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)
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
DGA-MI

- 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
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.
Cybersecurity thematic semesters

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

https://semestres-cyber.inria.fr/en/
SILM thematic semester

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

https://silm.inria.fr/
Three complementary research areas

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
Organization team

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

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

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

- 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!

Seminar and Working Group

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


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