



Région  
Hauts-de-France



**Open position for a post-doctoral researcher or a research engineer  
Informatics and Control Systems Departement  
at IMT Lille Douai, Douai campus, France**

**Topic:** Design of a testbed for faults detection and prognosis of a power converter

**Keywords:** fault detection, power converters, experimental setup.

The research unit in Computer Science and Automatic Control (URIA) of IMT Lille Douai is looking for candidates for an open position as a post-doctoral researcher or research engineer. The contract funded by the CE2I project for a duration of 12 months, starting as soon as possible.

**Context**

CE2I (Convertisseur d'Énergie Intégré et Intelligent – Embedded and Intelligent Energy Converter) is a regional projet financed by the French state, the region Hauts-de-France and Europe through FEDER funding in the framework of the Contrat de Plan Etat Région (State-Region planning contract) 2015-2020. CE2I is led by the University of Lille 1 and includes several regional partners: L2EP (Laboratory of Electrical Engineering and Power Electronics), LSEE (The Electrotechnical Systems and Environement Research Lab), LAMIH (Laboratory of Industrial and Human Automation control, Mechanical engineering and Computer Science) and URIA (Research Unit in Informatics and Control Systems). In the framework of the CE2I project, URIA is responsible for developing algorithms for fault detection of power converters to optimize design and monitoring and makes use of its know-how in data-driven modeling and fault-detection for hybrid systems.

**Job description**

URIA is currently developing algorithms for fault detection and prognosis in power converters. The successful candidate will design a testbed to validate these algorithms. He/She will create a prototype consisting of a three-phase inverter supplying an electric motor using the interface MicroLabBox for dSpace.

The tasks are

- 1) To design the hardware and software platform allowing to simulate and detect the faults of a power converter.
- 2) Develop fault detection algorithms using MicroLabBox for dSpace.

**Applicant profile**

Candidates must hold a PhD in electrical engineering or automatic control, with skills in one or more of the following areas: power electronics, fault detection, hybrid system modelling, and dSpace prototyping systems.

**To apply :**

Candidates should send their motivation letter, CV and publication list to [cecile.labarre@imt-lille-douai.fr](mailto:cecile.labarre@imt-lille-douai.fr) and [sanda.lefteriu@imt-lille-douai.fr](mailto:sanda.lefteriu@imt-lille-douai.fr).