saarland-informatics-campus.de

Saarland Informatics Campus

Welcome for Master Students in Cybersecurity

Dr.-Ing. Ben Stock October 10, 2024





UNIVERSITÄT DES SAARLANDES

SC Saarland Informatics Campus



DFKI

Graduate School

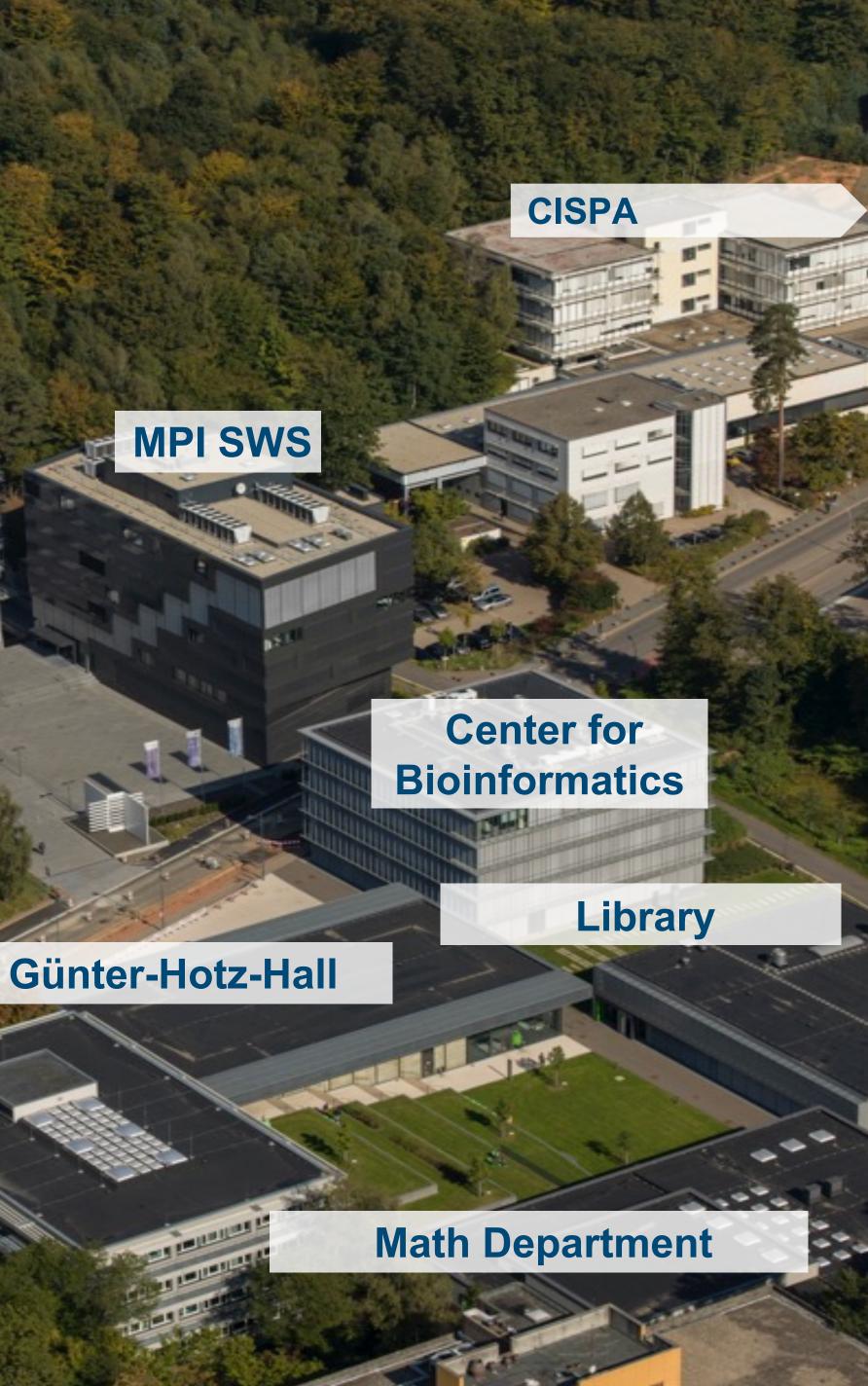
CS Department

MPI INF

E BI

Excellence Cluster MMCI

Language Technology















About SIC (as per October 2023)

- 5 informatics institutes and 3 collaborating departments on campus
- Around 2,500 students from more than 81 countries
- **77 research groups**, 300 doctoral candidates
- ~ 900 scientists at SIC
- 24 informatics study programs, **16 research fields**
- 6 Konrad Zuse Medals, 30+ ERC Grants, 7 Leibniz Awards
- 4 Collaborative Research Centres





More about us:

https://saarland-informatics-campus.de/en/ueberuns-aboutus/

RESEARCH

About CISPA

- (my employer 🙂)
- Helmholtz Center for Information Security
- 40+ faculty and senior researchers
- 200+ doctoral/postdoctoral researchers focused on Cybersecurity topics
- 60+ Hiwi students
- Top place for academic research
- Heavily involved in teaching MSc CySec

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#	Institution	Count Fa	<u>culty</u>
1	CISPA Helmholtz Center i III	74.3	23
2	Georgia Institute of Technology 🔤 📊	53.9	26
3	Purdue University <a>[h]	37.5	20
4	🕨 ETH Zurich 🖸 📊	37.2	17
5	Carnegie Mellon University <a>[]	31.4	22





RESEARCH

About CISPA: Our Faculty





Backes

Boenisch

Dziedzic

Lueks

(Contraction of the second sec

Stich



Burkholz



Fritz



Muandet



Vreeken X. Zhang



Y. Zhang RA2: Trustworthy Information Processing





Cremers Dimitrova





Finkbeiner

Schwarz

Jacobs

RA3: Reliable Security Guarantees





Holz Schönherr



Zeller

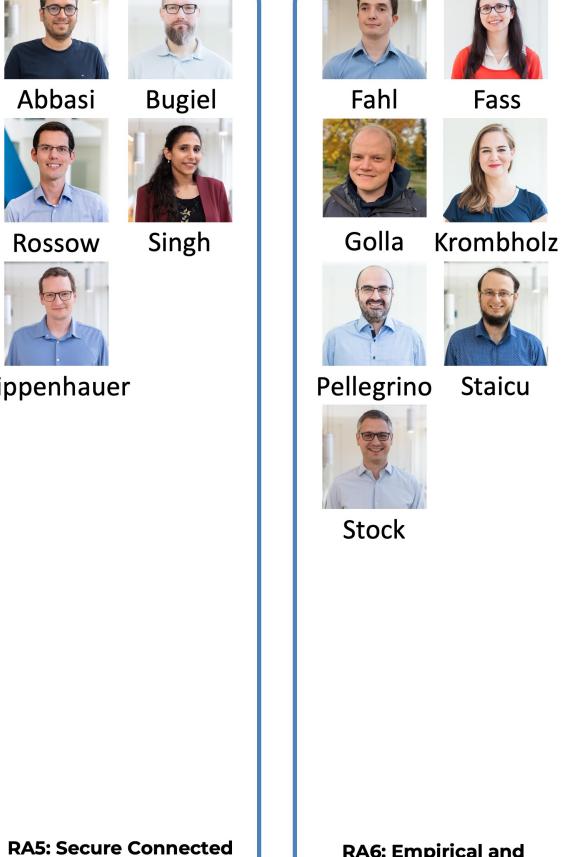


Rossow

and Mobile Systems



Tippenhauer



RA6: Empirical and Behavioral Security

RA4: Threat Detections & Defenses

Your Studies at Saarland University



Winter term 2024

- On October 14, Saarland University will start lectures for the winter semester of 2024.
- Information about courses and tutorials is provided on the web pages of the lecturers and the <u>LSF / HISPOS</u> https://www.lsf.uni-saarland.de/

Saarland Informatics Campus

New at Saarland Informatics Campus?

Starting your studies can be quite exciting. Finding your way around after enrollment is not always easy: To make it easier for you, you will find all the important steps on your way to us here - from enrollment to the start of the semester. The study coordinator, the student council and students from higher semesters are always happy to help you get started and are always open to questions and personal concerns.

- 1. User account information
- 2. Get to know fellow students
- 3. Follow us on Social Media



- 4. Enroll: Math Pre-Course and StEP
- 5. Access to E-Mail, WLAN and VPN
- 6. Study organisation



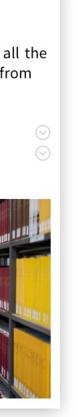
- 7. Download the Uni-App
- 8. Information about your semester



Further Information:

https://saarland-informatics-campus.de/en/semesterinfo/







Study Regulations 2021 for Master of Cybersecurity

Read your study documents carefully!

Examination regulations, subject-specific regulations, and study regulations: <u>Check the website for the joint examination offices of all faculties of Natural Sciences and Technology</u>

You must know your rights and duties as a student!

https://www.ps-mint.uni-saarland.de/en/programmes/cybersecurity





> Cybersicherheit / Cybersecurity

Master Cybersecurity

- Study regulations
- Subject-specific regulations
- Subject-specific regulations (english)
- Module guide

Study Regulations 2021 for Master's programme Cybersecurity

- **1.27 graded** credits **core lectures** in computer science
 - Security and Cryptography are mandatory subjects (local CySec Bachelor cannot take them)
- 2. 30–34 graded credits core lectures in Computer Science, advanced lectures in Cybersecurity, or seminar in Cybersecurity (here: at most one seminar!)
 - Note: not proseminars (only BSc students)
- **3.7 graded** credits in the category of **seminars** in computer science
- 4. At least **14 ungraded credits** must be acquired by:
 - Further courses in computer science (usually 6-9 CP), Master practical training (6 CP each) in research groups at the CS department
 - Internship in a company (max. 6 CP); approved by the examination board
 - Leading a tutorial (4 CP), Language courses (max. 6 CP, living language)
 - Courses from other departments, which have been applied for and approved by the examination board (e.g., in mathematics, business informatics, or computer linguistics)
- 5. 12 graded credits for the Master's seminar and 30 CP for the Master's thesis



Suggested schedule for MSc Cybersecurity

1	Security (9 CP)	Core Lecture (9 CP)	Advanced Lecture Cyber Security (6 CP)	Advanced Lecture Cyber Security (6 CP)	30
2	Cryptography (9 CP)	Advanced Lecture Cyber Security (6 CP)	Seminar CySec (7 CP)	Mandatory Elect (8 CP)	30
3	Advanced Lecture Cyber Security (6 CP)	Advanced Lecture Cyber Security (6 CP)	Mandatory Elect (6 CP)	Master's Seminar (12 CP)	30
4	Master's Thesis (30 CP)				30



Example Course List: All our <u>core courses</u> (offered at least every two years)

Algorithms and Data Structures Artificial Intelligence Automated Reasoning **Compiler Construction** Complexity Theory Computational Logic Computer Algebra Computer Architecture Computer Graphics **Cryptography** Data Base Systems Data Networks **Distributed Systems**

Embedded Systems Machine Learning **Operating Systems** Optimization **Security** Semantics Verification



- Geometric Modelling
- Human Computer Interaction
- Image Processing and Computer Vision
- Information Retrieval and Data Mining
- Software Engineering
- Telecommunications

Course catalogue (#1: LSF)

How to choose a lecture – for example: a core lecture

Faculty Mathematics and Computer Science — Courses on Computer Science https://www.lsf.uni-saarland.de/qisserver/rds?state=wtree&search=1&trex=step&root120232=356732%7C367629%7C361398%7C360426%7C361978&P.vx=kurz

You are here: <u>Home</u> → <u>Courses</u> → <u>Course Overvi</u>	<u>Home Login Winter 202</u>	
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- Master Cybersecurity **7** U
 - **(i)** Core Lectures \rightarrow
 - Advanced Lectures Cybersecurity
 - ➔ ① Seminars Cybersecurity
 - ➔ ① Freely choosen Points



Course catalogue (#2: CISPA CMS)

How to choose a lecture – example: in Cybersecurity

https://cms.cispa.saarland

Security (WS 2023/2024) Core Lecture - Thorsten Holz
Coro Loctura Thereton Holz
Verification
Core Lecture - Bernd Finkbeiner
Perspectives of Entrepreneuria
Lecture Series - Sven Bugiel, Giar
Cybersecurity Lab
Practical Training - Ben Stock
CySec Project Winter Term '23/
Project - CISPA
Decision Procedures for Verific
Proseminar - Rayna Dimitrova
Usable Security Research to En
Proseminar - Carolyn Guthoff, Ka
Wireless and Mobile Security
Proseminar - Mridula Singh
Advanced Theory of Secure Me
Seminar - Cas Cremers
An Extravaganza of Algorithmi

Seminar - Sebastian Brandt, Alexandre Nolin

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rial Cybersecurity

ancarlo Pellegrino

3/24

fication and Synthesis

Enhance Online Child Protection

Katharina Krombholz

lessaging

An Extravaganza of Algorithmic Models

Complexity of Games

Seminar - Dániel Marx, Tim Hartmann

Machine Learning Security Reproducibility

Seminar - Lea Schönherr

Mining Input Structures

Seminar - Rafael Dutra + Andreas Zeller

New Developments in PETS

Seminar - Wouter Lueks

Privacy of Machine Learning

Seminar - Yang Zhang

Pruning deep neural networks for lottery tickets

Seminar - Rebekka Burkholz

Static Program Analysis Lab

Seminar - Jordan Samhi + Andreas Zeller

The Web Security Seminar

Seminar - Aurore Fass, Giancarlo Pellegrino, Cristian-Alexandru Staicu, Ben Stock



Course catalogue (#3: Seminars)

IMPORTANT: MANDATORY SEMINAR BIDDING & REGISTRATION DEADLINE ON APR 17 23:59!

https://seminars.cs.uni-saarland.de



The central registration for all computer science seminars will open on March 12th.

This system is used to distribute students among the available seminars offered by the CS department. To register for any of the seminars, you have to register here until April 17th, 23:59 CET. You can select which seminar you would like to take, and will then be automatically assigned to one of them on April 19th.



Seminar Assignment Summer 2024

Control of progress

Full-time students are expected to deliver the following minimum requirements in the Master course of study:

- At least 9 credits after 1 semester
- At least 30 credits after 2 semesters
- At least 60 credits after 4 semesters
- At least 90 credits after 6 semesters

In case a student does not meet the minimum requirements for the second time, he/she shall lose the right to participate in examinations.

Students shall be given the opportunity to make a written statement before the examination board makes the final decision in the matter.



Examination registration

Please notice: For **all examinations,** you must register in LSF **one week before** the exam at the latest (final exam <u>and/or</u> re-exam)! **A delayed registration is not allowed!** A withdrawal is possible **one week** before the exam at the latest; later only with a medical certificate!

For some courses, e.g., seminars, you also must register before the course starts (limited number of **participants**): Please have a look at the respective website because of the conditions for registration. Seminar registration: <u>https://seminars.cs.uni-saarland.de/</u> A withdrawal from a seminar registration is only possible three weeks after getting the topic for presentation.

Problems? Please contact the study coordination!



Contacts (1/2)

Computer Science Students' Representative Council

Students of different study programmes E1.3, Raum 107 https://cs.fs.uni-saarland.de/en/

Study Coordinators: Dr. Rahel Stoike-Sy and Barbara Schulz-Brünken

Assistance in your study organisation and progress:

- questions about the examination and study regulations
- academic or personal problems
- information about exchange semesters, etc.

Building E1.3, rooms 209 and 207

Office hours: Tuesday and Thursday, 11 a.m.-1 p.m.: Please book your online appointment via MS Teams: <u>https://www.uni-saarland.de/en/department/department-of-computer-science/department.html</u> **Emails to:** <u>studium@cs.uni-saarland.de</u>



Contacts (2/2)

Examination office:

Administration and processing of your programme achievements:

- Transcript of record
- registration master thesis
- official certificates
- recognition of external academic achievements, etc.

Building E1.3, room 202

Office hours: information on website:

Emails to: contact person according to degree programme https://www.ps-mint.uni-saarland.de/en/home

SIC System Administration: <u>https://it.cs.uni-saarland.de/</u>





Enjoy your studies! saarland-informatics-campus.de

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