SILM

Thematic Semester on the Security of Software/Hardware Interfaces

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- ▶ The largest French research laboratory (850+ people) in the field of computer science and information technology
- ▶ CNRS Mixed Research Centre (UMR)
- ▶ A collaboration between 8 institutions: CentraleSupélec, CNRS, ENS Rennes, IMT Atlantique, Inria, INSA Rennes, Université Bretagne Sud, Université de Rennes 1
- ▶ 38 research teams
- ▶ 3 geographical sites in Brittany (Rennes, Lannion, Vannes)

- ▶ Inria is the French National Institute for Research in Digital Science and Technology
- ▶ 8 research centers distributed along France (in Bordeaux, Grenoble-Inovallée, Lille, Nancy, Paris-Rocquencourt, Rennes, Saclay, and Sophia Antipolis)
- ▶ 28 joint project teams in Rennes (including 24 with IRISA)

CentraleSupélec

► A public institution devoted to the sciences and engineering.
► Merge (2015) of two leading engineering schools in France: Ecole Centrale Paris and Supélec
► Highly selective competitive entrance examinations for engineering students
► 4 core activities: Engineering Program, Research, Doctoral Program, Executive Education
► 4200 students and 370 faculty members and researchers
► 3 campus: Saclay, **Rennes** and Metz

- ► French Government Defence procurement and technology agency
- ► Responsible for project management, development and purchase of weapon systems for the French military
- ► 10 testing and expertise centers distributed across France
  - DGA-MI expertise center in Bruz (near Rennes) : cyber-security
- ► Funding research projects and PhD grants
- ► Research activities in collaboration with academia

PÔLE D'EXCELLENCE
CYB≡R

- ▶ A cluster of 30 active members dedicated to cybersecurity
- ▶ Set up in 2014 under by the French Ministry for Armed Forces and the Regional Council of Bretagne
- ▶ Its goals is to boost:
  - the development of the offer of cybersecurity training;
  - academic cybersecurity research;
  - cybersecurity technological and industrial base, with special regards to innovative SMEs-SMIs.

Objectives

- ▶ Promote the scientific, teaching and industrial transfer activities on a specific subject
- ▶ Identify scientific and technological challenges in that field
- ▶ Propose a strategic action plan

Organization and funding

- ▶ Funded by the DGA
- ▶ Managed by Inria, on behalf of all the partners of the PEC research group
- ▶ Led by one or several researchers from PEC partners

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https://semestres-cyber.inria.fr/en/
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Actions

► Organization of different events: a summer school, dedicated workshops and a regular seminar

► Animation of a working group and publication of a white-paper

► Invitation of researchers

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https://silm.inria.fr/
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1. **Analysing the behavior and state of hardware components**
   - Fuzzing
   - Reverse-engineering
   - Trace mechanisms
   - Automated specification analysis
2. **Assessing the security of these hardware components**
   - Side-channel attacks
   - Fault injection
   - Exploiting unspecified behaviors
3. **Detecting or preventing software attacks**
   - Using dedicated hardware components
   - Software countermeasures against hardware vulnerabilities

SILM

G. Hiet
(CS/Inria, CIDRE)
Project coordinator, Workshops, Working Group & White Book

J.-L. Lanet
(Inria LHS/CIDRE)
Workshops

C. Maurice
(CNRS, EMSEC)
Summer school

F. Tronel
(CS/Inria, CIDRE)
Workshops, Summer school

R. Lashermes
(Inria)
Seminar

- ▶ 47 participants from 7 countries: students, young researchers and engineers
- ▶ Lectures, labs and CTF, over 4 days and a half
- ▶ Organizing committee: **Clémentine Maurice**, Frédéric Tronel
- ▶ Slides and videos of the presentations available on the web site

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https://silm-school.inria.fr/
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SILM

- ▶ November 20-21 2019 in Rennes, France during the European Cyber Week
- ▶ First session in common with C&ESAR conference
- ▶ 11 invited speakers + 1 paper accepted by C&ESAR conference
- ▶ Organizing committee: **Guillaume Hiet**, **Frédéric Tronel**, Jean-Louis Lanet
- ▶ Slides and videos of the presentations available on the web site

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https://silm-workshop.inria.fr
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- June 19, 2020 in Genova, Italy
- Workshop collocated with the 5th IEEE European Symposium on Security and Privacy
- Invited speakers + CFP
- Organizing committee: **Guillaume Hiet**, **Frédéric Tronel**, Jean-Louis Lanet
- **Submit articles!**

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https://silm-workshop-2020.inria.fr
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SILM Seminar

- ▶ One Friday/month, 2 presentations, at Inria in Rennes, France
- ▶ Organizing committee: **Ronan Lashermes**
- ▶ Slides and videos of the presentations available on the web site

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  https://semestres-cyber.inria.fr/en/silm-seminar/
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Working group

- ▶ Objectives: review the state-of-the-art, identify scientific challenges, technical obstacles, industrial transfer perspectives
- ▶ Managed by **Guillaume Hiet**
- ▶ Deliverables and outcomes: white paper + list of project proposals that should be funded in priority