Dr. rer. nat. Sebastian Pape

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Work Experience

since 01/2017 **SOCIAL ENGINEERING ACADEMY (SEA) GMBH** *Frankfurt*

Founder and Managing Director

- Security Awareness Trainings for Social Engineering
- Social Engineering Threat Intelligence and Analysis
- Design and Development of Serious Games

since 03/2015 **GOETHE UNIVERSITY** *Frankfurt*

Senior Researcher

- Management of Research Projects
- Research on Security Management, Threat Analysis, Social Engineering and Business Models for Privacy-Enhancing Technologies
- Supervision of PhD, master and bachelor students

04/2011 – 01/2015 **DORTMUND UNIVERSITY OF TECHNOLOGY** *Dortmund*

Senior Researcher

- Management of Research Projects
- Research on Applied Cryptography, Software Engineering for Critical Systems, Socio-economical Aspects of Information Security, Certification and Security of Cloud Computing Systems
- Teaching (Exercises, Seminars, Standing-in for Lectures)
- Supervision of PhD, master and bachelor students
- Four months research stay at University of Trento, Italy

09/2005 – 03/2011 **KASSEL UNIVERSITY** *Kassel*

Assistant Lecturer, Research Assistant

- Research on Applied / Visual Cryptography and Privacy Enhancing Technologies
- Teaching (Seminars)
- Supervision of master, bachelor and project seminar students

Education

09/2005 – 09/2013 **DR. RER. NAT. (EQUIVALENT TO PHD)** *Kassel University, Germany*

Title: The Challenge of Authentication in Insecure Environments
Research areas: authentication, visual cryptography, privacy-enhancing technologies
Grade: Very Good (magna cum laude)

10/1997 – 03/2005 **DIPL.-INFORM. (EQUIVALENT TO MASTER OF COMPUTER SCIENCE)** *Darmstadt University of Technology, Germany*

Main focus on cryptography and networks
Diploma thesis: Securitymodels for Ajtai-Dwork's cryptosystem

10/1996 – 01/2004 **DIPL.-MATH. (EQUIVALENT TO MASTER OF SCIENCE IN MATHEMATICS)** *Darmstadt University of Technology, Germany*

Main focus on optimization, logics and cryptography
Diploma thesis: Securitymodels for Ajtai-Dwork's cryptosystem

Professional Trainings (Since 2010) and Certifications

2017 **USE AND MODELLING OF SOCIOPOLITICAL-ECONOMIC DATABASES** *Goethe University Frankfurt, Germany*

2017 **IT-SECURITY MATCHPLAY** *ITS Kritis, München, Germany*

2016 **PARTIAL LEAST SQUARES STRUCTURAL EQUATIONS MODELING (PLS-SEM) USING SMARTPLS** *Goethe University Frankfurt, Germany*

2016 **INTERPRETATION OF STATISTICAL RESULTS** *Goethe University Frankfurt, Germany*

2015 **LEADERSHIP COMPETENCIES** *Goethe University Frankfurt, Germany*

2015 **EFFECTIVE DOCTORAL SUPERVISION** *Goethe University Frankfurt, Germany*

2014 **DEVELOPMENT OF LEADER SKILLS: DUTIES AND RIGHTS OF THE EXECUTIVE MANAGEMENT** *Dortmund University of Technology, Germany*

2014 **CERTIFICATE: THE DEVELOPMENT AND MANAGEMENT OF RESEARCH PROJECTS** *Kassel University and Philipps-University Marburg, Germany*

2011 **TARGET-ORIENTED COMMUNICATION** *Dortmund University of Technology, Germany*

2011 **INTERNATIONAL SCHOOL ON FOUNDATIONS OF SECURITY ANALYSIS AND DESIGN** *FOSAD, Bertinoro, Italy*

2009 **CERTIFICATE: LLUKAS - DIDACTICS OF CONTINUING HIGHER EDUCATION** *Kassel University, Germany*

Award & Roles

2016 Third Place of *German IT-Security Price* contest in Darmstadt (± 50 contenders).
- Title: Social Sec - A Serious Game for Social Engineering

since 2016 Member of IFIP TC 11 Working Group 12 - Human Aspects of Information Security and Assurance

since 2016 Spokesman of the privacy enhanced technologies section (GI-Fachgruppe PET) at German Informatics Society (Gesellschaft für Informatik e.V. (GI))

since 2016 Executive Committee Member of the security division (GI-Fachbereich Sicherheit) at German Informatics Society (Gesellschaft für Informatik e.V. (GI))

since 2008 Executive Committee Member of the privacy enhanced technologies section (GI-Fachgruppe PET) at German Informatics Society (Gesellschaft für Informatik e.V. (GI))

Invited Talks

02/2018 *Social Engineering: Introduction, Tools and Counteracting Training Strategies*, NECS Winter School 2018, Trento, Italy

02/2018 *Status zur IT-Sicherheit deutscher Stromnetzbetreiber*, 43. Sitzung DKE/AK952.0.15 DKE-ETG-ITG Informationssicherheit in der Netz- und Stationsleittechnik, Frankfurt

12/2017 *Serious Gaming: Wie das Kartenspiel HATCH für mehr Sicherheit sorgt*, VDMA-Informationstag Cybersecurity & Informationssicherheit, Frankfurt

02/2017 *HATCH: Hack And Trick Capricious Humans – A Serious Game on Social Engineering*, CAST-Workshop "Usable Security", Darmstadt

11/2016 *Technische Bedingungen wirksamer Verschlüsselung*, Deutsche Gesellschaft für Recht und Informatik e.V., DGRI Jahrestagung 2016: 40 Jahre DGRI!, Frankfurt

03/2016 *IT-Sicherheit (und Datenschutz) im Internet der Dinge*, 7. ERFA-Runde Datenschutz und IT-Sicherheit, Arbeitgeberverband Großhandel, Außenhandel, Dienstleistungen e.V., Dortmund

03/2016 *IT-Sicherheit spielend lernen: Ein Lernspiel zu Social Engineering*, ASEW Arbeitskreis IT-Sicherheit , Cologne

11/2015 *IT-Sicherheit (und Datenschutz) im Internet der Dinge*, (mit F. Wagner), 39. Datenschutzfachtagung (DAFTA), Cologne

02/2015 *The Difficulty of Selecting a Secure Cloud Provider*, Goethe University Frankfurt, Frankfurt

08/2005 *Gitterbasierte Kryptosysteme: Ajtai-Dwork und Regev*, HGI/RUB Bochum

Scientific Publications

[1] David Harborth and Sebastian Pape. German translation of the concerns for information privacy (cfip) construct. Available at SSRN: https://ssrn.com/abstract=3112207, January 2018.

[2] Julian Dax, Daniel Hamburg, Sebastian Pape, Volkmar Pipek, Kai Rannenberg, Christopher Schmitz, André Sekulla, and Frank Terhaag. Sichere informationsnetze bei kleinen und mittleren energieversorgern (sidate). In *ITS|Kritis Rahmenwerk*, chapter Sichere Informationsnetze bei kleinen und mittleren Energieversorgern (SIDATE). 2018. to appear.

[3] Julian Dax, Benedikt Ley, Sebastian Pape, Volkmar Pipek, Kai Rannenberg, Christopher Schmitz, and André Sekulla. Stand der it-sicherheit bei deutschen stromnetzbetreibern. In *ITS|Kritis Rahmenwerk*, chapter Stand der IT-Sicherheit bei deutschen Stromnetzbetreibern. 2018. to appear.

[4] Julian Dax, Sebastian Pape, Volkmar Pipek, Kai Rannenberg, Christopher Schmitz, André Sekulla, and Frank Terhaag. Das sidate-portal im einsatz. In *ITS|Kritis Rahmenwerk*, chapter Das SIDATE-Portal im Einsatz. 2018. to appear.

[5] David Harborth, Maren Braun, Akos Grosz, Sebastian Pape, and Kai Rannenberg. Anreize und hemmnisse für die implementierung von privacy-enhancing technologies im unternehmenskontext. In *Sicherheit 2018: Sicherheit, Schutz und Zuverlässigkeit, Beiträge der 9. Jahrestagung des Fachbereichs Sicherheit der Gesellschaft für Informatik e.V. (GI), 25.-27. April 2018, Konstanz*, 2018. to appear.

[6] David Harborth and Sebastian Pape. Privacy concerns and behavior of pokémon go players in germany. In *Proceedings of IFIP Summer School on Privacy and Identity Management (IFIPSC2017)*, Ispra, Italy, 2018. to appear.

[7] Dennis-Kenji Kipker, Sebastian Pape, and Kristian Beckers. Juristische bewertung eines social-engineering-abwehr trainings. In *ITS|Kritis Rahmenwerk*, chapter Stand der IT-Sicherheit bei deutschen Stromnetzbetreibern. 2018. to appear.

[8] Sebastian Pape, Daniel Tasche, Iulia Bastys, Akos Grosz, Joerg Laessig, and Kai Rannenberg. Towards an architecture for pseudonymous e-commerce – applying privacy by design to online shopping. In *Sicherheit 2018: Sicherheit, Schutz und Zuverlässigkeit, Beiträge der 9. Jahrestagung des Fachbereichs Sicherheit der Gesellschaft für Informatik e.V. (GI), 25.-27. April 2018, Konstanz*, 2018. to appear.

[9] David Harborth, Dominik Herrmann, Stefan Köpsell, Sebastian Pape, Christian Roth, Hannes Federrath, Dogan Kesdogan, and Kai Rannenberg. Integrating privacy-enhancing technologies into the internet infrastructure. Technical report, Cornell University, arXiv, November 2017. Also available via https://epub.uni-regensburg.de/36346/.

[10] Julian Dax, Ana Ivan, Benedikt Ley, Sebastian Pape, Volkmar Pipek, Kai Rannenberg, Christopher Schmitz, and André Sekulla. It security status of german energy providers. Technical report, Cornell University, arXiv, September 2017. Also available via URN: urn:nbn:de:hbz:467-12141, URL: http://dokumentix.ub.uni-siegen.de/opus/volltexte/2017/1214/.

[11] Julian Dax, Benedikt Ley, Sebastian Pape, Volkmar Pipek, Kai Rannenberg, Christopher Schmitz, and André Sekulla. Stand zur it-sicherheit deutscher stromnetzbetreiber : technischer bericht. Technical report, Universität Siegen, August 2017. Also available via https://arxiv.org/abs/1709.01254.

[12] Kristian Beckers, Veronika Fries, Eduard C. Groen, and Sebastian Pape. Creativity techniques for social engineering threat elicitation: A controlled experiment. In Eric Knauss, Angelo Susi, David Ameller, Daniel M. Berry, Fabiano Dalpiaz, Maya Daneva, Marian Daun, Oscar Dieste, Peter Forbrig, Eduard C. Groen, Andrea Herrmann, Jennifer Horkoff, Fitsum Meshesha Kifetew, Marite Kirikova, Alessia Knauss, Patrick Maeder, Fabio Massacci, Cristina Palomares, Jolita Ralyté, Ahmed Seffah, Alberto Siena, and Bastian Tenbergen, editors, *Joint Proceedings of REFSQ-2017 Workshops, Doctoral Symposium, Research Method Track, and Poster Track co-located with the 22nd International Conference on Requirements Engineering: Foundation for Software Quality (REFSQ 2017), Essen, Germany, February 27, 2017.*, volume 1796, 2017.

[13] Kristian Beckers, Daniel Schosser, Sebastian Pape, and Peter Schaab. 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*, pages 232–246, 2017. Revision 1, Table 7 was corrected, see http://link.springer.com/10.1007/978-3-319-64483-7_16.

[14] David Harborth and Sebastian Pape. Age matters - privacy concerns of pokémon go players in germany (extended abstract). In *Preproceedings of IFIP Summer School on Privacy and Identity Management ? the Smart World Revolution 2017 (IFIPSC2017)*, 2017. to appear.

[15] David Harborth and Sebastian Pape. Exploring the hype: Investigating technology acceptance factors of pokémon go. In Wolfgang Broll, Holger Regenbrecht, and J. Edward Swan II, editors, *2017 IEEE International Symposium on Mixed and Augmented Reality, ISMAR 2017, Nantes, France, October 9-13, 2017*, pages 155 – 168, 2017.

[16] Sebastian Pape. Technische bedingungen wirksamer verschlüsselung. In Walter Blocher, Dirk Heckmann, and Herbert Zech, editors, *Jahrbuch 2016*, number 26. Deutsche Gesellschaft für Recht und Informatik, 2017. available via https://www.dgri.de/55/Publikationen/Schriftenreihe-der-DGRI.htm.

[17] Michael Sailer, Carina Hoppenz, Kristian Beckers, and Sebastian Pape. 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.

[18] Peter Schaab, Kristian Beckers, and Sebastian Pape. Social engineering defence mechanisms and counteracting training strategies. *Information and Computer Security*, 25(2):206–222, 2017.

[19] Welderufael B. Tesfay, Jetzabel Serna, and Sebastian Pape. Challenges in detecting privacy revealing information in unstructured text. In *Workshop on Society, Privacy and the Semantic Web - Policy and Technology PrivOn 2016 at the International Semantic Web Conference (ISWC) 2016*, Kobe, Japan, October 2016.

[20] Kristian Beckers and Sebastian Pape. 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. Acceptance Rate: 22/79 = 27.8

[21] Kristian Beckers, Sebastian Pape, and Veronika Fries. HATCH: Hack and trick capricious humans – a serious game on social engineering. In *Proceedings of the 2016 British HCI Conference, Bournemouth, United Kingdom, July 11-15, 2016*, 2016.

[22] Julian Dax, Daniel Hamburg, Michael Kreusch, Benedikt Ley, Sebastian Pape, Volkmar Pipek, Kai Rannenberg, Christopher Schmitz, and Frank Terhaag. Sichere informationsinfrastrukturen für kleine und mittlere energieversorger. In *Multikonferenz Wirtschaftsinformatik (MKWI) – Teilkonferenz IT-Sicherheit für Kritische Infrastrukturen (Poster)*, 2016.

[23] Julian Dax, Benedikt Ley, Sebastian Pape, Christopher Schmitz, Volkmar Pipek, and Kai Rannenberg. Elicitation of requirements for an inter-organizational platform to support security management decisions. In *10th International Symposium on Human Aspects of Information Security & Assurance, HAISA 2016 ,Frankfurt, Germany, July 19-21, 2016, Proceedings.*, 2016.

[24] Sebastian Pape, Julian Flake, Andreas Beckmann, and Jan Jürjens. STAGE – a software tool for automatic grading of testing exercises – case study paper. In *Proceedings of the 38th International Conference on Software Engineering, ICSE 2016, Austin, TX, USA, May 14-22, 2016 - Companion Volume*, pages 491–500, 2016. Acceptance rate: (22+4)/64 = (34.4 + 6.3) %.

[25] Peter Schaab, Kristian Beckers, and Sebastian Pape. A systematic gap analysis of social engineering defence mechanisms considering social psychology. In *10th International Symposium on Human Aspects of Information Security & Assurance, HAISA 2016 ,Frankfurt, Germany, July 19-21, 2016, Proceedings.*, 2016.

[26] Markus Tschersich, Shinsaku Kiyomoto, Sebastian Pape, Toru Nakamura, Gökhan Bal, Haruo Takasaki, and Kai Rannenberg. On gender specific perception of data sharing in japan. In *ICT Systems Security and Privacy Protection - 31st IFIP TC 11 International Conference, SEC 2016, Ghent, Belgium, May 30 - June 1, 2016, Proceedings*, pages 150–160, 2016. Acceptance rate: 27/139 = 20.9%.

[27] Sebastian Pape, Jetzabel Serna-Olvera, and Welderufael Tesfay. Why open data may threaten your privacy. In *Workshop on Privacy and Inference, co-located with KI*, September 2015.

[28] Sebastian Pape. *Authentication in Insecure Environments – Using Visual Cryptography and Non-Transferable Credentials in Practise*. Research. Springer Vieweg, 2014. eBook ISBN 978-3-658-07116-5, Softcover ISBN 978-3-658-07115-8.

[29] Sebastian Pape. Sample or random security - A security model for segment-based visual cryptography. In *Financial Cryptography and Data Security - 18th International Conference, FC 2014, Christ Church, Barbados, March 3-7, 2014, Revised Selected Papers*, pages 291–303, 2014. Acceptance rate: 31 / 138 = 22.5%.

[30] Sören Bleikertz, Toni Mastelic, Sebastian Pape, Wolter Pieters, and Trajce Dimkov. Defining the cloud battlefield – supporting security assessments by cloud customers. In *Proceedings of IEEE International Conference on Cloud Engineering (IC2E)*, pages 78–87, 2013. Acceptance rate: 22 / 107 = 20.6%.

[31] Sebastian Pape. *The Challenge of Authentication in Insecure Environments*. PhD thesis, Universität Kassel, 2013. (defended, September 2nd, 2013).

[32] Sebastian Pape, Christof Schöch, and Lutz Wegner. Teichi and the tools paradox. developing a publishing framework for digital editions. *Journal of the Text Encoding Initiative*, 2:1–16, February 2012.

[33] Martin Ochoa, Sebastian Pape, Thomas Ruhroth, Barbara Sprick, Kurt Stenzel, and Henning Sudbrock. Report on the rs3 topic workshop "security properties in software engineering". Technical report, Universitätsbibliothek der Universität Augsburg, Universitätsstr. 22, 86159 Augsburg, 2012.

[34] Sebastian Pape, Christof Schöch, and Lutz Wegner. Bringing bérardier de bataut's essai sur le récit to the web: Editorial requirements and publishing framework (poster). In *Poster at: TEI 2010, The 2010 Conference of the Text Encoding Initiative Consortium*, November 2010.

[35] Sebastian Pape, Christof Schöch, and Lutz Wegner. A framework for tei-based scholarly text editions. Technical report, Universität Kassel, November 2010.

[36] Christopher Wolf, Sebastian Pape, and Ludger Porada. Leitfaden zur gründung von gi - studierendengruppen (gi-sg). http://www.gi-ev.de/fileadmin/redaktion/Download/gruendungsleitfaden-studierendengruppen.pdf, http://www.gi-ev.de/fileadmin/redaktion/Download/gruendungsleitfaden-print.pdf, 2010.

[37] Sebastian Pape. A survey on non-transferable anonymous credentials. In Vashek Matyáš, Simone Fischer-Hübner, Daniel Cvrček, and Petr Švenda, editors, *The Future of Identity in the Information Society*, volume 298 of *IFIP Advances in Information and Communication Technology*, pages 107–118. Springer Boston, Brno, Czech Republic, July 2009.

[38] Sebastian Pape. Some observations on reusing one-time pads within dice codings (abstract). In *Tagungsband zum 10. Kryptotag, Workshop der Fachgruppe Angewandte Kryptologie in der Gesellschaft für Informatik*. Arbeitsgruppe Algebra und Zahlentheorie, Technische Universität Berlin, Fakultät II, Institut für Mathematik, March 2009. Berlin.

[39] Ulrich Greveler, Pavel Laskov, and Sebastian Pape. Vorwort der workshop-leitung. GI Jahrestagung: Informatik 2009: Im Focus das Leben, Beiträge der 39. Jahrestagung der Gesellschaft für Informatik e.V. (GI), 28.9.-2.10.2009, Lübeck, Proceedings, 2009.

[40] Sebastian Pape. A survey on untransferable anonymous credentials (extended abstract). Technical report, Pre-Proceedings of the IFIP/FIDIS Summer School on "The Future of Identity in the Information Society", Brno, September 2008.

[41] Sebastian Pape and Nabil Benamar. Using identity-based public-key cryptography with images to preserve privacy. In Simone Fischer-Hübner, Penny Duquenoy, Albin Zuccato, and Leonardo Martucci, editors, *The Future of Identity in the Information Society*, volume 262 of *IFIP International Federation for Information Processing*, pages 299–310. Springer Boston, August 2008.

[42] Sebastian Pape. Templateless biometric-enforced non-transferability of anonymous credentials (extended abstract). In Michael Gorski Ewan Fleischmann, editor, *Book of Abstracts of the 2nd Weekend of Cryptography*, Weimar, July 2008.

[43] Sebastian Pape. Embedding biometric information into anonymous credentials. In Karsten Loesing, editor, *Extended Abstracts of the Second Privacy Enhancing Technologies Convention (PET-CON 2008.1)*, number 68 in Bamberger Beiträge zur Wirtschaftsinformatik und angewandten Informatik, February 2008.

[44] Sebastian Pape. *Sicherheitsmodelle für das Ajtai-Dwork-Kryptosystem: Untersuchungen eines Kryptosystems mit Worst-Case / Average-Case Äquivalenz zum unique Shortest Vector Problem*. Vdm Verlag Dr. Müller, Oktober 2008.

[45] Sebastian Pape and Nabil Benamar. Using identity-based public-key cryptography with images to preserve privacy (extended abstract). Technical report, Pre-Proceedings of the IFIP/FIDIS Summer School on "The Future of Identity in the Information Society", Karlstad, August 2007.

[46] Sebastian Pape, Laura Dietz, and Peter Tandler. Single display gaming: Examining collaborative games for multi-user tabletops. In *Workshop on Gaming Applications in Pervasive Computing Environments at Pervasive '04*, February 2004.

[47] Sebastian Pape. Sicherheitsmodelle für das Ajtai-Dwork-Kryptosystem. Master's thesis, Lehrstuhl für Kryptographie und Computeralgebra, Fachbereich Informatik der Technischen Universität Darmstadt, Januar 2004.