

Martina Lindorfer

📍 Technische Universität Wien (TU Wien)
Institute of Logic and Computation (192/6)
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EDUCATION

Doctor of Technical Sciences (Dr. techn.) July 2011 – November 2015
TU Wien, Austria
Graduated with honors of the Austrian president (Promotio Sub Auspiciis Praesidentis)
Major: Malware Analysis and Mobile Security
Thesis: *Malware Through the Looking Glass: Malware Analysis in an Evolving Threat Landscape*
Advisor: Priv.-Doz. Dipl.-Ing. Mag.rer.soc.oec. Dr. techn. Edgar Weippl

Master of Science (Dipl.-Ing.) October 2006 – May 2011
TU Wien, Austria
Major: Software Engineering & Internet Computing
Thesis: *Detecting Environment-Sensitive Malware*
Advisor: Priv.-Doz. Dipl.-Ing. Dr. techn. Engin Kirda

Bachelor of Science (BSc) October 2003 – July 2006
University of Applied Sciences Hagenberg, Austria
Major: Computer and Media Security
Theses: *Aggregate Signatures – Algorithms and Applications*
Integration of Elliptic Curves in the Cryptographic Base Infrastructure of the Utimaco Safeware AG
Advisor: FH-Prof. Dr. Juergen Fuss

PROFESSIONAL EXPERIENCE

Key Researcher since July 2019
SBA Research, Vienna, Austria

Assistant Professor (Tenure Track), Head of the Secure Systems Lab (Seclab) since October 2018
Security and Privacy Group, TU Wien, Vienna, Austria

Postdoctoral Researcher April 2016 – June 2018
Computer Security Group, University of California, Santa Barbara, USA

Research Scientist January 2013 – December 2015
SBA Research, Vienna, Austria

Visiting Researcher October 2014 – March 2015
Systems Security Lab, Northeastern University, Boston, USA

Research Assistant July 2011 – September 2014
Secure Systems Lab, TU Wien, Vienna, Austria

Research Intern November 2013
Foundation for Research and Technology – Hellas (FORTH-ICS), Heraklion, Greece

Research Intern January – May 2013
Fukuda Laboratory, National Institute of Informatics (NII), Tokyo, Japan

Research Intern September – November 2009
Multimedia Security Lab, Korea University, Seoul, South Korea

Research Engineer & Project Controller
Underground_8 Secure Computing GmbH, Linz, Austria

July 2006 – December 2008

Teaching Assistant
Distributed Systems Technologies, TU Wien, Vienna, Austria

March – June 2008

Software Engineer (Professional Practical Training)
Utimaco Safeware AG, Linz, Austria

March – June 2006

PUBLICATIONS

Conferences

- MineSweeper: An In-depth Look into Drive-by Cryptocurrency Mining and Its Defense*
Radhesh Krishnan Konoth, Emanuele Vineti, Veelasha Moonsamy, Martina Lindorfer, Christopher Kruegel, Herbert Bos, Giovanni Vigna
ACM Conference on Computer and Communications Security (CCS), October 2018
- Panoptispy: Characterizing Audio and Video Exfiltration from Android Applications*
Elleen Pan, Jingjing Ren, Martina Lindorfer, Christo Wilson, David Choffnes
Privacy Enhancing Technologies Symposium (PETS), June 2018
- GuardION: Practical Mitigation of DMA-based Rowhammer Attacks on ARM*
Victor van der Veen, Martina Lindorfer, Yanick Fratantonio, Harikrishnan Padmanabha Pillai, Giovanni Vigna, Christopher Kruegel, Herbert Bos, Kaveh Razavi
Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA), June 2018
- Bug Fixes, Improvements, ... and Privacy Leaks – A Longitudinal Study of PII Leaks in Android Apps*
Jingjing Ren, Martina Lindorfer, Daniel Dubois, Ashwin Rao, David Choffnes, Narseo Vallina-Rodriguez
Network and Distributed System Security Symposium (NDSS), February 2018
- Obfuscation-Resilient Privacy Leak Detection for Mobile Apps Through Differential Analysis*
Andrea Continella, Yanick Fratantonio, Martina Lindorfer, Alessandro Puccetti, Ali Zand, Christopher Kruegel, Giovanni Vigna
Network and Distributed System Security Symposium (NDSS), February 2017
- Drammer: Deterministic Rowhammer Attacks on Mobile Platforms*
Victor van der Veen, Yanick Fratantonio, Martina Lindorfer, Daniel Gruss, Clémentine Maurice, Giovanni Vigna, Herbert Bos, Kaveh Razavi, Cristiano Giuffrida
ACM Conference on Computer and Communications Security (CCS), October 2016
- ReCon: Revealing and Controlling PII Leaks in Mobile Network Traffic*
Jingjing Ren, Ashwin Rao, Martina Lindorfer, Arnaud Legout, David Choffnes
International Conference on Mobile Systems, Applications and Services (MobiSys), June 2016
- CuriousDroid: Automated User Interface Interaction for Android Application Analysis Sandboxes*
Patrick Carter, Collin Mulliner, Martina Lindorfer, William Robertson, Engin Kirda
International Conference on Financial Cryptography and Data Security (FC), February 2016
- Marvin: Efficient and Comprehensive Mobile App Classification Through Static and Dynamic Analysis*
Martina Lindorfer, Matthias Neugschwandtner, Christian Platzer
Annual International Computers, Software & Applications Conference (COMPSAC), July 2015
- AndRadar: Fast Discovery of Android Applications in Alternative Markets*
Martina Lindorfer, Stamatis Volanis, Alessandro Sisto, Matthias Neugschwandtner, Elias Athanasopoulos, Federico Maggi, Christian Platzer, Stefano Zanero, Sotiris Ioannidis
Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA), July 2014
- Take a Bite – Finding the Worm in the Apple*
Martina Lindorfer, Bernhard Miller, Matthias Neugschwandtner, Christian Platzer
International Conference on Information, Communications and Signal Processing (ICICS), December 2013

Lines of Malicious Code: Insights Into the Malicious Software Industry

Martina Lindorfer, Alessandro Di Federico, Federico Maggi, Paolo Milani Comparetti, Stefano Zanero
Annual Computer Security Applications Conference (ACSAC), December 2012

Detecting Environment-Sensitive Malware

Martina Lindorfer, Clemens Kolbitsch, Paolo Milani Comparetti
International Symposium on Recent Advances in Intrusion Detection (RAID), September 2011

Workshops

Andrubis – 1,000,000 Apps Later: A View on Current Android Malware Behaviors

Martina Lindorfer, Matthias Neugschwandtner, Lukas Weichselbaum, Yanick Fratantonio,
Victor van der Veen, Christian Platzter
International Workshop on Building Analysis Datasets and Gathering Experience Returns for Security (BADGERS),
September 2014
co-located with the European Symposium on Research in Computer Security (ESORICS)

Skin Sheriff: A Machine Learning Solution for Detecting Explicit Images

Christian Platzter, Martin Stuetz, Martina Lindorfer,
International Workshop on Security and Forensics in Communication Systems (SFCS), June 2014
co-located with the ACM Symposium on Information, Computer and Communications Security (ASIACCS)

Enter Sandbox: Android Sandbox Comparison

Sebastian Neuner, Victor van der Veen, Martina Lindorfer, Markus Huber, Georg Merzdovnik,
Martin Mulazzani, Edgar Weippl
IEEE Mobile Security Technologies Workshop (MoST), May 2014
co-located with the IEEE Symposium on Security and Privacy (S&P)

A View to a Kill: WebView Exploitation

Matthias Neugschwandtner, Martina Lindorfer, Christian Platzter
USENIX Workshop on Large-Scale Exploits and Emergent Threats (LEET), August 2013
co-located with the USENIX Security Symposium

Miscellaneous

Andrubis: Android Malware Under the Magnifying Glass

Lukas Weichselbaum, Matthias Neugschwandtner, Martina Lindorfer, Yanick Fratantonio,
Victor van der Veen, Christian Platzter
Technical Report, TU Wien, July 2014

POSTER: Cross-Platform Malware: Write Once, Infect Everywhere

Martina Lindorfer, Matthias Neumayr, Juan Caballero, Christian Platzter
ACM Conference on Computer and Communications Security (CCS), November 2013

The Red Book: A Roadmap for Systems Security Research

The SysSec Consortium, Evangelos Markatos and Davide Balzarotti (editors), August 2013

HONORS & AWARDS

- Hedy Lamarr Award from the City of Vienna for “special achievements in the field of modern information technologies” November 2018
- Cor Baayen Young Researcher Award from the European Research Consortium for Informatics and Mathematics (ERCIM) October 2018
- Pwnie nomination for Best Privilege Escalation Bug for Rampage August 2018
- Best Research Award at the Int. Conference on Computing Systems (CompSys) for GuardION June 2018
- Scholarship of Excellence from the Federal Ministry of Science, Research and Economy (BMBWF) December 2017
- Best Paper Award at the CSAW Applied Research Competition for Drammer November 2017
- Pwnie award for Best Privilege Escalation Bug for Drammer July 2017
- Pwnie nomination for Most Innovative Research for Drammer July 2017
- Promotio Sub Auspiciis Praesidentis (graduation with highest honors in Austria) May 2017

- Best Dutch Cyber Security Research Paper (DCSRP) award for Drammer March 2017
- Bug bounty from the Android Security Rewards Program for Drammer November 2016
(CVE-2016-6728, marked as critical)
- Marshall Plan scholarship for a research exchange with Northeastern University May 2014
- Research fellowship from Clear Sky Ventures for excellence in innovation January 2014
- SysSec scholarship for a research exchange with FORTH-ICS October 2013
- Google EMEA Anita Borg Memorial Scholarship (now Women Techmakers Scholarship) June 2012
- Finalist for the Google Europe Anita Borg Memorial Scholarship June 2008
- Finalist for the CAST IT security sponsorship award for outstanding bachelor theses November 2007

FUNDING

IoTIO: Analyzing and Understanding the Internet of Insecure Things

PI: Martina Lindorfer (TU Wien), Co-PI: Kevin Borgolte (Princeton University)

Project Volume: EUR 783,940 (4 years)

Funded by the Vienna Science and Technology Fund (WWTF) as part of the Information and Communication Technology (ICT) Call 2019

ACADEMIC SERVICE

Community Service

- Elected member of the Faculty Council of the Faculty of Informatics at TU Wien 2020 – 2023
- Jury member for the Dutch Cyber Security Research Paper (DCSRP) award February 2020
- Organization of the 1st International Summer School on Security & Privacy for Blockchains and Distributed Ledger Technologies at TU Wien (with SBA Research and Princeton University) September 2019
- Guest editor of the special issue on Security on Mobile and IoT Devices for IET Information Security May 2019
- Reviewer for the Anita Borg Systems Pass It On Awards for “women in computing or projects that inspire and support girls and women to enter computing” February 2018
- Organization of the lightning talk sessions at the Workshop for Women in Cyber Security (CyberW, co-located with ACM CCS) October 2017
- Recruitment committee member for the position of full tenured professor of security at TU Wien April 2014

Program Committee Member

- ACM Conference on Computer and Communications Security (CCS) 2020
- IEEE Symposium on Security and Privacy (S&P) 2020
- USENIX Security Symposium (USENIX Security) 2019, 2020
- The Web Conference (formerly known as WWW, Security, Privacy, and Trust track) 2020
- Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA) 2016–2020
- Annual Computer Security Applications Conference (ACSAC), incl. Artifact Evaluations Committee 2019
- ACM ASIA Conference on Computer and Communications Security (ASIACCS) 2019
- European Workshop on Systems Security (EuroSec) 2018, 2019
- USENIX Workshop on Offensive Technologies (WOOT) 2015, 2018
- International Symposium on Engineering Secure Software and Systems (ESSoS) 2018
- European Workshop on Systems Security (EuroSec) 2018
- International Workshop on Innovations in Mobile Privacy and Security (IMPS) 2017, 2018
- Workshop on Formal Methods for Security Engineering (ForSE) 2017, 2018
- International Workshop on Emerging Cyberthreats and Countermeasures (ECTCM) 2013, 2014, 2015

External Reviewer

- Privacy Enhancing Technologies Symposium (PETS) 2017, 2018, 2020
- IEEE European Symposium on Security and Privacy (EuroS&P) 2019
- International Conference on emerging Networking EXperiments and Technologies (CoNEXT) 2016

Journal Reviewer (excerpt)

- ACM Transactions on Privacy and Security
- IEEE Transactions on Computers
- IEEE Transactions on Dependable and Secure Computing
- IEEE Transactions on Information Forensics and Security
- IEEE Transactions on Mobile Computing
- International Journal of Information Security
- Journal of Computer Virology and Hacking Techniques
- Theoretical Computer Science

OTHER ACTIVITIES

- Mentor for female students at TU Wien to support them with career planning after graduation since June 2019
- Mentor for Learn IT Girl, an international program teaching women to programming languages Fall 2017
- Conception of the workshop “Sicherheit im Internet: Facebook, WhatsApp, Instagram & Co.” June 2014
teaching security and privacy awareness to girls aged 10–14 as part of the techNIKE initiative
- Member of the We_own_You Capture The Flag team and participation in the 2012 DEF CON CTF

MEDIA COVERAGE (EXCERPT)

Personal Profiles & Interviews

- Die Presse: *Bewusst für die Uni entschieden* January 2020
- Ö1: *Matrix: Skipiste 4.0 - Wenn Skifahren digital wird* (radio segment) January 2020
- Der Standard: *Geistesblitz: Im Internet der unsicheren Dinge* December 2019
- Kleine Zeitung: *Startgespräch: Wie sicher sind unsere Smartphones?* (podcast) November 2019
- Ö1: *Wissen Aktuell: Cybersecurity, Tiefschlaf, Zeitgeschichte* (radio segment) November 2019
- Futurezone: *Hedy-Lamarr-Preis geht an Martina Lindorfer* November 2019
- Wiener Zeitung: *Hedy-Lamarr-Preis für die Informatikerin Martina Lindorfer* November 2019
- Die Presse: *Österreich hackt sich auf den dritten Platz* October 2019
- Ingrid Brodnig: *Übermacht im Netz* (interview for book chapter on mobile security and privacy) September 2019
- Kurier: *Exzellente, jung, weiblich: Sie will das Web sicher machen* May 2017
- Der Standard: *Doppelter Sub-auspiciis-Jahrgang an der TU Wien* May 2017
- Oberösterreichische Nachrichten: *Eine Linzerin im Team der weltbesten Hacker* December 2011

Rowhammer Attacks & Defense

- Ars Technica: *New RAMpage exploit revives Rowhammer attack to root Android devices* July 2018
- Heise: *Rampage: Neuer Rowhammer-Angriff betrifft alle Android-Handys seit 2011* June 2018
- Der Standard: *Drammer: Neuer Hardwareangriff gefährdet Android-Smartphones* October 2016
- Der Spiegel: *Forscher knacken Android-Smartphones* October 2016
- Neue Zürcher Zeitung: *Android für Rowhammer und Dirty Cow anfällig* October 2016
- WIRED: *Elegant Physics (and Some Down and Dirty Linux Tricks) Threaten Android Phones* October 2016
- Ars Technica: *Using Rowhammer bitflips to root Android phones is now a thing* October 2016
- Daily Mail: *The Rowhammer bug that can threaten millions of Android devices: Experts reveal 'bit flip' flaw that attacks memory chips* October 2016
- The Register: *App proves Rowhammer can be exploited to root Android phones – and there's little Google can do to fully kill it* October 2016
- The Inquirer: *Rowhammer: Memory chip flaw enables hackers to root Android devices* October 2016

Privacy Leak Detection

- New York Times (The Privacy Project): *No, Facebook Is Not Secretly Listening to You (Except when it is.)* August 2019
- ABC ScreenTime w/ Diane Sawyer: *Are your devices listening?* (TV segment on Panoptispy) May 2019
- New York Times (Op-Ed): *How Silicon Valley Puts the 'Con' in Consent* February 2019
- Futurezone: *Android-Apps verschicken unbemerkt Screenshots* July 2018

- Heise: *Forscher: Android-Apps schicken Screenshots und Videos an Drittfirmer* July 2018
- Fortune: *Your Android Apps Are (Probably) Not Snooping on You, a New Study Says* July 2018
- Engadget: *Research shows Facebook (probably) isn't listening through your phone* July 2018
- The Verge: *Your phone isn't listening to you, researchers say, but it may be watching everything you do* July 2018
- Gizmodo: *These Academics Spent the Last Year Testing Whether Your Phone Is Secretly Listening to You* July 2018
- Boston Globe: *Harvard, Northeastern's privacy tools flag apps that leak personal data* November 2015
- NBC News: *ReCon App Watches Your Other Apps for Leaked Private Info* November 2015

Malware Analysis

- SRF Kassensturz: *Werbeanrufe aufs Handy: Liefern Apps Callcentern unbemerkt Daten?* April 2015
- Futurezone: *TU-Wien-App zeigt Gefahren unter Android auf* October 2014
- ORF Newton: *Cyberkriminalität* (TV segment on Andrubis) March 2013