 

# Research

# Ceramics & ICT Graduate School



- Disciplinary courses giving strong skills and a high level of specialization in one of the 7 disciplinary domains
- Interdisciplinary teachings comprising theoretical and practical courses at the interface between the 7 tracks (cybersecurity, photonics for health, additive manufacturing for 5G, ....)
- Long research/industry working group projects: to get transverse skills and interdisciplinary vision through thinking and working approach: innovation, creativity processes, co-design...

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# Smart Internet of Things Smart IoT

## Smart Internet of Things - Presentation

The Smart IoT Master degree of the Graduate School has the objective to train students specializing in connected objects. It involves acquiring skills related to the new interdisciplinary engineering professions of the Internet of Things. The technological and usage developments in this field are carried by all types of companies from large promoters groups such as 5G to countless innovative start-ups. The second year of master's degree is offered alternately.

This path trains the design engineering of connected objects in the areas of data acquisition, embedded systems, wireless technologies, analysis and data processing. It allows students to integrate the design offices of companies specializing in the Internet of Things and support companies and structures that integrate the Internet Of Things into their development strategy.

# MAJOR COURSES - 63 ECTS\*

Core courses - 57 ECTS Core teachings

- Sensors,
- Embedded communication systems
- Digital wireless communication
- Machine learning

In-depth Disciplinary courses - 6 ECTS

- 5G & Beyond
- Bio-medical data analysis

## MINOR COURSES - 11 ECTS\*

#### Interdisciplnary Courses Bridging courses

- System approach of an IOT sensor
- Digital Communication

#### Interdisciplnary Courses 2 elective courses among

- Modelization, Simulation, Optimization
- Scientific computation and parallelisation
- Database security
- Watermarking

#### Interdisciplinary scientific project

With a Graduate School's multidisciplinary team, interdisciplinary workshop of one day/year

### **INTENSIVE SUPPORT FOR PROFESSIONAL PROJECT – 46 ECTS\***

#### Soft skills 12 ECTS

Innovation economy, Creativity processes, Foreign languages (English or French)



International mobility 5 ECTS

Full time internship in a foreign lab or compagny

Research labworks 5 ECTS

Research Climbing Ropes programme

Research Internship 24 ECTS

Master thesis in a R&D company or in a lab





\*1 ECTS = ~10 hours of classes



