Dr. Markku-Juhani O. Saarinen

Curriculum Vitae – March 31, 2025

E-mail: mjos@iki.fi Homepage: https://mjos.fi

Contents

1 Education and Qualifications

Docent, Information Security and Cryptography, 2024. Tampere University, Finland
Finnish habilitation-type qualification for supervising doctoral students.

Ph.D. Information Security, 2009. Royal Holloway, University of London, UK
Thesis: "Cryptanalysis of Dedicated Cryptographic Hash Functions", under Prof. Keith Martin. I did my doctoral research with the RHUL Information Security Group (ISG).

M.Sc. Scientific Computing, (1999) 2005. University of Jyväskylä, Finland
Computer science with a significant mathematics component. I didn't take a B.Sc degree in 1999, but after a pause continued to Master's, which was awarded *eximia cum laude*.

Certified Information System Security Professional (CISSP), 2004. ISC2, International
I've certified as CISSP-ISSAP, PCI DSS QSAp, and UK NCSC IA Architect (CCP) for various consulting roles. I re-certified as a CISSP in June 2022 (active CISSP # 61970.)

2 Background and Skill Profile

Keywords: Post-Quantum Cryptography, Embedded C, Verilog, Python, Formal Verification, Side-Channel Security, Entropy Sources, RISC-V, Patents, Intellectual Property.

Applied Cryptography. I got my first real job in 1997 when SSH Communications Security hired me – then a young maths undergraduate with programming skills – to work full-time as a cryptographer and editor of the SSH2 specifications. I have worked exclusively in technical INFOSEC and COMSEC ever since.

I have over two decades of experience in designing and analyzing real-life cryptoalgorithms and protocols. I am currently deeply involved with various PQC (Post-Quantum Cryptography) transition and standardization efforts.

Research Output and Academic Involvement. I'm an active author and reviewer for IEEE, ACM, and IACR journals, and I serve on several academic conference program committees (see Section 4).

Metrics: Google Scholar: 2433 cites, h-index 26, i10-index 53. (https://scholar.google.com/citations?user=2_oEFqYAAAAJ) Scopus: 615 cites, h-index 15 (https://www.scopus.com/authid/detail.uri?authorId=8548822000).

Security Engineering. I mostly code in Assembler, C, and Python, and I'm a fan of Rust. Most of my hardware work is done in SystemVerilog. I can build full-system FPGA prototypes. I'm familiar with formal verification and model checking. I've created various power/emission leakage models and tools for side-channel security work.

I am currently the chair of the RISC-V PQC Task Group at RISC-V International (https://riscv.org). I was one of the main designers of the RISC-V Scalar Cryptography Extensions that were ratified in November 2021; specifically, the entropy source (Zkr), constant-time execution (Zkt), and 32-bit AES/SM4 instructions [16, 17, 19].

I architected PQShield's first commercial PQC Hardware modules that provide side-channel secure Kyber and Dilithium services. I designed and prototyped the system on FPGA, devised masking countermeasures, wrote much of the core firmware, and helped validate and adapt the implementation into commercial products (including ASIC silicon).

Security Consulting (mainly penetration testing). I earned my graduate degrees mostly while doing consulting and engineering work in the security industry, and I maintain strong links with the wider security research community. As a consultant in 2004- I was hired to assess the security of large corporate and governmental information systems and also delivered penetration testing training.

3 Professional Experience

TAMPERE UNIVERSITY (Tampere, Finland) 2023/01 -
Professor of Practice, Information Security

I'm a Professor of Practice (työelämäprofessori) at Tampere University, associated with the Network and Information Security Group (NISEC) and the SoC Hub Research Centre.

I also hold the title of Docent in Information Security and Cryptography. I have regular teaching duties and supervise Ph.D. and M.Sc. students in my field.

- COMP.SEC.230, Post-Quantum Cryptography Engineering (2024, 2025)

PQSHIELD (Oxford, UK) 2018/09 - 2024/06
Staff Cryptography Architect (Part-Time from 2023)

I was the first employee in this University of Oxford spin-out, where we designed, analyzed, and implemented Post-Quantum Cryptography (PQC). I worked mostly on the design of side-channel-resistant PQC hardware and software. Highlights:

- Architected and prototyped PQShield's first side-channel secure Post-Quantum Cryptography coprocessor, which became a successful semiconductor IP product.
- Worked with industry partners in the RISC-V Crypto TG (CETG, Cryptography Task Group) to design RISC-V Instruction Set Extensions (ISEs). I was the principal designer of the RISC-V entropy source (Zkr), constant-time (Zkt) extensions, as well as many symmetric cipher instructions.

SECURITY CONSULTANT (Cambridge, UK) 2018/02 - 2018/08

I had my little consultancy for a while – before signing the PQShield full-time contract. My main projects and customer engagements: Quantum-resistant cryptographic algorithm design with Philips Research (Netherlands), Resource-constrained IoT cryptography implementations with Teserakt AG (Switzerland), and Cryptography standardization work with Ribose Inc (Hong Kong). References are available upon request.

ARM (Cambridge, UK) 2017/10 - 2018/02
Senior Principal Security Engineer

Engineering work on mbedTLS and lightweight cryptographic implementations. I also authored the HILA5 first-round NIST Post-Quantum Cryptography candidate.

DARKMATTER (Abu Dhabi, UAE) 2016/09 - 2017/08
Principal Cryptographer

Worked closely with United Arab Emirates government bodies in sensitive information assurance projects. This was mainly cryptography and cryptanalytic consultancy related to the design, implementation, and analysis of varied security technologies.

QUEEN'S UNIVERSITY BELFAST (Belfast, UK) 2015/08 - 2016/06
Research Fellow

EU H2020 SAFEcrypto Project. Designing and engineering future cryptographic primitives. Focus on Lattice-based and other quantum-resistant cryptography.

POST-DOC CRYPTOGRAPHY RESEARCHER 2013/05 - 2015/07
ERCIM Alain Bensoussan Fellowship, Other Research Grants

Tampere University of Technology, Finland	2015/05 - 2015/07
TÜBİTAK Gebze, Turkey	2015/03 - 2015/04
INRIA Paris-Rocquencourt, France	2014/11
NTNU Trondheim, Norway	2014/02 - 2015/10 and 2014/12 - 2015/02
Contract with Kudelski Security, Switzerland	2013/12
NTU Temasek Laboratories, Singapore	2013/05 - 2013/10

HELP AG (Dubai, UAE) 2012/11 - 2013/05
Senior Security Specialist

Vulnerability assessment and penetration testing projects, security research. Development of the HAGRAT Remote Access Tool (RAT) and Command & Control system for simulating APT–type adversaries in penetration exercises.

REVERE SECURITY (Addison TX, USA) 2010/11 - 2012/08
Research Fellow

Principal Investigator of a small DARPA-funded lightweight cryptography research project. Design and implementation of lightweight encryption methods for RFID and sensor networks. Lots of hands-on embedded software engineering.

ROYAL HOLLOWAY, UNIVERSITY OF LONDON (UK) 2005/10 - 2010/11
Postgraduate Student, Researcher, and Consultant

Doctoral studies with the Information Security Group (ISG), Royal Holloway, University of London. Graduated with a PhD in Information Security, in November 2009.

Freelance consulting: Security audits and related consultancy as a part-time employee for start-ups and NIXU Middle East in Saudi Arabia, Lebanon, Qatar, Kuwait, and the United Arab Emirates. PCI DSS audits or short pre-audits for NIXU in UAE, Lebanon, and Kuwait.

NIXU Middle East (Dubai, UAE, and Riyadh, KSA) 2004/09 - 2005/09
Senior Security Specialist

Penetration Testing and other security assessment projects for sensitive customers in Energy, Finance, Telecommunications, and Government sectors, mainly in Saudi Arabia. Running a Penetration Testing course for the technical staff of a large private customer. Design and implementation of large-scale original network monitoring, filtering, and intrusion detection solutions.

HELSINKI U. OF TECH. (Aalto University) (Espoo, Finland) 2002/02 - 2004/09
Research Assistant

Project manager in a cryptography research project funded by the Finnish Defence Forces. Unclassified research in cryptanalysis and cryptographic engineering. Teaching assistant (and occasional lecturer), Prof. H. Lipmaa's cryptography courses.

NOKIA CORPORATION (Helsinki, Finland) 2000/04 - 2002/02
Security Specialist

Specialist in cryptography and security protocols, analyzing the security of mobile devices and related technologies such as A5, Kasumi, TLS, WTLS, etc. Evaluated security products and services for Nokia Networks, Nokia Research, and Nokia Venturing.

SSH COMMUNICATIONS SECURITY (Espoo, Finland) 1997/06 - 1999/02
Cryptographer

I was one of the early employees and original developers of the SSH 2 protocol. I was also deeply involved in the IETF IPSec and NIST AES evaluation and specification processes. My SSH work is acknowledged by name in IETF specifications (RFCs 4250-4254, 4419).

4 Academic/Professional Service

4.1 Grant or Appointment Panels

- Norwegian Research Council (2024, 2025)
- Academia Sinica, Taiwan (2024)

4.2 Conference Program Committees (2020- only)

- IACR AsiaCrypt 2025 (PC Member)
- PQCrypto 2025 (Program Co-Chair)
- IACR CHES 2025 (PC Member)
- CASCADE 2025 (PC Member)
- ASHES 2024 (PC Member)
- PQCrypto 2024 (Program Co-Chair)
- IACR CHES 2024 (Artifact Chair, PC Member)
- ASHES 2023 (PC Member)
- TASER 2023 Workshop (PC Member)
- IACR CHES 2023 (PC Member)
- RISC-V Summit 2022 (PC Member)
- IEEE AsianHOST2022 (PC Member)
- ASHES 2022 (PC Member)
- ASHES 2021 (PC Member)
- IACR CHES 2020 (PC Member)

5 Talks and Presentations (2020-)

2025-Mar-27 EUCA 2025: *"On Certifying Post-Quantum Implementations at "High" Assurance Level ."* EU Cyber Acts Conference 2025. Brussels, Belgium. https://eucyberact.org/conference-agenda-2025/

2025-Feb-25 NIST KEM Workshop: *"Panel: Impacts to existing applications and protocols (e.g., changes needed to accommodate KEMs.)"* Panel participant, NIST Workshop on Guidance for KEMs. Online / Washington DC, USA. https://csrc.nist.gov/events/2025/workshop-on-guidance-for-kems

2024-Nov-18 AusQRC 2024: *"PQC Transition in Hardware: Processors, SoCs, IoT, Secure Elements."* Keynote at AusQRC 2024, Quantum-Resistant Cybersecurity in Australia. Monash University, Melbourne, Australia. https://ausqrc.github.io/

2024-Oct-23 RISC-V Summit 2024: *"Making the Case for a Keccak Instruction."* RISC-V Summit North America 2024. Santa Clara, California, USA. https://riscvsummit2024.sched.com/

2024-Oct-22 RISC-V Summit 2024: *"Development of the First Open-Source Implementation of the RISC-V Vector Cryptography Extension."* RISC-V Summit North America 2024. Santa Clara, California, USA. https://riscvsummit2024.sched.com/

2024-Oct-11 PQACrypt 2024: *"PQC on Microchips: Processors, Secure Elements, and SoCs."* Invited talk, Post-quantum algebraic cryptography Workshop 1: Deployment of post-quantum cryptography. Institut Henri Poincaré. Paris, France. https://indico.math.cnrs.fr/event/5776/

2024-Sep-04 OPTIMIST 2024: *"Artifact Evaluation and Reproducibility at CHES."* Invited talk given at the OPTIMIST (Open Tools, Interfaces and Metrics for Implementation Security Testing) workshop, an affiliated event of IACR CHES 2024. Halifax, Canada. https://optimist-workshop.github.io/

2024-Aug-22 CRYPTO 2024: *"Accelerating SLH-DSA by Two Orders of Magnitude with a Single Hash Unit."* Single-author paper presented at IACR CRYPTO 2024. University of California, Santa Barbara, USA. https://doi.org/10.1007/978-3-031-68376-3_9

2024-Jun-24 DAC 2024: *"Post-Quantum Cryptography: Implementation Attacks and Countermeasures."* Half-day tutorial presented with Daniel Dinu (Intel), Silvio Dragone (IBM), and Prasanna Ravi (NTU, Singapore) at the 61st Design Automation Conference (DAC). San Francisco, USA. https://www.dac.com/

2024-May-21 QSMC: *"Speeding up and Protecting Hash-Based Signatures."* RISC-V Quantum Safe Hardware Security Seminar, Taipei City, Taiwan. https://ievents.iii.org.tw/EventS.aspx?t=0&id=2470

2024-May-16 ETSI PQC 10: *"RISC-V PQC Instruction Set Extension Standardization."* Talk at the 10th ETSI/IQC Quantum Safe Cryptography Conference, Singapore. https://www.etsi.org/events/2284-10th-etsi-iqc-quantum-safe-cryptography-event

2024-May-06 IEEE HOST 2024: *"Post-Quantum Cryptography: Implementation Attacks and Countermeasures."* Tutorial presented with Daniel Dinu (Intel) and Prasanna Ravi (NTU, Singapore) at the IEEE International Symposium on Hardware Oriented Security and Trust (HOST). Washington DC, USA. http://www.hostsymposium.org

2024-Apr-11 NIST PQC 5: *"Accelerating SLH-DSA by Two Orders of Magnitude with a Single Hash Unit."* Talk at the Fifth PQC Standardization Conference, Rockville, MD, USA. https://csrc.nist.gov/events/2024/fifth-pqc-standardization-conference

2024-Mar-25 RWC 2024: *"RISC-V Cryptography Evolution: High Assurance and Post-Quantum Cryptography"."* Talk at IACR Real World Crypto Symposion 2024, Toronto, Canada. https://rwc.iacr.org/2024/

2023-Nov-08 RISC-V Summit: *"Benchmarking RISC-V Post-Quantum Crypto."* Talk at RISC-V Summit 2023, Santa Clara, CA, USA. https://events.linuxfoundation.org/riscv-summit/

2023-Nov-01 ICCC: *"Post-Quantum vs. AVA_VAN."* Talk at the International Common Criteria Conference, Washington DC, USA. https://iccconference.org/

2023-Aug-18 PQCrypto 2023: *"WrapQ: Side-Channel Secure Key Management for Post-Quantum Cryptography."* Presentation at the 14th International Conference on Post-Quantum Cryptography, College Park, MD, USA. https://pqcrypto2023.umiacs.io/

2023-Aug-16 SAC 2023: *"Mask Compression: High-Order Masking on Memory-Constrained Devices."* Presentation at SAC 2023, 30th Selected Areas in Cryptography, University of New Brunswick, Canada. https://sac-workshop.github.io/sac-2023

2023-Jun-29 RISC-V Tech Sessions: *"RISC-V Cryptography and Hardware Security."* Webinar organized by RISC-V International. https://sites.google.com/riscv.org/

riscv-technical-sessions/

2023-Jun-05 RISC-V Summit Europe: *"Cryptographic Extenions (Update)."* Technical Working Group presentation at RISC-V Summit Europe 2023, Barcelona, Spain. https://riscv-europe.org/

2023-May-22 IEEE S&P: *"High-Order Masking of Lattice Signatures in Quasilinear Time."* Presentation at 44th IEEE Symposium on Security and Privacy, SP 2023, San Francisco, CA, USA. Joint work with Rafaël del Pino, Thomas Prest, and Mélissa Rossi. https://sp2023.ieee-security.org/

2023-Apr-04 NIST PQC Seminar: *"Intro to Side-Channel Security of NIST PQC Standards."* U.S. National Institute of Standards and Technology / Information Technology Laboratory (Virtual.) https://csrc.nist.gov/Projects/post-quantum-cryptography/workshops-and-timeline/pqc-seminars

2023-Feb-15 ETSI QSC9: *"PQC Side-Channel Leakage Assessments in the Semiconductor Industry."* Presentation at 9th ETSI/IQC Quantum Safe Cryptography Event. Sophia Antipolis, France. https://www.etsi.org/events/2117-2023-02-9th-etsi-iqc-quantum-safe-cryptography-workshop

2022-Dec-14 RISC-V Summit 2022: *"RISC-V Zkt: Portable Timing Attack Resistance (via Dynamic Taint Analysis)."* Invited talk at RISC-V Summit 2022. San Jose, CA. https://events.linuxfoundation.org/riscv-summit/

2022-Sep-18 TASER/CHES 2022: *"Verifying constant-time code with RISC-V Zkt and Dynamic Taint Analysis."* Invited talk at TASER (Topics in hArdware SEcurity and RISC-V), IACR CHES 2022. Leuven, Belgium. https://ches.iacr.org/

2022-Sep-15 ICMC 2022: *"Post-Quantum Crypto Side-Channel Tests and a CSP Walk-Through."* Presentation at ICMC 2022, International Cryptographic Module Conference. Washington DC, USA. https://icmconference.org

2022-Jun-28 HOST 2022: *"WiP: Applicability of ISO Standard Side-Channel Leakage Tests to NIST Post-Quantum Cryptography."* Presentation in the Work-in-Progress Track at the IEEE International Symposium on Hardware Oriented Security and Trust. Washington DC, USA. http://www.hostsymposium.org/

2022-Jun-06 SSR 2022: *"SP 800-22 and GM/T 0005-2012 Tests: Clearly Obsolete, Possibly Harmful."* Presentation at the Security Standardisation Research Conference – Workshop of IEEE Euro Security & Privacy. Genoa, Italy. https://ssr2022.com/

2022-May-30 CryptArchi 2022: *"Side-Channel Leakage Tests for Post-Quantum Crypto Modules."* Presentation at CryptArchi ("Cryptographic architectures embedded in logic devices"). Ile de Porquerolles, France. https://labh-curien.univ-st-etienne.fr/cryptarchi/workshop22/program.html

2022-May-23 ISO/IEC 19790 Day: *"Side-Channel Leakage Tests for Post-Quantum Crypto Modules."* Presentation at the ISO/IEC 19790 Cryptographic Module Day – held with the EU Cybersecurity Act Conference. Brussels, Belgium. https://cryptomod.org/

2022-Jan-25 CMUF Entropy WG: *"The RISC-V Entropy Source Interface."* Presentation at the Regular meeting of the Cryptographic Module User Forum (CMUF) Entropy Working Group (Virtual). https://cmuf.org/

2021-Dec-17 AsianHOST 2021: *"On Entropy and Bit Patterns of Ring Oscillator Jitter."* Asian Hardware Oriented Security and Trust Symposium (AsianHOST). Shanghai, China (Virtual). http://asianhost.org/

2021-Dec-14 HOST Summit 2021: *"Post-Quantum Cryptography: Are We Ready?"* Panel with Lily Chen (NIST), David McGrew (Cisco), Johanna Sepúlveda (Airbus and

TuM), and Ingrid Verbauwhede (KU Leuven). IEEE HOST Summit 2021. Washington DC, USA (Virtual). http://www.hostsymposium.org/

2021-Nov-18 ECW PQC: *"Specifying and Testing PQC Hardware Modules."* European Cyber Week 2021 Workshop "Implementing post-quantum cryptography." Rennes, France (Live). https://en.european-cyber-week.eu/cryptographie-post-quantique

2021-Oct-06 Worcester Polytechnic Institute: *"Building and Testing Entropy Sources for Cryptography."* WPI ECE Graduate Seminar Lecture. Worcester, MD USA (Virtual). https://www.wpi.edu/news/calendar/events/ece-graduate-seminar-lecture-dr-markku-juhani-o-saarinen-senior-cryptography

2021-Sep-03 ICMC 2021: *"Building and Testing a Modern TRNG/RBG: The RISC-V Entropy Source Interface."* ICMC21: International Cryptographic Module Conference. Bethesda, MD USA (Virtual). https://icmconference.org/

2021-Sep-02 ICMC 2021: *"PQC Modules: Requirement Specifications, Integration, and Testing."* ICMC21: International Cryptographic Module Conference. Bethesda, MD USA (Virtual). https://icmconference.org/

2021-Apr-23 Rennes: *"Post-Quantum Cryptography Hardware."* Séminaire de cryptographie, IRMAR / Université de Rennes 1. In collaboration with French MoD and DGA. Virtual. https://webmath.univ-rennes1.fr/crypto/2021/Saarinen

2021-Jan-13 RWC 2021: *"RISC-V Scalar Crypto."* (with B. Marshall.) RWC 2021: Real World Crypto Symposium. An IACR (International Association for Cryptologic Research) event (Virtual). https://rwc.iacr.org/2021/

2020-Nov-13 ASHES 2020: *"Building a Modern TRNG: An Entropy Source Interface for RISC-V."* (with G. R. Newell and B. Marshall.) ASHES 2020: Attacks and Solutions in Hardware Security, Workshop of ACM CCS 2020 (Virtual). http://ashesworkshop.org/

2020-Sep-24 ICMC 2020: *"Mobile Energy Requirements of the Upcoming NIST Post-Quantum Cryptography Standards."* ICMC20: International Cryptographic Module Conference (Virtual). https://icmconference.org/

2020-Sep-03 RISC-V Global Forum: *"RISC-V True Random Number Generation: Probably Too Important to be Left to Chance."* RISC-V Global Forum 2020 (Virtual). https://riscv.org/proceedings/2020/09/risc-v-global-forum-proceedings/

2020-Aug-23 SECRISC-V 2020: *"A Lightweight ISA Extension for AES and SM4."* SECRISC-V'20: First International Workshop on Secure RISC-V Architecture Design Exploration (Virtual). https://ascslab.org/conferences/secriscv/index.html

2020-Aug-04 MobileCloud 2020: *"Mobile Energy Requirements of the Upcoming NIST Post-Quantum Cryptography Standards."* MobileCloud 2020: 8th IEEE Intl. Conference on Mobile Cloud Computing, Services, and Engineering (Virtual).

6 Patents

6.1 Granted Patents

1. Markku-Juhani O. Saarinen. *"Co-processor for cryptographic operations."* US Patent 12,229,323: Granted 2025-Feb-18. GB Patent 2,602,735: Filed 2020-Aug-06. Granted 2024-Mar-06. https://patents.google.com/patent/US12229323B2

2. Markku-Juhani O. Saarinen. *"Random number generation."* European Patent 4,252,106: Filed 2021-11-25. Granted 2024-Jan-31. https://patents.google.com/patent/EP4252106B1

3. Markku-Juhani O. Saarinen. *"Cryptography using a cryptographic state."* US Patent 11,822,901 B2: Filed 2021-Sep-17. Granted 2023-Nov-21. https://patents.google.com/patent/US11822901B2

4. Markku-Juhani O. Saarinen and Ville Ollikainen. *"Method and apparatus for implementing secure and selectively deniable file storage."* US Patent 8,555,088: Priority 2008-Sep-22. Granted 2013-Oct-08. https://patents.google.com/patent/US8555088B2

5. Markku-Juhani O. Saarinen. *"Method and apparatus for improved pseudo-random number generation."* US Patent 7,007,050: Filed 2001-May-01, Granted 2006-Feb-28. https://patents.google.com/patent/US7007050B2

6.2 Pending Patent Applications (Published Only)

1. Markku-Juhani O. Saarinen. *"Cryptographic architecture for cryptographic permutation."* U.S. US20220138349A1 Application: Filed 2020-Jul-15. Published 2022-May-05. https://patents.google.com/patent/US20220138349A1

2. Markku-Juhani O. Saarinen. *"Cryptographic architecture for cryptographic permutation."* U.S. US20220138349A1 Application: Filed 2020-Jul-15. Published 2022-May-05. https://patents.google.com/patent/US20220138349A1

3. Markku-Juhani O. Saarinen. *"Cryptographic system for post-quantum cryptographic operations."* WIPO (PCT) WO2023285830A1 Application: Priority 2022-Jul-14. Published 2023-Jan-19. https://patents.google.com/patent/WO2023285830A1/

4. Markku-Juhani O. Saarinen. *"Secure processing system and method."* GB 2207808.3 Application: Priority 2022-May-26. Published 2022-Jul-13. https://patents.google.com/patent/GB202207808D0/

5. Markku-Juhani O. Saarinen. *"Method and apparatus for storing/recovering a plurality of secret shares."* GB 2211124.9 Application: Priority 2022-Jul-29. Published 2022-Sep-14. https://patents.google.com/patent/GB202211124D0/

7 Academic Bibliography

[1] Ruben Niederhagen and Markku-Juhani O. Saarinen, editors. *16th International Workshop, PQCrypto 2025 Taipei, Taiwan, April 8-10, 2025, Proceedings, Part II*, volume 15578 of *Lecture Notes in Computer Science*. Springer, April 2025. doi:10.1007/978-3-031-86602-9.

[2] Ruben Niederhagen and Markku-Juhani O. Saarinen, editors. *16th International Workshop, PQCrypto 2025 Taipei, Taiwan, April 8-10, 2025, Proceedings, Part I*, volume 15577 of *Lecture Notes in Computer Science*. Springer, April 2025. doi:10.1007/978-3-031-86599-2.

[3] Thomas Szymkowiak, Endrit Isufi, and Markku-Juhani Saarinen. Poster: Marian: An open source RISC-V processor with Zvk vector cryptography extensions. In *CCS '24, October 14-18, 2024, Salt Lake City, UT, USA*, October 2024. URL: https://eprint.iacr.org/2024/1449, doi:10.1145/3658644.3691394.

[4] Markku-Juhani O. Saarinen and Daniel Smith-Tone, editors. *Post-Quantum Cryptography - 15th International Workshop, PQCrypto 2024, Oxford, UK, June 12-14, 2024, Proceedings, Part I*, volume 14771 of *Lecture Notes in Computer Science*. Springer, June 2024. doi:10.1007/978-3-031-62743-9.

[5] Markku-Juhani O. Saarinen and Daniel Smith-Tone, editors. *Post-Quantum Cryptography - 15th International Workshop, PQCrypto 2024, Oxford, UK, June 12-14, 2024, Proceedings, Part II*, volume 14772 of *Lecture Notes in Computer Science*. Springer, June 2024. doi:10.1007/978-3-031-62746-0.

[6] Markku-Juhani O. Saarinen. Accelerating SLH-DSA by two orders of magnitude with a single hash unit. In Leonid Reyzin and Douglas Stebila, editors, *Advances in Cryptology - CRYPTO 2024 - 44th Annual International Cryptology Conference, Santa Barbara, CA, USA, August 18-22, 2024, Proceedings, Part I*, volume 14920 of *Lecture Notes in Computer Science*, pages 276–304. Springer, 2024. URL: https://eprint.iacr.org/2024/367, doi:10.1007/978-3-031-68376-3_9.

[7] Rafaël Del Pino, Shuichi Katsumata, Mary Maller, Fabrice Mouhartem, Thomas Prest, and Markku-Juhani O. Saarinen. Threshold raccoon: Practical threshold signatures from standard lattice assumptions. In Marc Joye and Gregor Leander, editors, *Advances in Cryptology - EUROCRYPT 2024 - 43rd Annual International Conference on the Theory and Applications of Cryptographic Techniques, Zurich, Switzerland, May 26-30, 2024, Proceedings, Part II*, volume 14652 of *Lecture Notes in Computer Science*, pages 219–248. Springer, 2024. URL: https://eprint.iacr.org/2024/184, doi:10.1007/978-3-031-58723-8_8.

[8] Hao Cheng, Johann Großschädl, Ben Marshall, Daniel Page, and Markku-Juhani O. Saarinen. SoK: Instruction set extensions for cryptographers. *IACR Cryptol. ePrint Arch. 2024/1323*, 2024. URL: https://eprint.iacr.org/2024/1323.

[9] Markku-Juhani O. Saarinen and Mélissa Rossi. Mask compression: High-order masking on memory-constrained devices. In Claude Carlet, Kalikinkar Mandal, and Vincent Rijmen, editors, *Selected Areas in Cryptography - SAC 2023 - 30th International Conference, Fredericton, Canada, August 14-18, 2023, Revised Selected Papers*, volume 14201 of *Lecture Notes in Computer Science*, pages 65–81. Springer, 2023. URL: https://eprint.iacr.org/2023/1117, doi:10.1007/978-3-031-53368-6_4.

[10] Markku-Juhani O. Saarinen. WrapQ: Side-channel secure key management for post-quantum cryptography. In Thomas Johansson and Daniel Smith-Tone, editors, *Post-Quantum Cryptography - 14th International Workshop, PQCrypto 2023, College Park, MD, USA, August 16-18, 2023, Proceedings*, volume 14154 of *Lecture Notes in Computer Science*, pages 637–657. Springer, 2023. URL: https://eprint.iacr.org/2022/1499, doi:10.1007/978-3-031-40003-2_23.

[11] Rafaël del Pino, Thomas Prest, Mélissa Rossi, and Markku-Juhani O. Saarinen. High-order masking of lattice signatures in quasilinear time. In *44th IEEE Symposium on Security and Privacy, SP 2023, San Francisco, CA, USA, 22-25 May 2023*, pages 1168–1185. IEEE, May 2023. doi:10.1109/SP46215.2023.10179342.

[12] Markku-Juhani O. Saarinen, G. Richard Newell, and Ben Marshall. Development of the RISC-V entropy source interface. *Journal of Cryptographic Engineering*, January 2022. URL: https://rdcu.be/cEp7a, doi:10.1007/s13389-021-00275-6.

[13] Markku-Juhani O. Saarinen. SP 800-22 and GM/T 0005-2012 tests: Clearly obsolete, possibly harmful. In *2022 IEEE European Symposium on Security and Privacy Workshops (EuroS&PW)*, pages 31–37. IEEE, June 2022. URL: https://eprint.iacr.org/2022/169, doi:10.1109/EuroSPW55150.2022.00011.

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