IMT Atlantique
Bretagne-Pays de la Loire
École Mines-Télécom

CHAIRE
CYBER CNI
Sécurité des infrastructures critiques

cyber-cni.fr/

We are hiring!

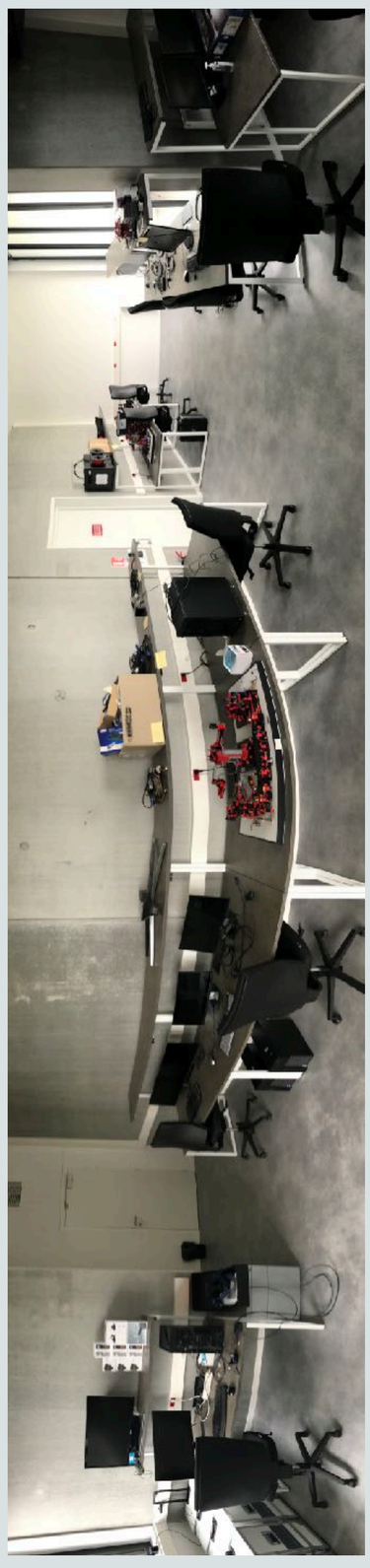
Engineer (6 months/ full time 35h/w) prolongation possible

Cyber-Physical Testbed

We are looking for an outstanding candidate to strengthen our research team. We offer challenging research in a rich environment with excellent research perspectives. This position is to be filled as soon as possible.

Context - the domain you will be working in

The chair is doing research on IT and OT security together with our industry partners. We have a lot of OT equipment such as miniaturized factories, pumps, conveyor belts, etc. We also have a lot of IT equipment including an Airbus Cyberrange for virtualizing IT and OT infrastructure.
The experimentation platform is used in our daily research by local and remote researchers. This activity will be extended in the future.
We run automated attacks to relevant cybersecurity scenarios. The platform contains tools for experiment orchestration, result collection and data analytics.



Scope - the topics you will be working on

Together with our other engineer and the PhD team you will be working on developing our IT/OT testbed further. This includes a lot of automation tasks including the programming of PLCs.
The goal is having an infrastructure for automated reproducible cybersecurity experiments.

The tasks can be structures into three directions:

1) Automated configuration of the platform based on calendar schedules. Using tools like Ansible, you will create scripts that automatically configure the platform in the intended way at the right time for enabling space and time sharing.
2) Automated experiment execution: Here you will ensure that the intended experimentation is run on the platform. You will ensure reproducibility of the experimentation. You will ensure that all relevant data is collected and provided for the researchers.
3) Data Analytics: You will work on tools for analyzing the experimentation data during and after run time.
4) User interface: You will work on the configuration interface, including a calendar and ressource schedulers.

Scenarios: IT, OT, Industry 4.0, Communication infrastructures, Transportation, Energy networks, Data Centers, Banking

Keywords: Cybersecurity, Distributed Ledger, Blockchain, Ethereum, IOTA, collaboration, authentication, logging, security-by-design, adaptive secutrity

Requirements - what you should bring

Solid and proven engineering skills. Curiosity and motivation to work in a dynamic research environment.

Knowledge: automation, cybersecurity, shell scripting, Linux, PLC

Languages: French (ability to communicate at least basically in French; courses can be taken to improve French), English (ability to read and write research papers in English),

Expectations - what you can expect to happen

If selected, you will have the chance to develop this research line together with the chairholder, the industry partners, and the researchers at IMT Atlantique. It is expected that part of the research gets submitted for publishing internationally. Collaboration with different PhD candidates is expected. Participation in teaching, especially MOOC creation will be possible, if wanted.

Application process

Application deadline: 30.9.2021, 3pm CEST

Please send an email with one (1) PDF including:
- a motivational letter, covering the points “requirements” and your experience
- your CV
- your certificates
- a research statement (containing your research methodologies and possible research directions you would be interested to develop including scientific literature references)
- contact addresses (mail and phone) of 1-3 people we can contact to inquire information about you and at one reference letter

to **recruit-engineer-2021-1@cybercni.fr**.

CHAIR OF CYBER CNI
Critical National Infrastructures

This poster was made at the chaire Cybersecurity for Critical Networked Infrastructures (Cyber CNI) | https://cyber-cni.fr/ | Our monthly cybersecurity speaker series https://talk.cybercni.fr/ | Our science blog https://future-iot.org/

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Your future hosting environment: Excellence in Cybersecurity research and education in France

The hosting environment

The offered position is within one of France's finest addresses for research at a chair that is well-known for its excellence in cybersecurity.

The position is located within the technical university IMT Atlantique at the Rennes campus within the SRCD department at the chair Cyber CNI. Relocation to Rennes is required.

IMT: The Institut Mines Télécom (IMT) is France's biggest association of technical universities. IMT is a public institution dedicated to higher education and research for innovation.
It is a key player in the fusion of science, engineering and digital technology, and takes its schools' skills into the major fields of transformation in digital technology, industry, energy and the environment as well as their impact on the industry of the future, cities, health, and autonomy. For more info: https://www.imt.fr/en/imt/presentation-of-imt/

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IMT Atlantique: Internationally recognized, IMT Atlantique's research positions it as one of the world's Top 400 Technological Universities. This research, conducted in the fields of digital sciences, engineering sciences, physics and management, fosters the conditions for inter-disciplinary research that is a source of innovation in response to the major challenges facing companies and society. For more info: https://www.imt-atlantique.fr/en/research-innovation

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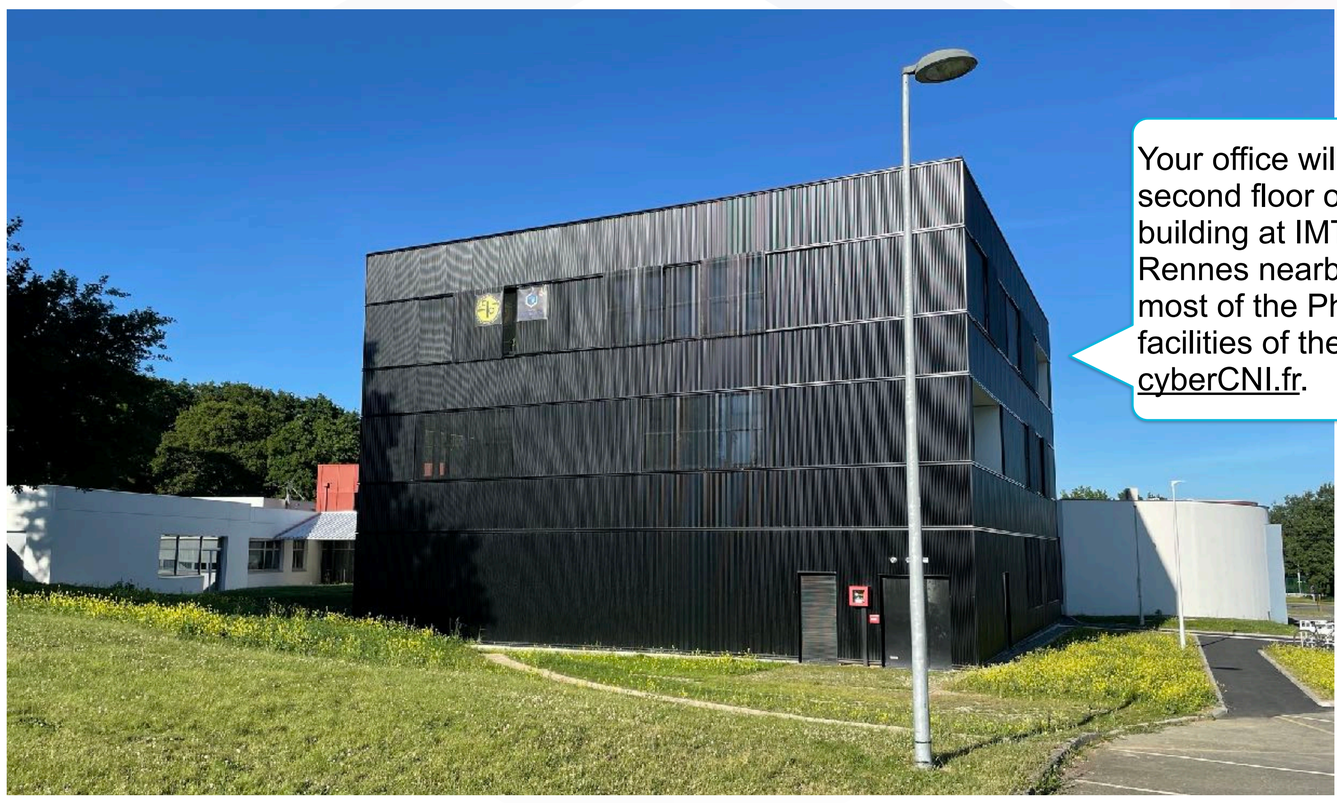

Your office will be located at the second floor of the newest building at IMT Atlantique Rennes nearby the chairholder, most of the PhDs and the lab facilities of the chaire cyberCNI.fr.

UMR IRISA

IRISA is today one of the largest French research laboratory (more than 850 people) in the field of computer science and information technologies.
Structured into seven scientific departments, the laboratory is a research center of excellence with scientific priorities such as bioinformatics, systems security, new software architectures, virtual reality, big data analysis and artificial intelligence.

Chair Cyber CNI: Cybersecurity for Critical Networked Infrastructures (Cyber CNI) is an industrial research chair. The Cyber CNI Chair at IMT Atlantique is devoted to research, innovation, and teaching in the field of the cybersecurity of critical infrastructures, including industrial processes, financial systems, building automation, energy networks, water treatment plants, transportation.

CHAIRE CYBER CNI
Sécurité des infrastructures critiques

The chair covers the full stack from sensors and actuators and their signals over industrial control systems, distributed services at the edge or cloud, to user interfaces with collaborative Mixed Reality, and security policies.

The chair currently hosts 6+3 (three are getting recruited) PhD students, 1+3 PostDocs, 11 Professors, 1+1 engineers, and 2 internship students. The chair runs a large testbed that enables applied research together with the industry partners. The industry partners of the second funding round are Airbus, Amossys, BNP Paribas, EDF, Nokia Bell Labs, and SNCF.

UNION EUROPÉENNE / UNIA EUROPEJSKA / L'Europe s'engage en Bretagne / Région Bretagne

Brittany is the cybersecurity region number 1 in France. The chair Cyber CNI is strongly embedded in the cybersecurity ecosystem through its partnerships with the Pôle d'Excellence Cyber (PEC) and the Brittany Region. The chair provides a unique environment for cybersecurity research with lots of development possibilities. For more info : https://cybercni.fr

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