

# Martina Lindorfer

---

✉ mlindorfer@isecclab.org  
🌐 <http://martina.lindorfer.in>

## EDUCATION

**Doctor of Technical Sciences (Dr. techn.)** July 2011 – November 2015

Vienna University of Technology, Austria

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

Vienna University of Technology, Austria

Major: Software Engineering and 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

## EXPERIENCE

**Postdoctoral Researcher** since April 2016

Computer Security Group, UC Santa Barbara, USA

**Researcher** January 2013 – December 2015

SBA Research, Vienna, Austria

**Visiting Researcher** October 2014 – March 2015

Systems Security Lab, Northeastern University, Boston, USA

- Analysis of iOS8 security features
- Data leak detection in mobile app traffic

**Research Assistant** July 2011 – September 2014

Secure Systems Lab, Vienna University of Technology, Vienna, Austria

- Research as part of PhD studies
- Dynamic malware analysis and detection of Android malware (Andrubis)

**Research Intern** November 2013

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

- Detection of malicious Android applications in alternative markets

**Research Intern** January – May 2013

Fukuda Laboratory, National Institute of Informatics (NII), Tokyo, Japan

- Detection of botnet traffic in backbone networks based on NetFlow data

**Research Intern** September – November 2009

Multimedia Security Lab, Korea University, Seoul, South Korea

- Development of a Windows executable packer with encryption and compression

**Software Engineer, Project Controller** July 2006 – December 2008

Underground\_8 Secure Computing GmbH, Linz, Austria

- Design and development of a transparent threat management appliance, which filters mail and web traffic for spam and malware

## Teaching Assistant

*Distributed Systems Technologies, Vienna University of Technology, Vienna, Austria*

March – June 2008

## Software Engineer (Professional Practical Training)

*Utimaco Safeware AG, Linz, Austria*

March – June 2006

- Integration of elliptic curve signature and encryption algorithms in the cryptographic base infrastructure of a hard disk encryption suite

## PUBLICATIONS

### Conferences

#### *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)  
San Diego, California, USA, February 2017

#### *Drammer: Deterministic Rowhammer Attacks on Mobile Platforms*

Victor van der Veen, Yanick Fratantonio, Martina Lindorfer, Daniel Gruss, Clementine Maurice, Giovanni Vigna, Herbert Bos, Kaveh Razavi, Cristiano Giuffrida  
ACM Conference on Computer and Communications Security (CCS)  
Vienna, Austria, 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)  
Singapore, 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)  
Christ Church, Barbados, 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)  
Taichung, Taiwan, 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)  
London, UK, 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)  
Tainan, Taiwan, 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)  
Orlando, Florida, USA, December 2012

#### *Detecting Environment-Sensitive Malware*

Martina Lindorfer, Clemens Kolbitsch, Paolo Milani Comparetti  
International Symposium on Recent Advances in Intrusion Detection (RAID)  
Menlo Park, California, USA, 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 Platzer  
International Workshop on Building Analysis Datasets and Gathering Experience Returns for Security (BADGERS)  
Wroclaw, Poland, September 2014

### *Skin Sheriff: A Machine Learning Solution for Detecting Explicit Images*

Christian Platzer, Martin Stuetz, Martina Lindorfer  
International Workshop on Security and Forensics in Communication Systems (SFCS)  
Kyoto, Japan, June 2014

### *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)  
San Jose, California, USA, May 2014

### *A View to a Kill: WebView Exploitation*

Matthias Neugschwandtner, Martina Lindorfer, Christian Platzer  
USENIX Workshop on Large-Scale Exploits and Emergent Threats (LEET)  
Washington, D.C., USA, August 2013

## Miscellaneous

### *Andrubis: Android Malware Under the Magnifying Glass*

Lukas Weichselbaum, Matthias Neugschwandtner, Martina Lindorfer, Yanick Fratantonio,  
Victor van der Veen, Christian Platzer  
Technical Report, Vienna University of Technology, July 2014

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

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

### *The Red Book: A Roadmap for Systems Security Research*

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

## COMMUNITY SERVICE

### Program Committee Member

- Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA) 2016, 2017
- International Workshop on Innovations in Mobile Privacy and Security (IMPS) 2017
- Workshop on Formal Methods for Security Engineering (ForSE) 2017
- USENIX Workshop on Offensive Technologies (WOOT) 2015
- International Workshop on Emerging Cyberthreats and Countermeasures (ECTCM) 2013, 2014, 2015

### External Reviewer

- Privacy Enhancing Technologies Symposium (PETS) 2017
- International Conference on emerging Networking EXperiments and Technologies (CoNEXT) 2016

### Journal Reviewer

- ACM Transactions on Privacy and Security
- Computers & Security
- IEEE Transactions on Computers
- IEEE Transactions on Dependable and Secure Computing
- IEEE Transactions on Information Forensics and Security
- International Journal of Information Security
- EURASIP Journal on Information Security
- Theoretical Computer Science

## HONORS & AWARDS

- Promotio Sub Auspiciis Praesidentis (graduation with highest honors in Austria) May 2017
- Best Dutch Cyber Security Research Paper (DCSRP) award for Drammer March 2017
- Reward from the Android Security Reward Program for Drammer (CVE-2016-6728, marked as critical) November 2016
- Travel grant for the GREPSEC II workshop and IEEE Symposium on Security and Privacy May 2015
- Marshall Plan scholarship for a research exchange with Northeastern University May 2014
- Research fellowship from Clear Sky Ventures January 2014
- SysSec scholarship for a research exchange with FORTH-ICS October 2013
- Google EMEA Anita Borg Memorial 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

## EXTRA-CURRICULAR ACTIVITIES

- Lead development and maintenance of Andrubis (<http://anubis.iseclab.org>), a large-scale public dynamic analysis sandbox for Android applications June 2012 – April 2016
- Conception of a one day workshop on mobile malware analysis techniques August 2015
- Supervision of Master's thesis of Matthias Neumayr under the title "The Current State of Browser Extension Security and Extension-based Malware" January 2015
- Conception of a four day workshop on dynamic malware analysis techniques, analysis evasion and countermeasures August 2014
- Conception of a techNIKE workshop teaching Internet security topics and security and privacy awareness in online social networks to girls aged 10–14 June 2014
- Recruitment committee member for the position of full tenured professor of security at Vienna University of Technology April 2014
- Investigator for the Vienna University of Technology in the i-Code Real-time Malicious Code Detection Project (<http://www.icode-project.eu>) August 2011 – June 2012
- Member of the We\_Own\_Y0u Capture The Flag team
  - Participation in the 2012 DEF CON Capture The Flag
  - 1st place in the 2011 UCSB International Capture The Flag (iCTF)