Dr.-Ing. Kristian Beckers

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Work Experience

since 01/2017

SOCIAL ENGINEERING ACADEMY (SEA) GMBH *Munich*

Founder and Managing Director
- Security Awareness Trainings for Social Engineering
- Social Engineering Threat Intelligence and Analysis
- Design and Implementation of Serious Games

since 11/2016

CORPORATE TECHNOLOGY (CT), SIEMENS AG *Munich*

Security Consultant
- Research in Secure Agile Software Engineering
- Business Consultant for Security Lifecycle Topics
- Communication of Research Results and Consulting Achievements

04/2015 – 10/2016

TECHNICAL UNIVERSITY MUNICH (TUM) *Munich*

Senior Researcher and Lecturer
- Giving Lectures in Secure Software Engineering
- Organising Exercises for the Software Engineering Lecture (> 1000 Students)
- Research in Social Engineering, Threat Analysis, Security Compliance

03/2011 – 02/2015

PALUNO - THE RUHR INSTITUTE OF SOFTWARE TECHNOLOGY, UNIVERSITY DUISBURG-ESSEN *Duisburg*

Researcher and Lecturer
- Research in Security Requirements Engineering and Security Compliance
- Giving Lectures in Secure Software Engineering
- Organising Exercises for Data Structures and Algorithms Lecture

11/2009 – 02/2011

FRAUNHOFER-INSTITUT FOR SOFTWARE AND SYSTEMS ENGINEERING (ISST) *Dortmund*

Researcher and Consultant
- Research in Secure Business Processes
- Information Security Management for Cloud Computing Systems

08/2008 – 09/2009

NEC EUROPE LTD., NETWORK RESEARCH DIVISION *Heidelberg*

Software Engineer
- Design and Implementation of Fuzzing Tools
- Design and Implementation of P2P-Systems

Education

03/2011 –
05/2014
UNIVERSITY DUISBURG-ESSEN *Duisburg*

PhD in Secure Software Engineering
- Title: Pattern- and Security-Requirements-Engineering-based Establishment of Security Standards
- Grade: 0.0 (Summa cum Laude)

10/2002 –
04/2009
UNIVERSITY HAMBURG *Hamburg*

Diplom in Business Information Systems
- Thesis title: Automated Vulnerability Analysis of SIP-Implementations and SIP-specific Signature Generation for Knowledge-based Intrusion Detection Systems
- Minors: Security in Distributed Systems, Information Systems in Organisations, Work- and Organisational Psychology, Mediaculture, Logistics

Professional Trainings and Certifications

2019   **CERTIFIED INFORMATION SYSTEM AUDITOR (CISA) TRAINING** *München, Germany*
Certified CISA

2019   **SANS DEV540 SECURE DEVOPS AND CLOUD APPLICATION SECURITY TRAINING** *Las Vegas, USA*

2018   **CERTIFIED INFORMATION SYSTEMS SECURITY PROFESSIONAL (CISSP) TRAINING** *München, Germany*
Certified CISSP

2018   **CERTIFIED INFORMATION SECURITY MANAGER (CISM) TRAINING** *München, Germany*
Certified CISM

2018   **SCALED AGILE FRAMEWORK: LEADING SAFE TRAINING** *München, Germany*
Certified Agilist

2018   **CLOUD SECURITY BASED ON ISO 27017 AND ISO 27018 TRAINING** *Nürnberg, Germany*

2017   **ISO 27001 LEAD AUDITOR TRAINING** *Nürnberg, Germany*
Certified ISO 27001 Lead Auditor

2017   **COMMUNICATION TRAINING FOR ENGINEERING PROJECTS** *München, Germany*

2017   **ENERGY SUBSTATION SECURITY TRAINING** *Nürnberg, Germany*

2017   **GETTING THINGS DONE TRAINING** *Frankfurt, Germany*

Award and Patent

2016   Third Place of *German IT-Security Price* contest in Darmstadt (45 contenders). ↗
               • Title: Social Sec - A Serious Game for Social Engineering

2008   Patent Proposal with NEC Europe Ltd.
               • Topic: Innovative Black Box Fuzzing
               • Nr. 08 021 967.8
               • Inventors: Kristian Beckers, Saverio Niccolini, Jan Seedorf, Felipe Huici

Scientific Publications

[1] Schaab, P., Beckers, K., Pape, S.: Social engineering defence mechanisms and counteracting training strategies. Inf. & Comput. Security **25**(2) (2017) 206–222

[2] Kipker, D.K., Pape, S., Beckers, K.: Juristische bewertung eines social-engineering-abwehr trainings. In: ITS|Kritis Rahmenwerk. (2018) to appear.

[3] Sailer, M., Hoppenz, C., Beckers, K., Pape, S.: Förderung von it-sicherheitsbewusstheit durch spielbasiertes lernen - eine experimentelle studie. In: Tagung der Sektion "Empirische Bildungsforschung" – Educational Research and Governance (AEPF 2017). Number ID: 276/EPS10:3 (2017)

[4] Amini, S., Beckers, K., Böhm, M., Busch, F., Celikkaya, N., Cozzolino, V., Faber, A., Haus, M., Huth, D., Kemper, A., Kipf, A., Krcmar, H., Matthes, F., Ott, J., Prehofer, C., Pretschner, A., Uludag, Ö., Wörndl, W.: Informatikforschung für digitale mobilitätsplattformen - am beispiel des TUM living lab connected mobility. Informatik Spektrum **40**(2) (2017) 180–191

[5] Kacianka, S., Beckers, K., Kelbert, F., Kumari, P.: How accountability is implemented and understood in research tools - A systematic mapping study. In: Product-Focused Software Process Improvement - 18th International Conference, PROFES 2017, Innsbruck, Austria, November 29 - December 1, 2017, Proceedings. (2017) 199–218

[6] Dürrwang, J., Beckers, K., Kriesten, R.: A lightweight threat analysis approach intertwining safety and security for the automotive domain. In: Computer Safety, Reliability, and Security - 36th International Conference, SAFECOMP 2017, Trento, Italy, September 13-15, 2017, Proceedings. (2017) 305–319

[7] Beckers, K., Schosser, D., Pape, S., Schaab, P.: A structured comparison of social engineering intelligence gathering tools. In: Trust, Privacy and Security in Digital Business - 14th International Conference, TrustBus 2017, Lyon, France, August 30-31, 2017, Proceedings. (2017) 232–246

[8] Rehwald, S., Ibrahim, A., Beckers, K., Pretschner, A.: Accbench: A framework for comparing causality algorithms. In: Proceedings 2nd International Workshop on Causal Reasoning for Embedded and safety-critical Systems Technologies, CREST@ETAPS 2017, Uppsala, Sweden, 29th April 2017. (2017) 16–30

[9] Beckers, K., Fries, V., Groen, E.C., Pape, S.: Creativity techniques for social engineering threat elicitation: A controlled experiment. In: Proceedings of REFSQ-2017. (2017)

[10] Beckers, K., Côté, I., Frese, T., Hatebur, D., Heisel, M.: A structured and systematic model-based development method for automotive systems, considering the oem/supplier interface. Rel. Eng. & Sys. Safety **158** (2017) 172–184

[11] Beckers, K., Holling, D., Côté, I., Hatebur, D.: A structured hazard analysis and risk assessment method for automotive systems - A descriptive study. Rel. Eng. & Sys. Safety **158** (2017) 185–195

[12] Beckers, K., Dürrwang, J., Holling, D.: Standard compliant hazard and threat analysis for the automotive domain. Information **7**(3) (2016) 36

[13] Ki-Aries, D., Faily, S., Beckers, K.: Persona-driven information security awareness. In: Proceedings of British HCI 2016, ACM (2016)

[14] Beckers, K., Pape, S., Fries, V.: Hatch: Hack and trick capricious humans a serious game on social engineering. In: Proceedings of British HCI 2016, ACM (2016) 16–25

[15] Beckers, K., Pape, S.: A serious game for eliciting social engineering security requirements. In: Proceedings of the 24th IEEE International Conference on Requirements Engineering. RE '16, IEEE Computer Society (2016)

[16] Beckers, K., Krautsevich, L., Yautsiukhin, A.: Using attack graphs to analyze social engineering threats. IJSSE **6**(2) (2015) 47–69

[17] Schaab, P., Beckers, K., Pape, S.: A systematic gap analysis of social engineering defence mechanisms considering social psychology. In: Tenth International Symposium on Human Aspects of Information Security & Assurance, HAISA 2016, Frankfurt, Germany, July 19-21, 2016, Proceedings. (2016) 241–251

[18] Beckers, K., Landthaler, J., Matthes, F., Pretschner, A., Waltl, B.: Data accountability in socio-technical systems. In: Enterprise, Business-Process and Information Systems Modeling - 17th International Conference, BPMDS 2016, 21st International Conference, EMMSAD 2016, Held at CAiSE 2016, Ljubljana, Slovenia, June 13-14, 2016, Proceedings. (2016) 335–348

[19] Beckers, K.: Pattern- and Security- Requirements-Engineering- based Establishment of Security Standards. Springer (2015)

[20] Li, T., Horkoff, J., Paja, E., Beckers, K., Mylopoulos, J.: Analyzing attack strategies through anti-goal refinement. In: The Practice of Enterprise Modeling Conference (PoEM). Volume 235 of Lecture Notes in Business Information Processing., Springer (2015) 75–90

[21] Beckers, K., Côté, I., Frese, T., Hatebur, D., Heisel, M.: A structured validation and verification method for automotive systems considering the oem/supplier interface. In: Proceedings of the International Conference on Computer Safety, Reliability and Security (SAFECOMP). Volume 9337 of Lecture Notes in Computer Science., Springer (2015) 90–108

[22] Li, T., Paja, E., Mylopoulos, J., Horkoff, J., Beckers, K.: Holistic security requirements analysis: An attacker's perspective. In: Requirements Engineering Conference (RE), 2015 IEEE 23rd International. (2015) 282–283

[23] Beckers, K., Moyano, F., Fernandez-Gago, C., Heisel, M.: Engineering Trust- and Reputation-based Security Controls for Future Internet Systems. In: Proceedings 30th Symposium on Applied Computing, ACM (2015) 1344–1349

[24] Beckers, K., Krautsevich, L., Yautsiukhin, A.: Analysis of Social Engineering Threats with Attack Graphs. In: Proceedings of the 3rd International Workshop on Quantitative Aspects in Security Assurance (QASA) - Affiliated workshop with ESORICS. Volume 8872 of LNCS., Springer (2014) 216–232

[25] Beckers, K., Faßbender, S., Gritzalis, S., Heisel, M., Kalloniatis, C., Meis, R.: Privacy-aware cloud deployment scenario selection. In: Trust, Privacy, and Security in Digital Business. Volume 8647 of LNCS., Springer (2014) 94–105

[26] Beckers, K., Côté, I., Frese, T., Hatebur, D., Heisel, M.: Systematic Derivation of Functional Safety Requirements for Automotive Systems. In: Proceedings of the International Conference on Computer Safety, Reliability and Security (SAFECOMP). LNCS 8666, Springer (2014) 65–80

[27] Beckers, K., Heisel, M., Solhaug, B., Stølen, K.: ISMS-CORAS: A Structured Method for Establishing an ISO 27001 Compliant Information Security Management System. In Heisel, M., Joosen, W., Lopez, J., Martinelli, F., eds.: Advances in Engineering Secure Future Internet Services and Systems. Number 8431 in LNCS State-of-the-Art Surveys, Springer (2014) 315–344

[28] Beckers, K., Côté, I., Fenz, S., Hatebur, D., Heisel, M.: A structured comparison of security standards. In Heisel, M., Joosen, W., Lopez, J., Martinelli, F., eds.: Advances in Engineering Secure Future Internet Services and Systems. Number 8431 in LNCS State-of-the-Art Surveys, Springer (2014) 1–34

[29] Moyano, F., Beckers, K., Fernandez-Gago, C.: Trust-aware decision-making methodology for cloud sourcing. In: Proceedings of the 26th International Conference on Advanced Information Systems Engineering (CAiSE). Volume 8484 of LNCS., Springer (2014) 136–149

[30] Beckers, K., Faßbender, S., Heisel, M., Suppan, S.: A Threat Analysis Methodology for Smart Home Scenarios. In: Proceedings of the Second Open EIT ICT Labs Workshop on Smart Grid Security (SmartGridSec14). LNCS 8448, Springer (2014) Pages 94–124

[31] Beckers, K., Heisel, M., Krautsevich, L., Maritnelli, F., Yautsiukhin, A.: Considering Attacker Motivation in Attack Graphs Analysis in a Smart Grid Scenario. In: Proceedings of the Second Open EIT ICT Labs Workshop on Smart Grid Security (SmartGridSec14). LNCS 8448, Springer (2014) Pages 30–47

[32] Moyano, F., Fernandez-Gago, C., Beckers, K., Heisel, M.: Enhancing problem frames with trust and reputation for analyzing smart grid security requirements. In: Proceedings of the Second Open EIT ICT Labs Workshop on Smart Grid Security (SmartGridSec14). LNCS 8448, Springer (2014) 166 – 180

[33] Beckers, K., Hatebur, D., Heisel, M.: Supporting common criteria security analysis with problem frames. Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications (JoWUA) **5**(1) (2014) 37–63

[34] Beckers, K., Côté, I., Goeke, L., Güler, S., Heisel, M.: A structured method for security requirements elicitation concerning the cloud computing domain. International Journal of Secure Software Engineering (IJSSE) (2014) Accepted for Publication.

[35] Beckers, K., Côté, I., Goeke, L.: A Catalog of Security Requirements Patterns for the Domain of Cloud Computing Systems. In: Proceedings 29th Symposium on Applied Computing, ACM (2014) 337–342

[36] Beckers, K.: Goal-based establishment of an information security management system compliant to iso 27001. In: SOFSEM 2014: Theory and Practice of Computer Science. LNCS 8327. Springer (2014) 102–113

[37] Beckers, K.: Comparing privacy requirements engineering approaches. In: Proceedings of the International Conference on Availability, Reliability and Security (ARES) - 6th International Workshop on Secure Software Engineering (SecSE), IEEE Computer Society (2012) 574–581

[38] Hofbauer, S., Beckers, K., Quirchmayr, G.: Conducting a privacy impact analysis for the analysis of communication records. In: Proceedings of The International Conferences on Perspectives in Business Informatics Research (BIR). Volume 128 of Lecture Notes in Business Information Processing., Springer (2012) 148–161

[39] Beckers, K.: Supporting the Development and Documentation of Trustworthy ICT Systems according to Security Standard through Patterns and Security Requirements Engineering Approaches. In: Electronic Proc. of the 1st ESSoS Doctoral Symposium, ESSoS-DS. Volume 834., CEUR-WS.org (2012) 65–70

[40] Beckers, K., Côté, I., Faßbender, S., Heisel, M., Hofbauer, S.: A pattern-based method for establishing a cloud-specific information security management system. Requirements Engineering (2013) 1–53

[41] Beckers, K., Côté, I., Goeke, L., Güler, S., Heisel, M.: Structured pattern-based security requirements elicitation for clouds. In: Proceedings of the International Conference on Availability, Reliability and Security (ARES) - 7th International Workshop on Secure Software Engineering (SecSE), IEEE Computer Society (2013) 465–474

[42] Beckers, K., Côté, I., Hatebur, D., Faßbender, S., Heisel, M.: Common Criteria CompliAnt Software Development (CC-CASD). In: Proceedings 28th Symposium on Applied Computing, ACM (2013) 937–943

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[47] Beckers, K., Faßbender, S., Heisel, M., Küster, J.C., Schmidt, H.: Supporting the development and documentation of iso 27001 information security management systems through security requirements engineering approaches. In: Proceedings of the International Symposium on Engineering Secure Software and Systems (ESSoS). LNCS, Springer (2012) 14–21

[48] Beckers, K., Faßbender, S., Heisel, M., Meis, R.: A problem-based approach for computer aided privacy threat identification. In Preneel, B., Ikonomou, D., eds.: APF 2012. Volume 8319 of LNCS., Springer (2014) 1–16

[49] Beckers, K., Faßbender, S., Heisel, M., Paci, F.: Combining goal-oriented and problem-oriented requirements engineering methods. In: Proceedings of the International Cross Domain Conference and Workshop (CD-ARES). LNCS 8127, Springer (2013) 178–194

[50] Beckers, K., Faßbender, S., Küster, J.C., Schmidt, H.: A pattern-based method for identifying and analyzing laws. In: Proceedings of the International Working Conference onRequirements Engineering: Foundation for Software Quality (REFSQ). LNCS, Springer (2012) 256–262

[51] Beckers, K., Faßbender, S., Schmidt, H.: An integrated method for pattern-based elicitation of legal requirements applied to a cloud computing example. In: Proceedings of the International Conference on Availability, Reliability and Security (ARES) - 2nd International Workshop on Resilience and IT-Risk in Social Infrastructures(RISI), IEEE Computer Society (2012) 463–472

[52] Beckers, K., Faßbender, S., Heisel, M., Meis, R.: Pattern-based context establishment for service-oriented architectures. In: Software Service and Application Engineering. LNCS 7365, Springer (2012) 81–101

[53] Beckers, K., Frese, T., Hatebur, D., Heisel, M.: A Structured and Model-Based Hazard Analysis and Risk Assessment Method for Automotive Systems. In: Proceedings of the 24th IEEE International Symposium on Software Reliability Engineering (ISSRE), IEEE Computer Society (2013) 238–247

[54] Beckers, K., Hatebur, D., Heisel, M.: A problem-based threat analysis in compliance with common criteria. In: Proceedings of the International Conference on Availability, Reliability and Security (ARES), IEEE Computer Society (2013) 111–120

[55] Beckers, K., Heisel, M.: A usability evaluation of the nessos common body of knowledge. In: Proceedings of the International Conference on Availability, Reliability and Security (ARES) - 2nd International Workshop on Security Ontologies and Taxonomies(SecOnT), IEEE Computer Society (2013) 559–568

[56] Beckers, K., Heisel, M.: A foundation for requirements analysis of privacy preserving software. In: Proceedings of the International Cross Domain Conference and Workshop (CD-ARES). Volume 7465 of Lecture Notes in Computer Science., Springer (2012) 93–107

[57] Beckers, K., Heisel, M., Faßbender, S., Schmidt, H.: Using security requirements engineering approaches to support iso 27001 information security management systems development and documentation. In: Proceedings of the International Conference on Availability, Reliability and Security (ARES), IEEE Computer Society (2012) 243–248

[58] Beckers, K., Hofbauer, S., Quirchmayr, G., Wills, C.C.: A mapping between itil and iso 27001 processes for use by a high availability video conference service provider. In: Proceedings of the International Cross Domain Conference and Workshop (CD-ARES). LNCS 8127, Springer (2013) 224–239

[59] Beckers, K., Jürjens, J.: Security and compliance in clouds. In: ISSE 2010 Securing Electronic Business Processes: Highlights of the Information Security Solutions Europe 2010 Conference, Vieweg + Teubner (2010) 91 – 101

[60] Beckers, K., Küster, J.C., Faßbender, S., Schmidt, H.: Pattern-based support for context establishment and asset identification of the ISO 27000 in the field of cloud computing. In: Proceedings of the International Conference on Availability, Reliability and Security (ARES), IEEE Computer Society (2011) 327–333

[61] Gsell, H., Weißenberg, N., Beckers, K., Hirsch, M.: Process intelligence in der finanzwirtschaft. In: Software as a Service, Cloud Computing und Mobile Technologien, GITO Verlag (2010) 63 – 75

[62] Hüning, N., Gsell, H., Weißenberg, N., Hirsch, M., Beckers, K.: Process compliance und process intelligence in der finanzwirtschaft. ERP Management **2** (2010) 39 – 42

[63] Hofbauer, S., Beckers, K., Quirchmayr, G.: A privacy preserving approach to call detail records analysis in voip systems. In: Proceedings of the International Conference on Availability, Reliability and Security (ARES) - 7th International Workshop on Frontiers in Availability, Reliabilityand Security (FARES), IEEE Computer Society (2012) 307–316

[64] Hofbauer, S., Beckers, K., Quirchmayr, G., Sorge, C.: A lightweight privacy preserving approach for analysing communication records to prevent voip attacks using toll fraud as an example. In: Proceedings of The Second International Symposium on Anonymity and Communication Systems (ACS), IEEE Computer Society (2012) 992–997

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Reliability and Security (ARES) - 1st International Workshop on Security Ontologies and Taxonomies(SecOnT), IEEE Computer Society (2012) 499–506

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[67] Seedorf, J., Beckers, K., Huici, F.: Testing dialog-verification of sip phones with single-message denial-of-service attacks. Communications in Computer and Information Science **12** (2008) 61–64

Friday 8th February, 2019