

Prof. Dr. Karola Marky

Curriculum Vitae

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i About Me

Date of Birth: November 3rd, 1988
Place of Birth: Kaiserslautern, Germany
Nationality: German

Institution: Ruhr University Bochum
Faculty of Computer Science
Universitätsstr. 150
44801 Bochum

Language Skills: German (native), English (Fluent), Japanese (JLPT N3)
Latvian (B2), French (Basic), Latin (Latinum)



I am a **professor** at the Ruhr University Bochum (RUB), where I lead the **Digital Sovereignty Lab** (DigiSoul). We investigate **digital sovereignty**, defined as the capacity of individuals (e.g., end-users or developers), institutions (e.g., universities or companies) or states (e.g., administrations or governments) to determine their role in the digital world and ultimately in a digital society. In an interdisciplinary team of computer scientists, psychologists and social scientists, we primarily use empirical methods to investigate and propose current and novel sovereignty, security and privacy interfaces that integrate well into our daily lives. Our core research areas include **human factors in security and privacy**, *Human-Computer Interaction* and *Human-AI Interaction*. Additionally, we investigate emerging technologies, such as extended reality (XR), IoT-equipped environments (e.g., smart homes or cities), and artificial intelligence.

My lab has made substantial contributions to the fields of two-factor authentication, online and IoT privacy, e-voting, tangible security, and investigated vulnerable groups (e.g., teenagers). My research has resulted in more than 100 publications, including contributions to leading venues in Human-Computer Interaction (e.g., CHI, TOCHI, IMWUT, and DIS), Security and Privacy (e.g., USENIX Security, IEEE S&P, CCS, and PETS), and at their intersection (e.g., SOUPS and BIT). Many of these contributions resulted from **international collaborations** with researchers in the UK, Japan, Luxembourg, Switzerland, France, and the Netherlands.

Currently, I am a PI of the DFG-funded **Cluster of Excellence “CASA” Security our Digital Society**, which is in its second funding phase. My other projects include the BMFTR-funded project DigiFit and InSync. I have served on numerous program committees, such as CHI, SOUPS, Usenix Security or CCS. Since 2018, I have reviewed for international top conferences and journals (e.g., CHI, CSCW, TOCHI, and IMWUT). I have also served on several **organizing committees**, such as SOUPS, MUM, Voting, MuC, AHs, or Security for XR and XR for Security (VR4Sec). I have given **invited talks** at international workshops and seminars as well as **guest talks** at universities in Japan, Luxembourg, Belgium, Switzerland, the UK, and Germany. Finally, I have taught a range of courses, including practical, hands-on courses with up to 20 students and lectures with up to 600 students.

🏛️ Current Position

Professor (W2, tenured), since 2022

Ruhr University Bochum

- Head of the Digital Sovereignty Lab (short: DigiSoul), Faculty of Computer Science
- Currently: 4 PhD students (one starts 12/26), 1 postdoc, 2 admin stuff

Current Functions at Ruhr University (Selection)

- Member of the Faculty Council (Computer Science, since 2026)
- Founding Head of CS Ethical Review Board (since 2024)
- Council for Ethics and Responsibility of the University Alliance Ruhr (since 2024)
- Member of the PhD board (since 2024)
- Member of the University Tenure-Track Commission (since 2026)
- Member of the University Commission for Diversity (since 2026)
- Member of the examination board (since 2024)
- Research & Teaching Area Head of Human-Centred Computing (since 2024)

Professional Career

2023, Visiting Professor

Keio University, Japan

2022, Assistant Professor (W1)

Gottlieb Wilhelm Leibniz University

- Head of the research group “Privacy-Friendly Software Systems” at the Chair “Empirical & Behavioural Security” of Prof. Dr. Sascha Fahl

2021 – 2022, Postdoctoral Research Associate

University of Glasgow

- Research Section “Glasgow Interactive SysTems” (GIST)
- Responsible for managing EPSRC-funded project “TAPS”

2017 - 2020, Research Associate

Technical University of Darmstadt

- Research Group “Telecooperation Lab” led by Prof. Dr. Max Mühlhäuser
- PhD Scholarship funded by the Horst Görtz Foundation
- PI of the BMBF-funded project “PrivacyGate” (self-acquired funding)
- Research stay at Keio University for 6 months

2013 - 2015, DAAD Scholar & Research Intern

Tokyo, Japan

- Participation in the DAAD programme language and practical experience in Japan
- Research intern at the National Institute of Informatics (NII) Tokyo
- Research intern at Japanese Aerospace Exploration Agency (JAXA)

2013, IT Consultant

AreaSix GmbH, Kaiserslautern

Education

2017 - 2020, Doctorate in Computer Science with highest distinction (“summa cum laude”)

Technical University of Darmstadt

2015 - 2017, Major: Master of Science, Computer Science, Minor: Psychology

Technical University of Darmstadt

2008 - 2012, Bachelor of Science, Applied Computer Science

Technical University of Kaiserslautern

Awards & Offers

Awards

- 4 Honourable Mention Awards (top 2-5% of publications; CHI 2026, CHI 2024, MUM 2021, MuC 2021)
- 1 Best Poster Award (SOUPS 2023)
- 2 Best Reviewer Awards (Usenix Security 2025, ICALT 2023)
- *nominated* by Ruhr University Bochum for the Alfried-Krupp Förderpreis 2025

- *nominated* as TU Darmstadt's best dissertation for the German Informatics Society (GI) Dissertation Award 2020

Professorship Offers

- University of Kassel (tenured W2, 2022)

\$ Selected Funding

Acquisition and Project Management as PI (excerpt)

- BMFTR: InSync – Assessing Human-AI Synergy; 115.000 Euro, 2027 – 2028
- DFG: Cluster of Excellence CASA 2.0 – Securing the Digital Society (Continuation); 42 Mio Euro, 2026 – 2033
- DFG: Cluster of Excellence CASA – *Cyber Security in the Age of Large-Scale Adversaries*; 30 Mio Euro, 2019 – 2026
 - PI since 2022, Management Board Member (2023 – 2026)
 - 2 Functional Research Projects, total budget 800.000 Euro
 - 1 Transfer Project, total budget 200.000 Euro
- BMBF: DigiFit – *Digitale Fitness für Bürgerinnen und Bürger – realistische Risikowahrnehmung, sichere Routinen*; 2 Mio Euro, 2022 – 2025

Teaching

PhD Supervision

- PhDs: 3 completed as 1st reviewer, 1 as supervisor (UK system), 5 as 2nd reviewer, 2 as secondary supervisor, 4 informal supervisions
- Recent graduations in my lab: 2025 Florian Farke (Ruhr University Bochum), 2025 - Habiba Farzand (University of Glasgow), 2024 - Sarah Gaballah (Ruhr University Bochum)

Current & Future PhD Students (Ruhr University Bochum)

- Rebecca Panskus, Thesis Title: Understanding Security Touch Points of Citizens to Improve their Online Security
- Lena Swienty, Thesis Title: From Textual Overload to Tangible Security and Privacy
- Laura Peci, Thesis Title: Improving the Protection of Individuals by Using Habits and Routines
- Reyhan Düzgün (external), Thesis Title: Improving Authentication for Head-Mounted Displays
- Sara Olschar (start: 12/2026), Thesis Title: Diffusing Privacy-Related Knowledge in our Society

Student Thesis Supervision

- On average 10-20 BSc./MSc. per year, also in cooperation with other institutes

Courses (current)

- Graduate Lectures: Digital Sovereignty (Practical-oriented lecture, evaluated by students with 4.4/5)
- Undergraduate Lectures: Introduction to Usable Security and Privacy (evaluated by students with 4.2/5), Human-Computer Interaction (evaluated by students with 4.2/5)
- Seminars: Digital Sovereignty, Human-Centred Security
- Research Internship Course

Courses (in the past)

- Several lectures on foundations of computer science, security and privacy or empirical research methods, incl. Introduction to Empirical Methods of Human-centred Computing, Human-Computer Interaction, Human-Centred Security, Computer Networks and Distributed Systems, Project Management, or Computer Systems
- Several practical programming-oriented courses, incl. Advanced User Interfaces, Usable Security and Privacy, or Hands-On HCI, Wearable Computing
- Several seminar classes, incl. Emerging Topics in Cybersecurity, or Human-Computer Interaction

6 Selected Scientific Services

Conferences

- *Chairing*: on average 1–2 chair roles per year, e.g., General Chair (SCP 2027, AHs '23, '24), Program/Paper Chair (MUM '26, Voting '25 & '26, AHs '22), Poster Chair (SOUPS '26 & '27, AHs '20, '21), Workshop Chair (MuC '23)
- *Vice Chairing*: Usenix Security 2027
- *PC Member Full/Short Papers*: PETS 2026–2027, Usenix Security 2025–2026, CCS 2025–2026, SOUPS 2024–2026, CHI 2022–2027, MUM 2022–2025, Usable Security und Privacy Workshop @MuC 2025–2026, ICALT 2023, MuC 2019–2025, Fachkonferenz Technikpsychologie 2023, EICC 2021 & 2023, CSCW 2022
- *External Reviewer*: MuC 2026, VRST 2025, PETS 2023, MobileHCI 2020, 2022–2025, CSCW 2018 – 2022, NordiCHI 2022 & 2024, INTERACT 2021, PerCom 2021, CHI 2018 – 2021, DIS 2020 & 2022, CANS 2020, ISMAR 2018, SICHERHEIT 2018

Journals

- *External Reviewer*: CUI 2026, Computers in Human Behavior Reports 2025, TOCHI 2022–2026, IMWUT 2020–2023, IEEE Pervasive Computing Special Issue - Pervasive Surveillance and Privacy 2022, BIT 2021, IJHCS 2020 & 2021 & 2023, SIEGDA 2019

Selected Publications

As of the current date, I have published almost 100 scientific papers, one research book, one book chapter, proceedings or proposals of five workshops, and two editions of conference proceedings. More than a quarter of my publications is published at A/A*-ranked venues, such as CCS, Usenix Security, IEEE S&P, CHI, or PETS. My h-index is 24 (i10-index: 57), and my research is cited 2100+ times. The complete list of my papers can be found on my Google Scholar profile:

<https://scholar.google.com/citations?user=FycJHgUAAAAJ&hl=en>

It Shouldn't Be This Difficult: Researcher Perspectives on Diversity and Inclusion in Usable Privacy and Security Research. Priyasha Chatterjee, Smirity Kaushik, **Karola Marky**, Yixin Zou. In: CHI Conference on Human Factors in Computing Systems (CHI). 2026
<https://doi.org/10.1145/3772318.37914>

Investigating User Perceptions of Visualising Inferred Sensitive Information as Privacy Avatars. Lena Swienty, Rebecca Panskus, Stefanie Miketta, Beyza Kircili, Sen Cheng, **Karola Marky**. In: Proceedings of the 24th International Conference on Mobile and Ubiquitous Multimedia (MUM). 2025
<https://doi.org/10.1145/3771882.3771889>

The TaPSI Research Framework – A Systematization of Knowledge on Tangible Privacy and Security Interfaces. Sarah Delgado Rodriguez, Maximiliane Windl, Florian Alt, **Karola Marky**. In: CHI Conference on Human Factors in Computing Systems (CHI). 2025
<https://doi.org/10.1145/3706598.3713968>

Towards Secure and Usable XR Authentication Schemes for Head-Mounted Displays: A Co-Creation Study with Experts. Reyhan Düzgün, Philip Klostermeyer, Lena Swienty, Sascha Fahl, **Karola Marky**. In: Symposium on Virtual Reality Software and Technology (VRST). 2025
<https://doi.org/10.1145/3756884.3766016>

“It's Not My Data Anymore”: Exploring Non-Users' Privacy Perceptions of Medical Data Donation Apps. Sarah Abdelwahab Gaballah, Lamya Abdullah, Ephraim Zimmer, Sascha Fahl, Max Mühlhäuser, **Karola Marky**. In: Privacy Enhancing Technologies Symposium (PETS). 2025
<https://doi.org/10.56553/popets-2025-0035>

Authenticate As You Go: From Exploring Smart Home Authentication with Daily Objects to Authenticating with Primary Tasks. Verena Zimmermann, Stina Schäfer, Markus Dürmuth, Karola Marky . In: ACM Transactions on Computer-Human Interaction (TOCHI). https://doi.org/10.1145/3702318	2025
Selling Satisfaction: A Qualitative Analysis of Cybersecurity Awareness Vendors' Promises. Jonas Hielscher, Markus Schöps, Jens Opdenbusch, Felix Reichmann, Marco Gutfleisch, Karola Marky , Simon Parkin. In: ACM SIGSAC Conference on Computer and Communications Security (CCS). https://doi.org/10.1145/3658644.3690196	2024
🏆 Do You Need to Touch? Exploring Correlations between Personal Attributes and Preferences for Tangible Privacy Mechanisms. Sarah Delgado Rodriguez, Priyasha Chatterjee, Anh Dao Phuong, Florian Alt, Karola Marky . In: CHI Conference on Human Factors in Computing Systems (CHI). https://doi.org/10.1145/3613904.3642863	2024
Out-of-Device Privacy Unveiled: Designing and Validating the Out-of-Device Privacy Scale (ODPS). Habiba Farzand, Karola Marky , Mohamed Khamis. In: CHI Conference on Human Factors in Computing Systems (CHI). https://doi.org/10.1145/3613904.3642623	2024
Decide Yourself or Delegate - User Preferences Regarding the Autonomy of Personal Privacy Assistants in Private IoT-Equipped Environments. Karola Marky , Alina Stöver, Sarah Prange, Kira Bleck, Paul Gerber, Verena Zimmermann, Florian Müller, Florian Alt, Max Mühlhäuser. In: CHI Conference on Human Factors in Computing Systems (CHI). https://doi.org/10.1145/3613904.3642591	2024
Anonify: Decentralized Dual-level Anonymity for Medical Data Donation. Sarah Abdelwahab Gaballah, Lamya Abdullah, Mina Alishahi, Thanh Hoang Long Nguyen, Ephraim Zimmer, Max Mühlhäuser, Karola Marky . In: Privacy Enhancing Technologies Symposium (PETS). https://doi.org/10.56553/popets-2025-0035	2024
Everyone for Themselves? A Qualitative Study about Individual Security Setups of Open Source Software. Sabrina Amft, Sandra Höltervennhoff, Rebecca Pankus, Karola Marky , Sascha Fahl. In: IEEE Symposium on Security and Privacy (S&P). https://doi.org/10.1109/SP54263.2024.00214	2024
Investigating Voter Perceptions of Printed Physical Audit Trails for Online Voting. Karola Marky , Nina Gerber, Henry John Krumb, Mohamed Khamis, Max Mühlhäuser. In: IEEE Symposium on Security and Privacy (S&P). https://doi.org/10.1109/SP54263.2024.00136	2024
Tangible 2FA-An In-the-Wild Investigation of User-Defined Tangibles for Two-Factor Authentication. Mark Turner, Martin Schmitz, Morgan Masichi Bierey, Mohamed Khamis, Karola Marky . In: Symposium on Usable Privacy and Security (SOUPS 2023). https://www.usenix.org/conference/soups2023/presentation/turner	2023
Privacy Mental Models of Electronic Health Records: A German Case Study. Rebecca Pankus, Sascha Fahl, Max Ninow, Karola Marky . In: Symposium on Usable Privacy and Security (SOUPS 2023). https://www.usenix.org/conference/soups2023/presentation/pankus	2023
In the Quest to Protect Users from Side-Channel Attacks-A User-Centred Design Space to Mitigate Thermal Attacks on Public Payment Terminals. Karola Marky , Shaun Macdonald, Yasmeen Abdrabou, Mohamed Khamis. In: USENIX Security Symposium. https://www.usenix.org/conference/usenixsecurity23/presentation/marky	2023
The Nerd Factor: The Potential of S&P Adepts to Serve as a Social Resource in the User's Quest for More Secure and Privacy-Preserving Behavior. Nina Gerber, Karola Marky . In: Symposium on Usable Privacy and Security (SOUPS 2022). https://www.usenix.org/conference/soups2022/presentation/gerber	2022

Investigating State-of-the-Art Practices for Fostering Subjective Trust in Online Voting through Interviews. Karola Marky, Paul Gerber, Sebastian Günther, Mohamed Khamis, Maximilian Fries, Max Mühlhäuser. In: USENIX Security Symposium. <https://www.usenix.org/conference/usenixsecurity23/presentation/marky>

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