

Dipl.-Ing. Dr. techn. Martin Pirker

Contact: mpirker@fhstp.ac.at

Homepage: <http://isf.fhstp.ac.at/>

Since 2015 full-time senior researcher at [St. Pölten University of Applied Sciences](#) in the computer science and security department, work focus on Josef Ressel Center TARGET (<https://jrz-target.at/>)

Activities

Module lead in the *Josef Ressel Center for Unified Threat Intelligence on Targeted Attacks (TARGET)*. TARGET aims for novel ways of intrusion detection and mitigation in a joint research cooperation with industry partner [CyberTrap GmbH](#).

Supervisor for research related student projects on all levels.

Research / Expertise / Interests

- Assessment, comparison and evaluation of platform (security) state(s). Application of anomaly detection and data mining techniques for novel threat detection and analysis. Malware intrusion detection and mitigation.
- Evaluation of data science methods – “big data for security”.
- Applications for Trusted Computing: Research of features and practical application of Trusted Platform Modules (TPMs), Intel Trusted Execution Technology (Intel TXT), Intel Secure Guard Extensions (Intel SGX) and Trusted Execution Environments (TEEs).
- Reduction of security defects (implementation defects) through robust APIs, protocols, parsers and use of automated code generation tools.
- Privacy-preserving applications of IT technology in daily life. Challenges of security technology user interfaces, complexity vs. human useability.

Journey

- 2015 - Full-time senior researcher at the *Josef Ressel Center for Unified Threat Intelligence on Targeted Attacks*, [St. Pölten University of Applied Sciences](#)
- 2005 - 2014 Full-time researcher at the *Secure and Correct Systems (SCoS) Group* at the Institute for Applied Information Processing and Communications ([IAIK](#)), [Graz University of Technology](#)

Academic / Education

- 2015 Dr. techn. Informatik (~PhD), Graz University of Technology
- 2006 Dipl.-Ing. Telematik (~MSc), Graz University of Technology
- 2005 Bakk.techn. Telematik (~BSc), Graz University of Technology

Projects (selection)

- 2015 - TARGET (CDG)
Josef Ressel Center for Unified Threat Intelligence on Targeted Attacks
- 2013 - 2014 DALIA (EU AAL, FFG benefit)
“assistant for DAily Life Activities at Home”
- 2012 - 2014 STANCE (EU-FP7-ICT)
“A Source code analysis Toolbox for software security AssuraNCE”
- 2010 - 2013 SEPIA (EU-FP7-ICT)
“Secure, Embedded Platform with advanced Process IsolAtion”
- 2009 - 2011 acTvSM (FFG FIT-IT)
“advanced cryptographic trusted virtual security module”
- 2007 - 2009 TOPAS (FFG FIT-IT)
“Trust Oriented Platform for Advanced Security”
- 2005 - 2009 OpenTC (EU-FP6-IST)
“Open Trusted Computing”

Experience (selection)

- Presentation of research results and/or participant at international conferences, workshops, industry meetings and summer/winter schools:
ANSEC 2012 (Int. Workshop on Anonymity and Security Aspects of Emb. Sys.)
ARES 2018 (Int. Conf. on Availability, Reliability and Security)
CLOSER 2012 (Int. Conf. on Cloud Computing and Services Science)
COINS Winterschool 2018 (Research School of Computer and Information Sec.)
ETISS 2006-2011, 2013 (European Trusted Infrastructure Summer/Systems School)
FTC 2008 (Int. Conf. Future of Trust in Computing)
InTrust 2012 (Int. Conf. on Trusted Systems)
ICSSA 2016 (Int. Conf. on Software Security and Assurance)
LinuxTag Berlin 2008, 2010
PETS 2010, 2012 (Privacy Enhancing Technologies Symposium)
Privacy and Identity, Trust and Reputation Mechanisms Summer School 2012
PrivacyWeek Vienna 2017
TRUST 2008-2010, 2012-2013 (Int. Conf. on Trust & Trustworthy Computing)
TrustBus 2012 (Int. Conf. on Trust, Privacy & Security in Digital Business)
Vienna Data Science Group 2016
WASH 2013 (Workshop on Web Applications and Secure Hardware)
- Academic liaison/observer of the standardisation committee/process of the Trusted Computing Group ([TCG](#)).
- Member of organisation team for ETISS 2009 & 2013, hosted in Graz, Austria.
- University lecturer and/or tutor for:
Data Analysis in Python (1x),
Operating Systems (3x),
Computernetworks and -organisation (2x),
Computer- and Communication Networks (1x),
Trusted Computing (3x),
Security and Privacy in the Cloud (4x)

Publications (selection)

2018

Martin Pirker, Patrick Kochberger, Stefan Schwandter; *Behavioural Comparison of Systems for Anomaly Detection*; Proceedings of the 13th International Conference on Availability, Reliability and Security (ARES), ACM ([link](#))

2017

Martin Valicek, Gregor Schramm, **Martin Pirker**, Sebastian Schrittwieser; *Creation and Integration of Remote High Interaction Honey Pots*; Proceedings of the 3rd International Conference on Software Security and Assurance (ICSSA), IEEE ([link](#))

2016

Martin Pirker, Andreas Nusser; *Assessment of Server State via Inter-Clone Differences*; Proceedings of the 2nd International Conference on Software Security and Assurance (ICSSA), IEEE ([link](#))

Martin Pirker Andreas Nusser; *A Work-Flow for Empirical Exploration of Security Events*; First Workshop on Empirical Research Methods in Information Security (ERMIS), Published in WWW'16 Companion, ACM ([link](#))

2015

Martin Pirker; *On Attestable and Trusted Services for the Cloud*; PhD Thesis

2014

Zoltn Balogh, Emil Gatial, Ladislav Hluch, Ronald Tögl, **Martin Pirker**, Daniel Hein; *Agent-Based Cloud Resource Management for Secure Cloud Infrastructures*; Journal Computing and Informatics, Vol. 33, 2014, No. 6 ([link](#))

Viktoria Pammer-Schindler, Hermann Stern, Stefan Edler, Daniel Hein, **Martin Pirker**, Roderick Paul Bloem, Alfred Wertner; *Security Concepts for a Distributed Architecture for Activity Logging and Analysis*; Proceedings of the 14th International Conference on Knowledge Technologies and Data-driven Business (i-KNOW) ([link](#))

2013

Stefan Kraxberger, Ronald Tögl, **Martin Pirker**, Elisa Pintado Guijarro, Guillermo Garcia Millan; *Trusted Identity Management for Overlay Networks*; Information Security Practice and Experience, 9th International Conference (ISPEC); LNCS 7904, Springer Verlag ([link](#))

Ronald Tögl, Johannes Winter, **Martin Pirker**; *A Path Towards Ubiquitous Protection of Media*; Proceedings of the Workshop on Web Applications and Secure Hardware (WASH); CEUR Workshop Proceedings ([link](#))

Martin Pirker, Johannes Winter; *Semi-Automated Prototyping of a TPM v2 Software and Hardware Simulation Platform*; Proceedings of the 6th International Conference on Trust & Trustworthy Computing (TRUST); LNCS 7904, Springer Verlag ([link](#))

2012

Martin Pirker, Daniel Slamanig, Johannes Winter; *Practical Privacy-Preserving Cloud Resource-Payment for Constrained Clients*; Proceedings of the 12th Privacy Enhancing Technologies Symposium (PETS) LNCS 7384, Springer Verlag ([link](#))

Martin Pirker, Daniel Slamanig; *A Framework for Privacy-Preserving Mobile Payment on Security Enhanced ARM TrustZone Platforms*; Proceedings of the 11th International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom); IEEE ([link](#))

Martin Pirker, Johannes Winter, Ronald Tögl; *Lightweight Distributed Heterogeneous Attested Android Clouds*; Proceedings of the 5th International Conference on Trust & Trustworthy Computing (TRUST) LNCS 7344, Springer Verlag ([link](#))

Paul Wiegele, Johannes Winter, **Martin Pirker**, Ronald Tögl; *A flexible software development and emulation framework for ARM TrustZone*; Trusted Systems, Proceedings of the Third International Conference (INTRUST); LNCS 7222, Springer Verlag ([link](#))

Martin Pirker, Johannes Winter, Ronald Tögl; *Lightweight Distributed Attestation for the Cloud*; Proceedings of the 2nd International Conference on Cloud Computing and Services Science (CLOSER); SciTePress ([link](#))

Ronald Tögl, Florian Reimair, **Martin Pirker**; *Waltzing the Bear, or: A Trusted Virtual Security Module*; Public Key Infrastructures, Services and Applications, 9th European Workshop (EuroPKI); LNCS 7868, Springer Verlag ([link](#))

Daniel Hein, Ronald Tögl, **Martin Pirker**, Emil Gatial, Zoltán Balogh, Hans Brandl, Ladislav Hluchý; *Securing Mobile Agents for Crisis Management Support*; Proceedings of the seventh ACM workshop on Scalable trusted computing (STC); ACM ([link](#))

Emil Gatial, Zoltán Balogh, Daniel Hein, Ladislav Hluchý, Ronald Tögl, **Martin Pirker**; *Securing Agents Using Secure Docking Module*; TechnicalSciences, Volume No. 15(1)2012 ([link](#))

2011

Michael Gissing, Ronald Tögl, **Martin Pirker**; *Management of Integrity-Enforced Virtual Applications*; Secure and Trust Computing, Data Management, and Applications— STA 2011 Workshop Proceedings (STAVE 2011); Communications in Computer and Information Science, Springer Verlag ([link](#))

Ronald Tögl, **Martin Pirker**, Michael Gissing; *acTvSM: A Dynamic Virtualization Platform for Enforcement of Application Integrity*; Trusted Systems, Proceedings of the Second International Conference (INTRUST), Revised Selected Papers; LNCS 6802, Springer Verlag ([link](#))

2010

Martin Pirker, Ronald Tögl; *Towards a Virtual Trusted Platform*; Journal of Universal Computer Science, Volume 16, Issue 4 ([link](#))

Martin Pirker, Ronald Tögl, Michael Gissing; *Dynamic Enforcement of Platform Integrity*; Trust and Trustworthy Computing, 3rd International Conference (TRUST); LNCS 6101, Springer Verlag ([link](#))

2009

Martin Pirker, Ronald Tögl, Daniel Hein, Peter Danner; *A PrivacyCA for Anonymity and Trust*; Trusted Computing, Second International Conference (TRUST); LNCS 5471, Springer Verlag ([link](#))

Ronald Tögl, **Martin Pirker**; *An ongoing Game of Tetris: Integrating Trusted Computing in Java, block-by-block*; Proceedings of the First International Conference Future of Trust in Computing; Vieweg+Teubner ([link](#))

Martin Pirker, Ronald Tögl; *Sichere Softwaremodule durch Einsatz von Virtualisierung und Trusted Computing*; Tagungsband der 7. Information Security Konferenz; Österreichische Computer Gesellschaft ([link](#))

2008

Kurt Dietrich, **Martin Pirker**, Tobias Vejda, Ronald Tögl, Thomas Winkler, Peter Lipp; *A Practical Approach for Establishing Trust Relationships between Remote Platforms using Trusted Computing*; Trustworthy Global Computing (TGC), Third Symposium, Revised Selected Papers; LNCS 4912, Springer Verlag ([link](#))

Tobias Vejda, Ronald Tögl, **Martin Pirker**, Thomas Winkler; *Towards Trust Services for Language-Based Virtual Machines for Grid Computing*; Trusted Computing—Challenges and Applications, First International Conference on Trusted Computing and Trust in Information Technologies (TRUST); LNCS 4968, Springer Verlag ([link](#))

2007

Kurt Dietrich, Tobias Vejda, Ronald Tögl, **Martin Pirker**, Peter Lipp; *Can you Really Trust your Computer Today?*; ENISA quarterly, Volume 3, Number 3 ([link](#))