



Sebastian Zickau

Curriculum Vitæ

*"Roads? Where we're going, we don't need roads."
Dr. Emmett Brown*

Education

- 2023 **SCRUM Master & Product Owner (Part II)**, ICO - INTERNATIONAL CERTIFICATION ORGANIZATION, ITEMO SCRUM Master & Product Owner (Professional).
- 2012–2022 **Doctorate (Dr.-Ing.)**, TECHNISCHE UNIVERSITÄT BERLIN, SERVICE-CENTRIC NETWORKING, on the topic of *Privacy-preserving Geofencing*, the thesis was submitted on May 4th, 2022, the scientific defense was held on December 6th, 2022, Berlin, Germany.
- 2022 **SCRUM Master & Product Owner (Part I)**, ICO - INTERNATIONAL CERTIFICATION ORGANIZATION, ITEMO SCRUM Master & Product Owner (Foundation).
- 2014–2016 **Software Campus Alumnus**, TECHNISCHE UNIVERSITÄT BERLIN, TELEKOM INNOVATION LABORATORIES, FEDERAL MINISTRY OF EDUCATION AND RESEARCH, Berlin, Germany.
- 2014 **Training Courses**, SOFTWARE CAMPUS, Germany.
 - Details:
 - Leadership as a Lifestyle, Deutsche Telekom AG, Berlin, Germany.
 - Conflicts in Leadership Situations, Deutsche Post DHL Group, Bonn, Germany.
 - Creativity & Innovation, Datev eG, Nürnberg, Germany.
 - Foundations of Scenario Planning, Robert Bosch GmbH, Stuttgart, Germany.
 - Intercultural Awareness, SAP, Walldorf, Germany.
 - Reviving Creative Potentials, Software AG, Darmstadt, Germany
- 1996–2002 **Diploma in Computer Science**, TECHNISCHE UNIVERSITÄT BERLIN, Berlin, Germany.
- 1992–1995 **Abitur**, OBERSTUFENZENTRUM FÜR ELEKTRO- UND ENERGIETECHNIK, Berlin, Germany.

Experience

Vocational

- 2021–present **IT-Architect for the Self-sovereign Identity R&D project IDunion (BMWK)**, AMT FÜR INFORMATIONSVERARBEITUNG, IT-ARCHITEKTUR, Cologne, Germany.

2012–2020 **Research Assistant, Doctoral Candidate**, TECHNISCHE UNIVERSITÄT BERLIN, TELEKOM INNOVATION LABORATORIES, Berlin, Germany.

Detailed achievements:

- Dissertation (ongoing)
- Completed six German- and EU-funded research projects successfully
 - Implementation of research and project prototypes
 - Participation and completion of a research project with the Telekom Innovation Laboratory (T-Labs)
 - Working on and submitting over thirty project proposals in Germany (BMBF, BMWi) and the European Union (Horizon 2020 and EIT)
 - Funding for six project proposals attracted
 - Publication of twenty research papers, including international conferences, national journals, and book chapters
 - Participation and presentations at over ten international research conferences, incl. IEEE
 - Supervising and leading personnel, including new researchers and assistants
 - Communication with national and international funding offices
 - Approaching potential (international) project partners
 - Full project reporting life cycle
- Over €2,568,000 national and international funding attracted
- Projects successfully completed
 - SSI4de - Self-Sovereign Identity for Germany (IDunion) (BMW, 2020)
 - GRAVITY and CityBeamer (EIT, 2020)
 - DIMS - Decentralized Identity Management System (EIT, including successful proposal, 2019)
 - IdentityChain (EIT, 201)
 - PARADISE - Privacy-enhancing And Reliable Anti-Doping Integrated Service Environment (BMBF, including successful proposal, 2016-2018)
 - Curcuma - Cloud Computing Location Metadata (Software Campus, BMBF, including successful proposal, 2014-2016)
 - TRESOR - TRusted Ecosystem for Standardized and Open and cloud-based Resources (BMW, including successful project extension, 2012-2015)
- Teaching and supervising students:
 - Over twenty diploma, bachelor, and master theses
 - Preparation and assessorship of oral and written exams
 - Organization of and teaching in lectures, projects, and seminars:
 - Internet of Services Lab (IoSL)
 - Usable Privacy Seminar
 - Business Processes and IT Services
- Organization of and presentation at public project presentations and national research meetups
- Organization of and presentation at two international hackathons

2008–2010 **Research Assistant**, UNIVERSITY OF READING, Intelligent Media Systems & Services Research Centre (IMSS), School of Systems Engineering, Reading, England.

- Worked in the EU-funded project HYDRA (networked embedded system middleware for heterogeneous physical devices in a distributed architecture)

2003–2007 **Employee**, TECHNISCHE UNIVERSITÄT BERLIN, tubIT - IT Service-Center, Berlin, Germany.

- Developing IT administration software and working on the introduction of smartcard services

- 2000–2002 **Student Assistant**, TECHNISCHE UNIVERSITÄT BERLIN, PRZ - Prozessrechner Zentrale, Berlin, Germany.
- Supporting the development of administration software and smartcard services
- Miscellaneous**
- 2010–2011 **Telemarker**, QUANTUM TM, Reading, England.
- 2009–2011 **Tutor**, *STEM subjects for secondary school pupils*, IMAAD/CET, Reading, England.
- 1996–1999 **Shop Assistant**, *specialist shop for juggling equipment*, JONGLERIE, Berlin, Germany.
- 1997 **Journey around the world**, *9 countries - 180 days*.

Publications

- 2023 Zickau, S. (2023). Privacy-preserving Geofencing. Technische Universität Berlin.
- 2022 Zickau, S. (2022). Digitale Selbstbestimmte Identitäten. Vitako aktuell 01|2022
- 2020 Lux, Z. A., Thatmann, D., Zickau, S. and Beierle, F. (2020). Distributed-Ledger-based Authentication with Decentralized Identifiers and Verifiable Credentials. 2nd conference on Blockchain Research and Applications for Innovative Networks and Services (BRAINS'20)
- 2019 Plass, J. and Zickau, S. (2019). PARADISE - Wie Ortungstechnologien den Datenschutz im Anti-Doping verbessern können. Kritik des Anti-Doping - Eine konstruktive Auseinandersetzung zu Methoden und Strategien im Kampf gegen Doping.
- Raschke, P. and Zickau, S. and Kröger, J. L. and Küpper, A. (2019). Towards Real-Time Web Tracking Detection with T.EX - The Transparency EXtension. Privacy Technologies and Policy.
- Lux, Z. A. and Beierle, F. and Zickau, S. and Göndör, S. (2019). Full-text Search for Verifiable Credential Schemas on Distributed Ledgers. Proceedings of the International Symposium on Blockchain Computing and Applications (BCCA 2019).
- Rodriguez Garzon, S. and Pöllabauer, T. and Zickau, S. and Küpper, A. (2019). Interactive Design of Geofences for Proactive Location-based Services in Smart Cities. Proceedings of the 16th IEEE International Conference on Ubiquitous Intelligence and Computing (UIC 2019).
- 2018 Victor, F. and Zickau, S. (2018). Geofences on the Blockchain: Enabling Decentralized Location-based Services. BlockSEA 2018, The 1st Workshop on Blockchain and Sharing Economy Applications.
- 2017 Schanzenbach, M. and Zickau, S. (2017). Identity and Access Management in a Doping Control Use Case. Datenschutz und Datensicherheit.
- Herber, T. and Jentsch, M. and Zickau, S. (2017). Datenschutz und Dopingkontrollen. Datenschutz und Datensicherheit.
- 2016 Zickau, S. (2016). privGardens - Semantic Privacy Areas in Location-based Data Protection Policies. 13. GI/KuVS-Fachgespräch "Ortsbezogene Anwendungen und Dienste".

- Zickau, S. and Thatmann, D. and Butyrtschik, A. and Denisow, I. and Küpper, A. (2016). Applied Attribute-based Encryption Schemes. Proceedings of the 19th IEEE International Conference Innovation in Clouds, Internet and Networks (ICIN 2016).
- 2015 Thatmann, D and Zickau, S. and Förster, A and Küpper, A. (2015). Applying Attribute-based Encryption on Publish Subscribe Messaging Patterns for the Internet of Things. Proceedings of the 8th IEEE International. Conference on Internet of Things (iThings 2015).
- Zickau, S. (2015). Semantic Location Information in Access Control Policy Models. Proceedings of the Location-based Applications and Services (LBAS 2015).
- Denisow, I. and Zickau, S. and Beierle, F. and Küpper, A. (2015). Dynamic Location Information in Attribute-based Encryption Schemes. Proceedings of the 9th International Conference on Next Generation Mobile Applications, Services and Technologies (NGMAST 2015).
- El-Sobhy, J. and Zickau, S. and Küpper, A. (2015). Proximity-based Services in Mobile Cloud Scenarios using Extended Communication Models. Proceedings of the 4th IEEE International Conference on Cloud Networking (IEEE CloudNet).
- Sharhan, S. and Zickau, S. (2015). Indoor Mapping for Location-based Policy Tooling using Bluetooth Low Energy Beacons. Proceedings of the 8th IEEE International Workshop on Selected Topics in Wireless and Mobile computing (STWiMob 2015).
- Roos, A. and Drüsedow, S. and Hosseini, M. I. and Coskun, G. and Zickau, S. (2015). Trust Level Based Data Storage and Data Access Control in a Distributed Storage Environment. Proceedings of the 3rd IEEE International Conference on Mobile Cloud Computing, Services, and Engineering.
- Zickau, S. and Beierle, F. and Denisow, I. (2015). Securing Mobile Cloud Data with Personalized Attribute-based Meta Information. Proceedings of the 3rd IEEE International Conference on Mobile Cloud Computing, Services, and Engineering (Mobile Cloud 2015).
- 2014 Zickau, S. and Thatmann, D. and Ermakova, T. and Repschläger, J. and Zarnekow, R. and Küpper, A. (2014). Enabling Location-based Policies in a Healthcare Cloud Computing Environment. Proceedings of the 3rd IEEE International Conference on Cloud Networking (IEEE CloudNet).
- Raschke, P. and Zickau, S. (2014). A Template-Based Policy Generation Interface for RESTful Web Services. On the Move to Meaningful Internet Systems: OTM 2014 Workshops.
- Zickau, S. and Slawik, M. and Thatmann, D. and Uhlig, S. and Denisow, I. and Küpper, A. (2014). TRESOR - Towards the Realization of a Trusted Cloud Ecosystem. Trusted Cloud Computing.
- 2013 Graf, T. and Zickau, S. and Küpper, A. (2013). Enabling Location-based Services on Stationary Devices using Smartphone Capabilities. Mobile Web Information Systems.
- Thatmann, D. and Slawik, M. and Zickau, S. and Küpper, A. (2013). Deriving a Distributed Cloud Proxy Architecture for Managed Cloud Service Consumption. Proceedings of the 6th Intl. Conference on Cloud Computing (CLOUD 2013).

2012 Thatmann, D. and Slawik, M. and Zickau, S. and Küpper, A. (2012). Towards a Federated Cloud Ecosystem: Enabling Managed Cloud Service Consumption. Economics of Grids, Clouds, Systems, and Services, GECON 2012.

Slawik, M. and Zickau, S. and Thatmann, D. and Repschläger, J. and Ermakova, T. and Küpper, A. and Zarnekow, R. (2012). Innovative Architektur für sicheres Cloud Computing: Beispiel eines Cloud-Ecosystems im Gesundheitswesen. Proceedings of the 42th Annual Conference of the Gesellschaft für Informatik e.V. (INFORMATIK 2012).

Zickau, S. and Küpper, A. (2012). Towards Location-based Services in a Cloud Computing Ecosystem. Ortsbezogene Anwendungen und Dienste - 9. Fachgespräch der GI/ITG-Fachgruppe Kommunikation und Verteilte Systeme.

Awards

2018 Best paper award, Victor, F. and Zickau, "Geofences on the Blockchain: Enabling Decentralized Location-based Services", BlockSEA 2018, The 1st Workshop on Blockchain and Sharing Economy Applications.

Research Interests

Main Location-based services, privacy-enhancing technologies, applied security, and attribute-based access control
Additional Self-sovereign identity, distributed ledger technologies, and blockchains
Subsidiary Meta data, linked data, semantic technologies, and ontologies

Computer Skills

Algorithms Zero-knowledge proofs, attribute-based encryption, multi-party computation, cryptographic hashing, homomorphic encryption, accumulators, private set intersection, bloom filter, OpenID connect, OAuth, and UMA
Concepts Positioning, Geohash, S2, MapCode, Open Post Code, personal identifiable information, Authentication, and Authorization
Languages (Geo)XACML, Python, REST, (Geo)JSON, Java, Kotlin, Javascript, Django, Ruby, LaTeX, and HTML
Programs PostGIS, QGIS, Docker, Gitlab, Postman, Eclipse, OmniGraffle, Office, Slack, and Rocketchat
Miscellaneous GDPR, MacOS, iOS, Android, Windows, Linux, Homebrew, and Bluetooth

Communication Skills

2010 Certificate in English Language Teaching to Adults (Cambridge CELTA), Thames Valley University, Reading, England.
2009 Certificate of Proficiency in English (Cambridge ESOL), Reading, England.

Languages

German **Mother tongue**

 **Personal Interests**

- Traveling
- Sailing
- Cinema
- Board games
- Indoor sports
- Volleyball
- Juggling
- Lego