

# Karin Sumongkayothin

## Address

Faculty of ICT  
Mahidol University  
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## Research Interests

Cryptography and Cryptography Application, Cybersecurity and Information security, Secure network protocol, Software application security.

## Professional Experiences

Instructor, Faculty of ICT, since November 2017  
Mahidol University  
Thailand.

Teaching Assistant, School of Information Science, Japan Advanced Institute of Science and Technology, 2016–2017.

Invited instructor, School of ICT, Sirindhorn International Institute of Technology, 2012–2016, 2018.

Instructor, Department of Computer Science, Faculty of Science, SuanDusit University, 2002–2013.

## Education

Doctor of Philosophy, Department of Information Science.  
Japan Advance Institute of Science and Technology (JAIST), September 2017.

Doctor of Philosophy, Department of Engineering and Technology.  
Sirindhorn International Institute of Technology (SIIT), September 2017.

Master of Engineering, School of Engineering and Technology.  
Asia Institute of Technology (AIT), April 2003.

Bachelor of Engineering, Faculty of Engineering.  
Kasetsart University, March 1999

## Selected Hornors

Best paper awards in “International Conference on Applications and Technologies in Information Security(ATIS), 2016.

Partial Monbukagakusho Honor Scholarship supported by Japanese Government, 2013–2014.

SIIT-JAIST Ph.D Scholarship, 2013–2017.

### **Selected Professional Service**

Expert Panels, *Thailand data privacy, Thailand and Japan Digital Governance seminar*, 2018.

Reviewer, *Computers Electrical Engineering, Elsevier*, 2018.

Reviewer, *Future Generation Computer Systems(FGCS), Elsevier* , 2018.

Reviewer, *Transactions on Information and Systems, IEICE*, 2018.

Reviewer, *Security and Trusted Computing for Industrial Internet of Things, IEEE*, 2018.

Reviewer, *International Joint Conference on Computer Science and Software Engineering (JCSSE)*, 2018.

Reviewer, *ICT International Student Project Conference (ICT-ISPC)*, 2018.

### **Selected Research Grants**

Grant-in-Aid Scientific Research supported by “Japan Science and Technology Agency”, CREST and “Infrastructure Development for Promoting International ST”, 2015–2017.

Grant-in-Aid for Young Scientists supported by “Japan Science and Technology Agency”, CREST and “Infrastructure Development for Promoting International ST”, 2015–2017.

Research grant supported by “The Telecommunications Advancement Foundation”, 2016, 140,000 JPY.

### **Selected Invited Talks and Keynote Addresses**

Speaker, “เทคโนโลยีอนาคต การรักษาความปลอดภัยและ พ.ร.บ. เกี่ยวกับการกระทำความผิดคอมพิวเตอร์”, *SuanDusit University*, 2018.

Speaker, “Increase the potential of cyber security of DSI staff”, *Department of Special Investigation (DSI)*, 2011.

### **Selected Publications**

Karin Sumongkayothin. M-ORAM revisited: Security and construction updates. In *Information Security Practice and Experience - 14th International Conference, ISPEC 2018, Tokyo, Japan, September 25-27, 2018, Proceedings*, pages 521–532, 2018

Steven Gordon, Xinyi Huang, Atsuko Miyaji, Chunhua Su, Karin Sumongkayothin, and Komwut Wipusitwarakun. Recursive matrix oblivious RAM: an ORAM construction for constrained storage devices. *IEEE Trans. Information Forensics and Security*, 12(12):3024–3038, 2017

Steven Gordon, Xinyi Huang, Atsuko Miyaji, Chunhua Su, Karin Sumongkayothin, and Komwut Wipusitwarakun. Recursive matrix oblivious RAM: an ORAM construction for constrained storage devices. *IEEE Trans. Information Forensics and Security*, 12(12):3024–3038, 2017

Karin Sumongkayothin, Steven Gordon, Atsuko Miyaji, Chunhua Su, and Komwut Wipusitwarakun. Recursive M-ORAM: A matrix ORAM for clients with constrained storage space. In *Applications and Techniques in Information Security - 6th International Conference, ATIS 2016, Cairns, QLD, Australia, October 26-28, 2016, Proceedings*, pages 130–141, 2016

Steven Gordon, Atsuko Miyaji, Chunhua Su, and Karin Sumongkayothin. A matrix based ORAM: design,

implementation and experimental analysis. *IEICE Transactions*, 99-D(8):2044–2055, 2016

Steven Gordon, Atsuko Miyaji, Chunhua Su, and Karin Sumongkayothin. Security and experimental performance analysis of a matrix ORAM. In *2016 IEEE International Conference on Communications, ICC 2016, Kuala Lumpur, Malaysia, May 22-27, 2016*, pages 1–6, 2016

Steven Gordon, Atsuko Miyaji, Chunhua Su, and Karin Sumongkayothin. Analysis of path ORAM toward practical utilization. In *18th International Conference on Network-Based Information Systems, NBIS 2015, Taipei, Taiwan, September 2-4, 2015*, pages 646–651, 2015

Steven Gordon, Atsuko Miyaji, Chunhua Su, and Karin Sumongkayothin. M-ORAM: A matrix ORAM with log N bandwidth cost. In *Information Security Applications - 16th International Workshop, WISA 2015, Jeju Island, Korea, August 20-22, 2015, Revised Selected Papers*, pages 3–15, 2015