

Christina Kolb | CV

University of Twente, Faculty of Behavioural, Management and Social Sciences
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Experience and Education

Assistant Professor for Cybersecurity and Resilience Research group: Industrial Engineering and Business Information Systems The University of Twente	Enschede, NL 2023–now
Postdoctoral researcher on AI and Safety-Security Interactions Research group: Security, Privacy and Trust, The University of Edinburgh	Edinburgh, UK 2023
Postdoctoral researcher on Safety-Security Interactions Research group: Formal Methods and Tools, University of Twente Dependencies in Bayesian Networks, Attack-Defense-Fault Trees	Enschede, NL 2020–2022
PhD researcher on Routing in Hybrid Communications Networks Research group: Theory of Distributed Systems, Paderborn University Competitive Routing, efficient SetCover, Self-stabilizing Overlays	Paderborn, Germany 2015–2020
Scientific Assistant on Anonymous Reputation Systems Research group: Codes and Cryptography, Paderborn University Anonymous Reputation Systems, anonymous Credential Systems	Paderborn, Germany 2013–2015
Diploma in Mathematics with a Focus on Biosciences Certificate, Carl von Ossietzky Universität Oldenburg Statistics, Neurosciences, Algebra, Number Theory	Oldenburg, Germany 2012

Awards

Best Poster: Safety and Security Interactions EEMCS Day, The Netherlands	2022
Best Paper: A Bounding Box Overlay for Competitive Routing in Hybrid Networks ICDCN: International Conference on Distributed Computing and Networking, India	2020

Publications

Model-based Safety and Security Co-analysis: a Survey C. Kolb, S. M. Nicoletti, M. Peppelman, M. Stoelinga; Journal TDSC	2023
Beep-And-Sleep: Message and Energy Efficient SetCover T. Götte, C. Kolb, C. Scheideler; Journal Theoretical Computer Science	2023
Competitive Routing in Hybrid Communications Networks C. Kolb; PhD Thesis, Germany	2022
Attack Trees vs. Fault Trees: Two Sides of the Same Coin from Different Currencies C. E. Budde, C. Kolb, M. Stoelinga; QEST 2021, France	2021

The Marriage Between Safety and Cybersecurity: Still Practicing	<i>M. I.A. Stoelinga, C. Kolb, S. M. Nicoletti, C. E. Budde, E. M. Hahn; SPIN, virtual</i>	2021
Beep-And-Sleep: Message and Energy Efficient SetCover	<i>T. Götte, C. Kolb, C. Scheideler; ALGOSENSORS, Portugal</i>	2021
A Bounding Box Overlay for Competitive Routing in Hybrid Networks	<i>C. Kolb, C. Scheideler, J. Sundermeier; ICDCN, India</i>	2020
BrA: A Bounding Box Overlay for Competitive Routing in Hybrid Networks	<i>C. Kolb, C. Scheideler, J. Sundermeier; SIROCCO, Italy</i>	2019
Competitive Routing in Hybrid Communication Networks	<i>D. Jung, C. Kolb, C. Scheideler, J. Sundermeier; ALGOSENSORS , Springer, Finland</i>	2018
BrA: Competitive Routing in Hybrid Communication Networks	<i>D. Jung, C. Kolb, C. Scheideler; SPAA, Austria</i>	2018
Self-stabilizing Overlays for high-dimensional Monotonic Searchability	<i>M. Feldmann, C. Kolb, C. Scheideler; SSS, Springer, Japan</i>	2018
Self Stabilizing Supervised Publish Subscribe Systems;	<i>M. Feldmann, C. Kolb, C. Scheideler, T.F. Strothmann; IPDPS, IEEE; Canada</i>	2018
Anonymous and Publicly Linkable Reputation Systems	<i>J. Blömer, J. Juhnke, C. Kolb; FC, Malta</i>	2015

Contribution to Research Grants

Contribution of a section to the SfB-proposal	<i>Extension of the SfB 901: On-the-fly-computing</i>	2019
Contribution of a section to the SfB-proposal	<i>SfB 901: On-the-fly-computing</i>	2014

Invited Talk

Foundations of Wireless Networking	<i>Dagstuhl Seminar, Germany</i>	September 2017
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International Conference Talks

Attack Trees vs. Fault Trees	<i>virtual: Paris, France</i>	September 2021
Competitive Routing in Hybrid Communication Networks II	<i>Helsinki, Finland</i>	September 2018
Competitive Routing in Hybrid Communication Networks I	<i>Vienna, Austria</i>	September 2018
Self Stabilizing Supervised Publish Subscribe Systems	<i>Vancouver, Canada</i>	September 2018

Planning and Organization

Workshop on Safety and Security Interactions	
<i>SafeComp 2022 in Munich</i>	<i>September 2022</i>
Weekly scrum meetings for the CAESAR project	
<i>University of Twente</i>	<i>Since 2020</i>
Teaching coordinator of Data Structures and Algorithms	
<i>Paderborn University</i>	<i>2015–2020</i>
Intensive course mathematics I and II	
<i>Department of Computer Science; Paderborn University</i>	<i>May 2015</i>
Cryptoday for schools	
<i>Paderborn University</i>	<i>February 2015</i>
Cryptoday for schools	
<i>Paderborn University</i>	<i>February 2014</i>

Supervision of Bachelor and Master Thesis

An Explainable Machine Learning Approach to Risk-Adaptive Access Control	
<i>Department of Computer Science (Formal Methods and Tools), Twente</i>	<i>2022</i>
Safety and security interactions using the BDMP formalism	
<i>Department of Computer Science (Formal Methods and Tools), Twente</i>	<i>2021</i>
Competitive Routing within Bounding Box and Convex Hull Intersections	
<i>Department of Computer Science (Theory of distributed systems); Paderborn</i>	<i>2020</i>
Load-Balanced-Routing in Hybrid Communication Networks	
<i>Department of Computer Science (Theory of distributed systems); Paderborn</i>	<i>2019</i>
Bypassing Holes in Wireless Hybrid Communication Networks	
<i>Department of Computer Science (Theory of distributed systems); Paderborn</i>	<i>2017</i>
Efficient Revocation for Anonymous Credentials	
<i>Department of Computer Science (Codes and Cryptography); Paderborn</i>	<i>2015</i>
Efficient Attributes for Pairing-Based Anonymous Credentials	
<i>Department of Computer Science (Codes and Cryptography); Paderborn</i>	<i>2015</i>
Anonymous credential system based on q-Strong DH Assumption	
<i>Department of Computer Science (Codes and Cryptography); Paderborn</i>	<i>2015</i>
Group Signature Schemes with Strong Exculpability	
<i>Department of Computer Science (Codes and Cryptography); Paderborn</i>	<i>2014</i>

Teaching Experience as Tutor

Probabilistic Programming	
<i>Formal Methods and Tools, Enschede</i>	<i>February–April 2022</i>
Probabilistic Programming	
<i>Formal Methods and Tools, Enschede</i>	<i>February–April 2021</i>
Distributed Algorithms and Data Structures	
<i>Department of Computer Science; Paderborn</i>	<i>April–September 2019</i>

Complexity Theory	<i>Department of Computer Science; Paderborn</i>	<i>October 2018–March 2019</i>
Distributed Algorithms and Data Structures	<i>Department of Computer Science; Paderborn</i>	<i>April–September 2018</i>
Complexity Theory	<i>Department of Computer Science; Paderborn</i>	<i>October 2016– March 2017</i>
Distributed Algorithms and Data Structures	<i>Department of Computer Science; Paderborn</i>	<i>April–September 2016</i>
Introduction to Complexity Theory	<i>Department of Computer Science; Paderborn</i>	<i>October 2015–March 2016</i>
Data Structures and Algorithms	<i>Department of Computer Science; Paderborn</i>	<i>April–September 2015</i>
Cryptographic Protocols	<i>Department of Computer Science; Paderborn</i>	<i>October 2014–March 2015</i>
Data Structures and Algorithms	<i>Department of Computer Science; Paderborn</i>	<i>April–September 2014</i>
Modeling	<i>Department of Computer Science; Paderborn</i>	<i>October 2013–March 2014</i>
Discrete Structures	<i>Department of Computer Science; Oldenburg</i>	<i>October 2011–March 2012</i>
Mathematics for Economists	<i>Department of Mathematics; Oldenburg</i>	<i>October 2010–March 2011</i>
Algebra	<i>Department of Mathematics; Oldenburg</i>	<i>April–September 2010</i>
Mathematics for Economists	<i>Department of Mathematics; Oldenburg</i>	<i>October 2009–April 2010</i>
Discrete Structures	<i>Department of Computer Science; Oldenburg</i>	<i>October 2008–April 2009</i>

Self-Developments and Training

Manage your Career	<i>University of Twente</i>	<i>February 2022–May 2022</i>
Mentoring Program for Postdocs and Assistant Professors	<i>University of Twente</i>	<i>September 2020–August 2021</i>
Decision Making	<i>University of Twente</i>	<i>November 2021</i>
Time Management	<i>University of Twente</i>	<i>April 2021</i>
Supervising PhD's	<i>University of Twente</i>	<i>November 2020</i>

Computer Skills

Maple
Matlab
Fortran
Mathematica
R

Languages

German: native
English: fluent
Dutch: C1
French: advanced
Italian: basics
Greek: basics