ICTEAM carries both basic and applied world-class research in key fields of information and communication technologies, electronics and applied mathematics. Our research is theoretical, experimental, and leading to technology transfer: several patents were granted over the past years and patent applications have been recently filed, in particular in the fields of proton therapy, solar cell or video compression, only to name a few areas.

Several spin-offs have been created based on research results obtained within ICTEAM, among which intoPIX (image processing), e-Peas (ultra-low-power semiconductors), iMagX (imaging solutions for proton therapy) and Tessares (improvement of the performance and quality of Internet access).

To make all these achievements possible, we strive to provide our members with an inspiring, motivating and supportive environment. We are constantly searching for new talented researchers to join us!

In terms of day-to-day organization, ICTEAM researchers belong to one of these three research divisions: computing science engineering (INGI), electrical engineering (ELEN) or mathematical engineering (INMA). Research areas often cross the research divisions boundaries and interactions are not only numerous, but clearly encouraged (seminars, social events...)

Our main research topics are the following:

- Applied mathematics
- Biomedical engineering
- Communication systems and networks
- Cryptography and information security
- Data science
- Dynamical systems, control and optimization
- Electronic circuits and systems
- Large graphs and networks
- Machine learning and artificial intelligence
- Micro and nano technologies and systems
- Microwave engineering and applied electromagnetism
- Signal and image processing
- Software engineering and programming systems.
ICTEAM manages one technological platform [WELCOME] and is the reference institute for another platform [WINFAB]:

- **The WELCOME facility** (Wallonia EElectronics & CCommunications MEasurements) is a state-of-the-art technology platform providing multidisciplinary tools in the field of electrical and electromagnetic characterization. WELCOME offers a wide variety of electrical and electromagnetic measurement techniques ranging from the physical behavior of materials, sensors and devices, to system architecture and signal propagation.

- **The WINFAB technology platform** (Wallonia Infrastructure Nano FABrication) is dedicated to micro- and nano-fabrication. The platform maintains a 1000 m² cleanroom infrastructure with a large high-tech equipment fleet [more than 50 machines], and offers access to a wide range of advanced techniques for thin-film deposition, thin-film etching, surface patterning, micromachining and back-end processes.

**4 Key numbers**

Our Institute comprises about 300 members including 43 academics, 180 researchers [PhD students and postdocs], 14 administration staff members and 18 computer scientists and technicians. About 25 PhD theses are defended yearly, and an average of 200 journal papers are published per year. The ratio between UCLouvain funding and external funding is about 12 % UCLouvain - 88 % external.

**5 Contact**

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“We conduct advanced theoretical and experimental research leading very often to technology transfers.” (J.-D. Legat)

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