

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

Awards

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

Publications

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

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

SafeComp 2022 in Munich

September 2022

Weekly scrum meetings for the CAESAR project

University of Twente

Since 2020

Teaching coordinator of Data Structures and Algorithms

Paderborn University

2015–2020

Intensive course mathematics I and II

Department of Computer Science; Paderborn University

May 2015

Cryptoday for schools

Paderborn University

February 2015

Cryptoday for schools

Paderborn University

February 2014

Supervision of Bachelor and Master Thesis

An Explainable Machine Learning Approach to Risk-Adaptive Access Control

Department of Computer Science (Formal Methods and Tools), Twente

2022

Safety and security interactions using the BDMP formalism

Department of Computer Science (Formal Methods and Tools), Twente

2021

Competitive Routing within Bounding Box and Convex Hull Intersections

Department of Computer Science (Theory of distributed systems); Paderborn

2020

Load-Balanced-Routing in Hybrid Communication Networks

Department of Computer Science (Theory of distributed systems); Paderborn

2019

Bypassing Holes in Wireless Hybrid Communication Networks

Department of Computer Science (Theory of distributed systems); Paderborn

2017

Efficient Revocation for Anonymous Credentials

Department of Computer Science (Codes and Cryptography); Paderborn

2015

Efficient Attributes for Pairing-Based Anonymous Credentials

Department of Computer Science (Codes and Cryptography); Paderborn

2015

Anonymous credential system based on q-Strong DH Assumption

Department of Computer Science (Codes and Cryptography); Paderborn

2015

Group Signature Schemes with Strong Exculpability

Department of Computer Science (Codes and Cryptography); Paderborn

2014

Teaching Experience as Tutor

Probabilistic Programming

Formal Methods and Tools, Enschede

February–April 2022

Probabilistic Programming

Formal Methods and Tools, Enschede

February–April 2021

Distributed Algorithms and Data Structures

Department of Computer Science; Paderborn

April–September 2019

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

Self-Developments and Training

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

Computer Skills

Maple
Matlab
Fortran
Mathematica
R

Languages

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