

## Open postdoctoral position at IETR

### Two years research position on infrared laser/electronic devices interactions

#### Context

Cybersecurity is a research topic that has been strongly developed in recent years with the rapid evolution of connected distributed systems, where data protection has become essential. The hardware part of digital security is one of the prop of secure systems (such as the smart card), and is at the heart of their vulnerability. Cybersecurity is a strong political will at national and regional levels and has been identified as a strategic axis for the Brittany Region, both in terms of Research, Training and Innovation.

In the context of the CPER (Contrat Plan Etat Région 2015-2020) CYBER SSI (Sécurité de Systèmes d'Information), the Institut d'Electronique et Télécommunications de Rennes (IETR - UMR CNRS 6164) is implementing a platform for "Simulation, detection and vulnerability in secure hardware systems by laser injection faults " (CYBER-ELEC OPT platform).

The objective of this new platform is to develop new research activities at IETR, and more widely in the western region of France, based on the measurement/metrology aspects of secure components and systems, at the interface between semiconductors, technology and microelectronics circuits. In particular, the IETR will focus on hardware security issues from the point of view of the semiconductor to the electronic component (approach original), and then towards the circuit and/or integrated systems.

#### Job Description

The applicant will ensure implementation and development activities of the CYBER-ELEC OPT platform. For this purpose, at first he will be in charge to setup the laser injection platform and make reliable measurement campaigns. In a second, his/her mission will be to develop activities through research projects (thesis, etc.) interacting with academic research laboratories and/or industry. This position will require autonomy and initiative.

#### Applicant profile

The applicant should have PD degree in Engineering Electronics or Applied Physics with experience in some following topics: physics and technologies of semiconductors devices, optoelectronics, semiconductor and laser interactions, laser fault injection on secure electronic systems, microelectronic technologies, and architectures of integrated electronic circuits, (memories, microprocessors ...).

Experience in foreign research lab (at least 18 months during the past three years) is recommended.



UMR 6164  
INSTITUT D'ELECTRONIQUE ET DE TELECOMMUNICATIONS  
DE RENNES

📍 Département Microélectronique et Microcapteurs



**Location:** Institut d'Electronique et de Télécommunications de Rennes, campus de beaulieu,  
263 avenue du général Leclerc, 35042 Rennes

**Duration:** 2 years

**Fundings:** Brittany Region and Rennes Metropole

**Salary:** 2200 € net/month (level 7, IMN 582, of the french index grid of the research engineers)

#### **Procedure for application**

Applicant should send detailed CV, motivation letter, publications list, and reference persons and their contact information at:

[lpichon@univ-rennes1.fr](mailto:lpichon@univ-rennes1.fr)

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