

# Dr.-Ing. Aurore Fass

Visiting Assistant Professor at Stanford  
Research Group Leader at CISP

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<https://aurore54f.github.io>



## Bio

Aurore Fass is a Visiting Assistant Professor of Computer Science at Stanford University. Her research broadly focuses on **Web security and privacy**, **Web measurements**, and **machine learning**. Specifically, she is interested in detecting malware & vulnerabilities on the Web and collecting data to better understand and improve user security and privacy.

## Scientific Career

- 2021–2023 **Visiting Assistant Professor**, *Stanford University*, U.S.
- 2021–2023 **Research Group Leader**, *CISPA Helmholtz Center for Information Security*, Germany.
- 2020–2021 **Postdoctoral Researcher**, *CISPA Helmholtz Center for Information Security*, Germany.
- 2017–2020 **Ph.D. Student**, *Saarland University & CISPA Helmholtz Center for Information Security*, Germany.
  - Ph.D. thesis: *Studying JavaScript Security Through Static Analysis*
  - Advisors: Michael Backes and Ben Stock

## Education

- 2014–2017 **Grande École** (similar to a Master Degree), *TELECOM Nancy*, France, valedictorian.  
Major: Telecommunication, Network, and Security
  - Master thesis: German Federal Office for Information Security (BSI), Germany  
Automated clustering of JS samples for the detection of malware contained in obfuscated code
  - Industrial project: French Ministry of Defense, France  
Implemented an Xposed module to monitor Android devices; group of 4 persons (6 months)
  - Internship: Fraunhofer IOSB, Germany  
Implemented a passive asset detection system (8 weeks)
- 2012–2014 **Preparation for the highly competitive nationwide entrance examination to the French Grandes Écoles**, France.  
Major: Mathematics, Physics, and Computer Science
- 2012 **High School Graduation**, France, graduated with distinction (mention très bien), European section.  
Major: Mathematics, Physics & Chemistry, Biology, and German

## Awards and Honors

- 2021 **Inspiring Career**, *French Grande École TELECOM Nancy*, Remote.
- 2019–2022 **Saarland University Program of Excellence**, Germany.
- 2017 **Valedictorian**, *French Grande École TELECOM Nancy*, France.

2016 **IBM Best Student Recognition Event**, UK.

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## Publications

**Aurore Fass**, Dolière Francis Somé, Michael Backes, and Ben Stock. **DOUBLEX**: Statically Detecting Vulnerable Data Flows in Browser Extensions at Scale. In *ACM CCS*, 2021.

Marvin Moog, Markus Demmel, Michael Backes, and **Aurore Fass**. Statically Detecting JavaScript Obfuscation and Minification Techniques in the Wild. In *Dependable Systems and Networks (DSN)*, 2021.

**Aurore Fass**, Michael Backes, and Ben Stock. **HIDENOSEEK**: Camouflaging Malicious JavaScript in Benign ASTs. In *ACM CCS*, 2019.

**Aurore Fass**, Michael Backes, and Ben Stock. **JSTAP**: A Static Pre-Filter for Malicious JavaScript Detection. In *ACSAC*, 2019.

**Aurore Fass**, Robert P. Krawczyk, Michael Backes, and Ben Stock. **JAST**: Fully Syntactic Detection of Malicious (Obfuscated) JavaScript. In *DIMVA*, 2018.

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## Community Services

**PC Member** S&P 2023, ACM CCS 2022, ARES 2022, TheWebConf 2022, SecWeb 2022, ACM CCS 2021, SecWeb 2021

**Artifact Committee** USENIX Security 2021, ACSAC 2018

**External Reviewer** NDSS 2022, USENIX Security 2022, USENIX Security 2021, NDSS 2021, USENIX Security 2020, NDSS 2020, ACSAC 2019, Euro S&P 2019, ACSAC 2018, ACM CCS 2018

**Hiring Committee** CISPA faculty hiring committee 2020

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## Selected Talks

### [DoubleX: Statically Analyzing Browser Extensions at Scale](#)

July 2022 Berkeley Security Seminar. Berkeley, CA, U.S.

May 2022 RuhrSec. Bochum, Germany.

Apr 2022 Stanford Computer Forum – Security Workshop. Stanford, CA, U.S.

Nov 2021 Stanford Security Lunch. Stanford, CA, U.S.

### [Studying JavaScript Security Through Static Analysis](#)

Mar 2022 Palo Alto Networks (CA, U.S.). Remote. (extended version)

Jun 2021 Spirals Webinar at Inria Lille (France). Remote.

### [Statically Analyzing Malicious JavaScript in the Wild](#)

Mar 2021 Webinar at LORIA (France). Remote.

Dec 2020 BINSEC Webinar at CEA (France). Remote.

### [HideNoSeek: Camouflaging Malicious JavaScript in Benign ASTs](#)

May 2020 RuhrSec. Remote.

Mar 2019 Grande Region Security and Reliability Day (GRSRD). Nancy, France.

Feb 2019 MADWeb. San Diego, CA, U.S.

## JaSt: Fully Syntactic Detection of Malicious (Obfuscated) JavaScript

Nov 2018 Blackhoodie. Berlin, Germany.

Jun 2018 Malware Meeting at LORIA. Nancy, France.

Mar 2018 Grande Region Security and Reliability Day (GRSRD). Saarbrücken, Germany.

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## Publicly Available Software

DoubleX [Static browser extension analyzer: detection of suspicious external data flows](#)

HideNoSeek [Static analyzer to detect syntactic clones in JavaScript inputs](#)

JStap [Static and modular malicious JavaScript detector](#)

JaSt [Static malicious JavaScript detector](#)

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## Teaching

### Courses

2021 **Temporary Lecturer at TELECOM Nancy** (Université de Lorraine, France)

- Browser Extensions: Architecture and Security Consideration (lectures and practicals for master students)

WS 2019–2020 **Seminar: Joint Advances in Web Security**

- Browser Extensions: Security and Vulnerabilities
- Overview of Malicious JavaScript Detection Techniques and Attacks

WS 2018–2019 **Seminar: Joint Advances in Web Security**

- Overview of Malicious JavaScript Detection Techniques
- Cryptojacking: Definition, Detection, and Dimensions

### Ph.D. Student Mentoring & Supervision

From Fall 2021 Shubham Agarwal – Browser Extension Security

From Fall 2021 Kimberly Ruth – Web Measurement – with Zakir Durumeric

Winter 2021 Liz Izhikevich – Internet Scanning – with Zakir Durumeric

Fall 2021 Liana Patel – Web Crawler – with Zakir Durumeric

### Master Student Mentoring & Supervision

Winter 2021 Fengchen Gong – Browser Fingerprinting

### Bachelor Student Mentoring & Supervision

From Summer 2021 Mark Tran – Browser Extension Fingerprinting

From Spring 2021 Sheryl Hsu – Malicious Extension Detection

From Spring 2021 Vrushank Gunjur – Over-Privileged Extension Detection

Spring 2021 Nahum Maru – Browser Extension Crawler

Fall 2021 Luca Pistor and Nathan Bhak – Exam Software Security

Spring 2021 Paul Szymanski – Bachelor Thesis – A Study of State-of-the-Art Call Graph Creation Approaches for JavaScript – with Cristian-Alexandru Staicu

- SS 2020 Anne Christin Deutschen and Luc Seyler – Browser Extensions: Security and Vulnerabilities – with Dolière Francis Somé
- 2019–2020 Marvin Moog and Markus Demmel – Overview and Analysis of JavaScript Obfuscation Techniques
- WS 2019–2020 Maximilian Zöllner and Niklas Kempf – Intelligent Fuzzing System for JavaScript
- SS 2018 Nils Glörfeld – In-Depth Analysis of JavaScript Obfuscation Techniques and Deobfuscation
- Winter 2018 Dennis Salzmann – Lexical Malicious JavaScript Detection System

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## Additional Skills – Languages

French	Mother tongue	
English	Trilingual proficiency	<i>TOEIC score: 910 (2014); living in the U.S. since 2021</i>
German	Trilingual proficiency	<i>C1 Certificate (2016); lived in Germany 2017–2021</i>