

Christian Mainka

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Research Topics

Web Security

- Browser security: *Cross-Site Leaks, Same-Origin Policy*
- Web protocol security: *Single Sign-On, OAuth, OpenID Connect, REST*
- Focusing on vulnerability detection, attack development, and flow analyses

Data Security

- Document security: *PDF, ODF, OOXML*
- Data-format security: *JSON, XML*
- Focusing on signatures, encryption, information leakage, and code execution

Experience

University of Wuppertal — Chair for Robust, Secure and Privacy-Preserving Smart Systems , Professor School of Electrical, Information and Media Engineering.	Wuppertal, Germany 2025 – present
Ruhr University Bochum — Chair for Network and Data Security , Tenured researcher, student councilor (Studienrat i.H.) Faculty of Computer Science.	Bochum, Germany 2018 – 2025
Ruhr University Bochum , Postdoctoral researcher	Bochum, Germany 2017 – 2018
Hackmanit GmbH , Co-Founder & CTO	Bochum, Germany 2014 – 2026
Penetration Tests, Training, Threat Analysis , Freelancer	Germany 2012 – present
Ruhr University Bochum , PhD Candidate	Bochum, Germany 2012 – 2017

Education

Ruhr University Bochum , Dissertation: "On Message-Level Security"	Bochum, Germany 2012 – 2017
Ruhr University Bochum , Thesis: "Automatic Penetration Test Tool for Detection of XML Signature Wrapping Attacks in Web Services"	Bochum, Germany 2010 – 2012
Ruhr University Bochum , Thesis: "Developing a Security Analysis Tool for OpenID-Based Single Sign-on Systems"	Bochum, Germany 2010 – 2013
Ruhr University Bochum , Thesis: "Automatic Penetration Test Tool for Detection of XML Signature Wrapping Attacks in Web Services"	Bochum, Germany 2007 – 2010

Awards

Excellent Teaching Award For the lecture Message-Level Security ↗ . Teaching Award of the Faculty of Computer Science ↗ .	2024
Best Paper Award on CSAW (2nd place) For " <i>Oops... Code Execution and Content Spoofing: The First Comprehensive Analysis of OpenDocument Signatures</i> ". Awarded with 500 EUR at the Cyber Security Awareness Week (CSAW), Applied Research Competition.	2022

- 5x5000 Competition: "Online or presence teaching - it fits!"** 2022
 Winner with the project [e-Hacking](#). Awarded by the Centre for Teaching and Learning (ZfW) at Ruhr University Bochum.
- ACM CCS Best Paper Award** 2021
 For "*XSinator.com: From a Formal Model to the Automatic Evaluation of Cross-Site Leaks in Web Browsers*". Awarded at the ACM SIGSAC Conference on Computer and Communications Security.
- Best Paper Award on CSAW (1st place)** 2019
 For "*1 Trillion Dollar Refund: How To Spoof PDF Signatures*". Awarded with 700 EUR at the Cyber Security Awareness Week (CSAW), Applied Research Competition.

Networks

- Member of the Global Young Faculty VII** 2021 – 2023
 Applied Science Communication working group. Initiative of [Stiftung Mercator](#) in cooperation with the [University Alliance Ruhr](#).
- Associate Principal Investigator of DFG CASA** 2019 – 2025
 Research Hub C: Secure Systems (Cluster of Excellence: Cyber Security in the Age of Large-Scale Adversaries).
- IETF OAuth Working Group** IETF
 RFC 9700 (OAuth 2.0 Security Best Current Practice), RFC 9207 (Authorization Server Issuer Identification), OAuth 2.0 for Browser-Based Apps.
- ISO Technical Committee PDF Specification** ISO
 Working Group Securing PDF.
- DIN Working Group PDF** DIN

Services

- Senate: Status Group Scientific Staff** 2023–2025
 Substitute member, Status Group Scientific Staff (Ruhr University Bochum).
- Faculty Council** 2021–2025
 Full member of the Faculty Council of Computer Science (Ruhr University Bochum).
- Quality Improvement Commission** 2022–2025
 Member of the commission for improving teaching and studies (full member since 2023).
- Program Committees** PC
 ACM CCS 2026, USENIX Security 2024 & 2025, RAID 2024, RuhrSec 2017–2025, ICICS 2021–2023, MetaCom 2023.
- Reviewer and Sub-Reviewer** Reviews
 ACNS, AsiaCCS, CCS, EuroS&P, IJIS, S&P, ...