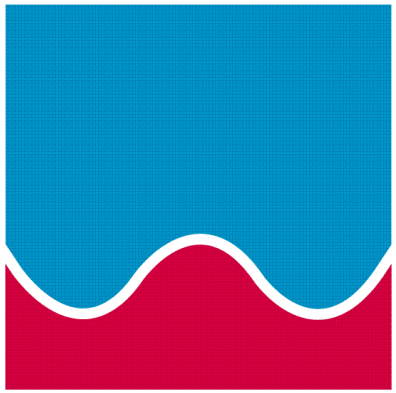


welcome

wallonia electronics and communications measurements

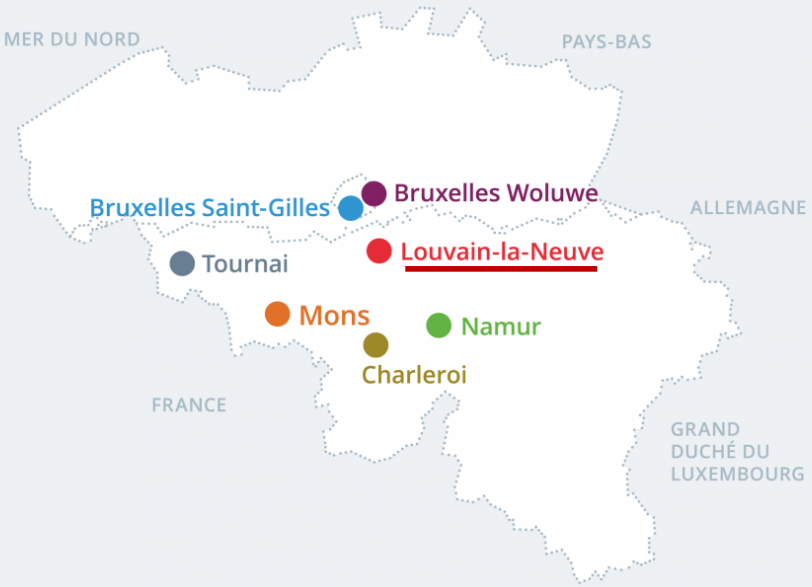
Electrical Characterization Facilities @ UCLouvain/ICTEAM

2019/03/19

WELCOME

Wallonia Electronics and Communications Measurements

Localisation: **1348 Louvain-la-Neuve**



Site web:
https://sites.uclouvain.be/icteam/welcome

UCLouvain – Université catholique de Louvain

↳ **SST** – Sector of Science and Technology

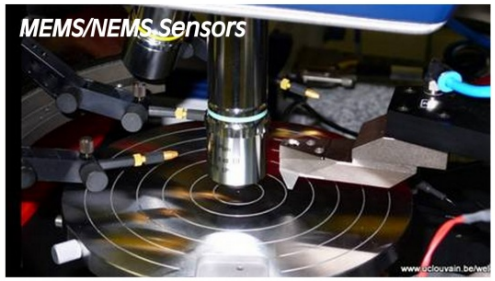
↳ **ICTEAM** – Institute of Information and Communication Technologies, Electronics and Applied Mathematics

↳ **WELCOME** (for Research/Education/Industry)

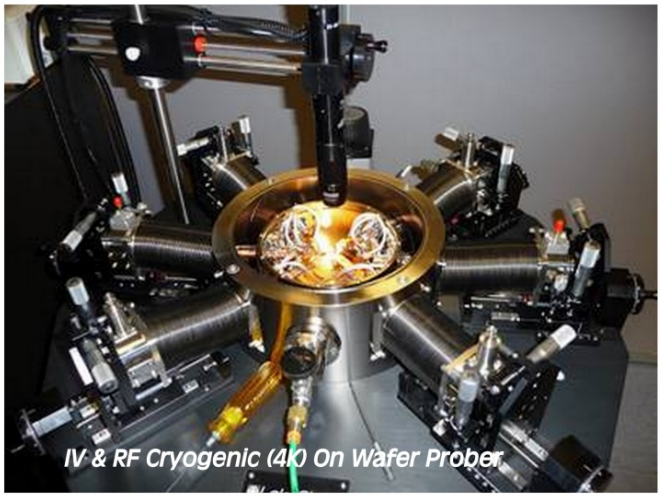
- ⇒ **350 m² state-of-the art facilities** for the electrical and electro-magnetic measurements on **materials, devices, sensors, circuits and systems levels**
- ⇒ **3 M€ invested over past 10 years**
- ⇒ **Built on the expertise of >10 promoters/research groups**
- ⇒ About **135 users / year**

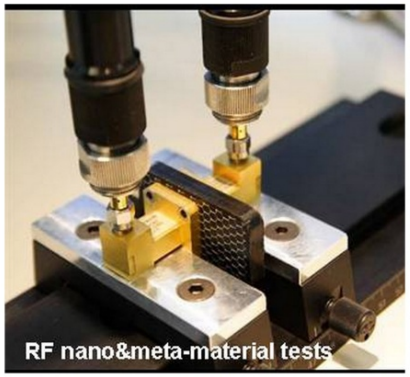
Staff: **5 persons:** Platform Manager, Research Logistician, Engineer and 2 Technicians

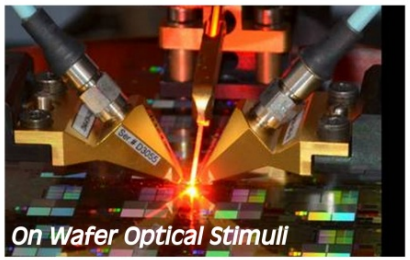
Platform Overview

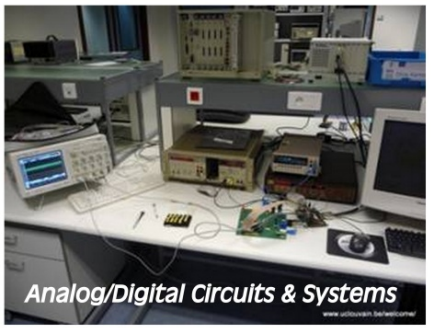


welcome
wallonia electronics and communications measurements

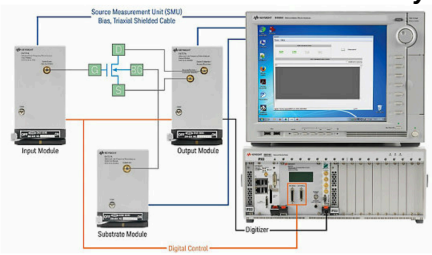








LF Noise Analyzer



300mm Semi-Automatic Prober

900 Hz to 125 GHz VNA

Service proposal & technical specificities

• Services proposal

❑ Test / analysis

- ***Materials, electron devices* and *sensors***, from DC to 110 GHz, in the temperature range 4-600K
  - Tri- and Co-axial setups, on-wafer probe stations and VNAs, 1/f noise and RTN
  - Multi-port (up to 4 accesses) and multi-parametric characterization of passive and active devices (IV, CV, temperature-microwave, electro-mechanical, and magneto-electrical sweeps, …), in small-signal and nonlinear regime
- ***Analog/digital circuits and systems-in-package*** (µcontrollers, smart cards, RFIDs, FPGAs)
  - Using ultra low current probes, mixed-signal and real-time oscilloscopes, analog waveform and digital pattern generators, vector signal generators with I/Q or digital modulation …
- ***RF hardware, protocols and channels for wireless and ultra-wideband communications***
  - Using Vector Network Analyzers, broadband antennas, channel sounders, in a free-space, multi-path or anechoic environment.

❑ Collaborative Research

- ***Support to the research projects*** (EC, NoE, H2020, Ecsel, ESA, RW, Innoviris, FNRS, EoS, …)
- ***Support to Spin-offs, SMEs, Valorization***
- ***Links with other UCLouvain platforms*** (Cyclotron, Winfab, Bio-Chemical, Robotic, …)

❑ Support to Education (Master Thesis, Courses/Demos, PhD students, ….)

• Remarkable equipment

✓ Various Probe stations:

- Semi-automatic MPI : 300mm, 20-300°C
- Lakeshore: 51mm, 4-500 K, gases
- …

✓ ALFNA Noise Analyzer from Keysight

- FET, BJT, Diode, Resistor, Circuit
- Noise Floor: 2e-27 A^2/Hz
- f: 3 mHz – 40 MHz,
- RTN: dt_min=2.5 nsec, …

✓ Vector Network Analyzer (s)

- Large-band VNA: 900 Hz-125 GHz, 2 ports
- PNA-X: 26.5 GHz, 4-ports,
- …

✓ Anechoic chamber (400 MHz-40 GHz)

✓ PolyTec Vibrometer

✓ Semiconductor Analyzers

✓ … and much more (visit our website for details)

Industry applications

- **What we propose to industry**
  - *Equipment rent*
  - *Equipment rent accompanied by training*
  - *Consultancy*
  - *Measurement campaign realized by UCLouvain staff/members*
  - *Customized*
  - *Training for R&D engineers from industry*
- **How it works**
  - *Signed Conventions (long-term)*
  - *One-shot service*
  - *Joint Projects*

- **Examples / Business Clients**
  - ***Solvay (B):*** *large-band measurements for materials characterization*
  - ***Total (B) :*** *materials tests*
  - ***SOITEC (Fr) :*** *SOI substrates*
  - ***ST-M (Fr), LETI (Fr):*** *characterization in a large frequency and T ranges*
  - ***IMEC (B):*** *tests at cryogenic temperatures*
  - ***Incize (B):*** *RF characterization, transmission lines, crosstalk, …*
  - ***Thales (B):*** *radiation effects on devices and circuits*
  - ***CommuniThings (B):*** *EMC pre-compliance*
  - ***Alvalux (B):*** *opto-electrical measurements*
  - ***AGC (B):*** *automotive smart-glasses characterization*
  - ***E-peas (B):*** *test of µControllers, Circuitry for IoT, PCB assembly, …*
  - ***Icoms (B):*** *spectral analysis at 24 GHz*
  - **…**

Process & Contact

Processing :

- Application processing time: *we are very reactive, typically from day(s) to week, depending on specificity of the demand*
- Processing capabilities : *On request*

Contact: *Pascal Simon*
Platform Manager

e-mail: Pascal.Simon@uclouvain.be
+32 10 47 94 33

Contact: *Valeriya Kilchytska*
Research Logistician – Senior Scientist

e-mail: Valeriya.Kilchytska@uclouvain.be
+32 10 47 25 64