ACADEMIC CURRICULUM VITAE

Prof. Dr. Dr. h.c. Michael Backes

CISPA Helmholtz Center for Information Security

April 15, 2024

EMPLOYMENT HISTORY & SCHOLARSHIP

CISPA Helmholtz Center for Information Security   2017 – present
Founding Director and Chairman   *Saarbrücken, Germany*

Saarland University   2005 – present
Professor   *Saarbrücken, Germany*

CISPA, Saarland University   2011 – 2018
Scientific Director   *Saarbrücken, Germany*

Max Planck Institute for Software Systems   2007 – 2017
Max Planck Fellow   *Saarbrücken, Germany*

IBM Zurich Research Laboratory   2002 – 2005
Research staff member   *Zurich, Switzerland*

Saarland University   2001 – 2002
Scholarship of DFG graduate studies program   *Saarbrücken, Germany*

School for Deaf Children   1997 - 1998
Community Service   *Lebach, Germany*

EDUCATION

Ph.D Student, Saarland University   *April 2001 – May 2002*
Ph.D in Computer Science   *May 2002*
Thesis: "Cryptographically Sound Analysis of Security Protocols"
Advisor: Birgit Pfitzmann, Harald Ganzinger

Diploma Student (CS and Mathematics), Saarland University   *October 1998 – August 2002*
Diploma in Computer Science   *March 2001*
Diploma in Mathematics   *August 2002*

RESEARCH INTERESTS

Information security and privacy, especially: security and privacy in machine learning; trustworthy information processing and medical privacy; design, analysis and verification for security-critical systems and services; and universal solutions in system and software security.

RECENT PROFESSIONAL ACTIVITIES (SELECTION)

Technical Program (PC) Chair:
ACM Computer and Communication Security Conference (CCS)   2018
IEEE European Symposium on Security and Privacy (EuroS&P)   2016
IEEE Symposium on Security and Privacy (S&P)   2014
IEEE Symposium on Security and Privacy (S&P)   2013
IEEE Computer Security Foundations Symposium (CSF)   2011
IEEE Computer Security Foundations Symposium (CSF)   2010
European Symposium on Research in Computer Security (ESORICS)   2009

Information Security Conference (ISC)	2006
ACM Workshop on Formal Methods in Systems Engineering (FMSE)	2004
ACM Workshop on Formal Methods in Systems Engineering (FMSE)	2003

Steering Committee Member:

IEEE European Symposium on Security and Privacy (EuroS&P, chair)	2015 – present
IEEE Symposium on Security and Privacy (S&P)	2013 – 2019
IEEE Computer Security Foundations Symposium (CSF)	2010 – 2017
European Symposium on Research in Computer Security (ESORICS)	2009 – 2018
ACM Workshop on Formal Methods in Systems Engineering (FMSE, chair)	2003 – 2008

Editorial Responsibilities:

CACM's Research Highlights	2016 – present
Foundations and Trends in Security and Privacy, Editorial Board	2014 – present
Journal of Computer Security, Editor	2012 – 2013
International Journal of Information Security, Editorial Board	2007 – 2012

Program Committee Member:

Program Committee Member of about 110 international conferences in the last twenty years, with some of the most important ones being:
IEEE S&P (2005, 2006, 2009-2014, 2017, 2018); IEEE CSF (2004, 2006-2011, 2014); ACM CCS (2004, 2006, 2011, 2012, 2015, 2016, 2018-2023); ESORICS (2005-2020); NDSS (2010, 2011, 2013); Usenix Security (2016, 2017); PETS (2006, 2008-2011, 2016); Crypto (2011); Eurocrypt (2005); Asiacrypt (2004); TCC (2010); ICALP (2007).

Max Planck Schools	2023 –
Steering Committee Member	

Collaborative Research Center 1223 – Methods and Tools for Understanding and Controlling Privacy	2016 – 2020
Coordinator and Speaker	

Cluster of Excellence MMCI: Multimodal Computing and Interaction	2007 – 2019
Vice-Coordinator	

Bachelor Studies Program "Cybersecurity"	2014 – 2018
Program Coordinator	

AWARDS AND HONORS

Scientific Awards:

ACM Fellowship	2024
Karl-Heinz Beckurts Prize	2019
IEEE Fellowship	2019
NDSS Best Paper Award	2019
CSF Distinguished Paper Award	2019
Doctor Honoris Causa / Honorary Doctorate	2018
NSA Cybersecurity Research Award	2017
IEEE Golden Core Award	2017
CNIL-INRIA Privacy Award	2017
ERC Synergy Grant	2014
IEEE Outstanding Community Service Award	2014
IEEE Outstanding Community Service Award	2011
ERC Starting Grant	2009
IBM Faculty Award	2008
Fellow of the German Max Planck Society	2007

IBM Outstanding Achievement Award for Linking Formal Verification and Cryptography	2005
IBM Research Division Award for contributions to Web Services Security	2005
Caspar Bowden Award	2004
IBM Outstanding Achievement Award for contributions to Enterprise Privacy Architectures	2004
VDI Diploma Thesis Award	2002
Scholarship of the DFG graduate studies program "Quality Guarantees for Computer Systems"	2001

Honors beyond the Scientific Community:

Honorary Citizen and Future Ambassador, St. Ingbert	2023
Medal of Honor, Saarland Division of Engineers	2019
Member, Deutsche Akademie der Technikwissenschaften (acatech)	2015
Teaching Award of the State of Saarland	2015
Named one of Germany's Digital Minds by BM Wanka	2014
CS Teaching Award of Saarland University	2014
MIT TR35 (35 most outstanding researchers / innovators under the age of 35 worldwide)	2009
Top-40 of German IT people, ranking of Computerwoche	2010/11
Top-40-under-40 of German researchers, ranking of Capital	2010-14
CS Teaching Award of Saarland University	2009
CS Teaching Award of Saarland University	2007

LARGE-SCALE RESEARCH PROJECTS LED (SELECTION)

HMSP: Helmholtz Medical Security, Privacy and AI Research Center 2018 – present
Director and Speaker; see https://hmsp.cispa.saarland

CISPA: Center for IT-Security, Privacy, and Accountability 2011 – 2018
BMBF Competence Center IT-Security; Director; see https://uds.cispa.saarland, and https://cispa.saarland for its successor: the CISPA Helmholtz Center for Information Security

CISPA-Stanford Center for Cybersecurity Research 2017 – present
Director; see https://cispa-stanford.org

Methods and Tools for Understanding and Controlling Privacy 2016 – 2020
DFG Collaborative Research Center (SFB); Speaker; see https://privacy-sfb.cispa.saarland

imPACT: Privacy, Accountability, Compliance, and Trust in Tomorrow's Internet 2014 – 2020
ERC Synergy Grant; Speaker; see https://www.impact-erc.eu/

Multimodal Computing and Interaction 2007 – 2019
DFG Excellence Cluster; Vice-coordinator; see https://www.mmci.uni-saarland.de

Methods and Tools for End-to-End Security (1.2M Euro) 2009 – 2013
ERC Starting Grant; Speaker

Federated Identity Management 2004 – 2005
IBM Research; Lead

Security of IBM's mainframe architecture 2004 – 2005
IBM Research; co-Lead

Security of Web Services Protocols 2002 – 2005
IBM Research, in cooperation with ETH Zürich; co-Lead

Enterprise Privacy Management 2002 – 2005
IBM Research; co-Lead

Relating Formal Methods and Cryptography   2002 – 2011
IBM Research (until 2005), DFG (from 2006); Lead

TEACHING

A total of 35 lectures and 46 seminars taught at Saarland University since April 2006.

SUPERVISED STUDENTS AND POSTDOCS

Alumni of Backes's research group:

Rizwan Ashgar (*current position: Reader, Department of Computer Science, University of Surrey*)

Matthias Berg (*current position: Bundesamt für Sicherheit in der Informationstechnik, BSI*)

Pascal Berrang (*current position: Co-Founder, Nimiq & Assistant Professor, Birmingham*)

Sven Bugiel (*current position: Tenured Faculty, CISPA Helmholtz Center for Information Security*)

Oana Ciobotaru (*current position: Cryptography Researcher, OpenZeppelin*)

Duc Cuong Nguyen (*current position: Associate General Manager, HCL Vietnam*)

Erik Derr (*current position: Lead OT Security Consultant, BT Group*)

Markus Dürmuth (*current position: Associate Professor, Leibniz University Hannover*)

Sascha Fahl (*current position: Tenured Faculty, CISPA Helmholtz Center for Information Security*)

Aurore Fass (*current position: Tenure-Track Faculty, CISPA Helmholtz Center for Information Security*)

Dario Fiore (*current position: Associate Research Professor, IMDEA, Spain*)

Martin Gagne (*current position: Assistant Professor, Wheaton, USA*)

Sebastian Gerling (*current position: Chief Digital Officer, University of Hamburg*)

Kathrin Grosse (*current position: PostDoc, EPFL Lausanne*)

Inken Hagestedt (*current position: Privacy Expert, Apheris*)

Lucjan Hanzlik (*current position: Tenure-track Faculty, CISPA Helmholtz Center for Information Security*)

Catalin Hritcu (*current position: Tenured Faculty, MPI for Cybersecurity, Bochum*)

Mathias Humbert (*current position: Associate Professor, Department of Information Systems, University of Lausanne*)

Aniket Kate (*current position: Associate Professor, Purdue University*)

Ágnes Kiss (*current position: Cryptography Engineer, SINE Foundation*)

Kamil Kluczniak (*current position: Senior Consultant, Secunet Security Network AG*)

Boris Köpf (*current position: Scientist, Azure Research*)

Hojoon Lee (*current position: Assistant Professor, SKKU Singapore*)

Matteo Maffei (*current position: Professor, TU Vienna*)

Sebastian Meiser (*current position: PostDoc, ITS, University of Lübeck*)

Esfandiar Mohammadi (*current position: Associate Professor, ITS, University of Lübeck*)

Praveen Manoharan (*current position: PhD Student in Astrophysics, U Tübingen*)

Stefan Nürnberger (*current position: Managing Director, veecle*)

Marco Patrigiani (*current position: Assistant Professor, Department of Information Engineering and Computer Science, University of Trento*)

Ivan Pryvalov (*current position: Junior Reseaech Group Leader (Control Systems and Cybersecurity Lab), TU Cottbus-Senftenburg*)

Tahleen Awazid Rahman (*current position: Senior Data Scientist, Ozone*)

Ahmed Salem (*current position: Researcher, Microsoft*)

Raphael Reischuk (*current position: Partner and Head of Cybersecurity, Zühlke Engineering AG*)

Oliver Schranz (*current position: CTO, AIS Advanced IT-Security Solutions*)

Jonas Schneider-Bensch (*current position: Cryptography Engineer, Crypsen*)

Milivoj Simeonovski (*current position: Product Security Programme Manager EMEA, ASSA ABLOY Group*)

Malte Skoruppa (*current position: Principal Engineer, Sonar*)

Patrick Speicher (*current position: Cyber Security Engineer, ZF Group*)
Ben Stock (*current position: Tenured Faculty, CISPA Helmholtz Center for Information Security*)
Bartlomiej Surma (*current position: Software Engineer, Google*)
Philipp v. Styp-Rekowsky (*current position: Co-Founder, Nimiq*)
Dominik Unruh (*current position: Professor, Tartu University*)
Yang Zhang (*current position: Tenured Faculty, CISPA Helmholtz Center for Information Security*)
Zhikun Zhang (*current position: Visiting Assistant Professor, Stanford University*)
Zhengyu Zhao (*current position: Assistant Professor, Xián Jiaotong University*)

Supervised Bachelor and Master Students:
A total of 64 Bachelor students and 32 Master students supervised thus far.

PUBLICATIONS

Published about 300 papers at peer-reviewed international conferences, journals and workshops, and about 140 papers in technical reports.[1] Concerning the four flagship conferences in cybersecurity, I have thus far published 34 publications at the ACM Conference on Computer and Communication Security (ACM CCS), 21 publications at the IEEE Symposium on Security & Privacy (IEEE S&P), 24 publications at the Usenix Security Symposium, and 14 publications at the Network and Distribution System Security Symposium (NDSS). I moreover edited 14 proceedings and filed 6 patents.

For a continuously updated publication overview, please see `https://dblp.org/pid/b/MichaelBackes1.html`.

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[1]The IT security community considers publications in top-notch conferences (ACM CCS, IEEE S&P, Usenix Security, NDSS) the premium way of disseminating novel results; publications in journals are commonly considered less important.