

# Yohei Watanabe

## CURRICULUM VITAE

Graduate School of Informatics and Engineering,  
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### RESEARCH INTERESTS

Modern cryptography in terms of both information theory and complexity theory.

Especially:

- ▷ Searchable symmetric encryption and encrypted database.
- ▷ Information-theoretic cryptographic protocols.
- ▷ Public-key cryptosystems over bilinear/traditional groups.
- ▷ Updatable cryptography.

### EDUCATION

- ▷ **Ph.D. in Information Science**, Yokohama National University.  
Thesis: Cryptography with Timed Access Control  
Supervisor: Asso. Prof. Dr. Junji Shikata March 2016
- ▷ **M.S. in Engineering**, Yokohama National University. March 2013
- ▷ **B.S. in Engineering**, Yokohama National University. March 2011

### EXPERIENCE

- ▷ **Research Fellow**, Japan Datacom Co., Ltd., Japan. Aug. 2020 – present
- ▷ **Invited Advisor**, Security Fundamental Laboratory, Cybersecurity Research Institute, NICT, Japan. Apr. 2020 – present
- ▷ **Collaborative Researcher**, Cyber Physical Security Research Center (CPSEC), AIST, Japan. Apr. 2020 – present
- ▷ **Assistant Professor**, Department of Informatics, Graduate School of Informatics and Engineering, the University of Electro-Communications, Japan. Dec. 2019 – present
- ▷ **Excellent Young Researcher**, Leading Initiative for Excellent Young Researchers, MEXT, Japan. Dec. 2019 – present
- ▷ **Researcher**, Security Fundamental Laboratory, Cybersecurity Research Institute, NICT, Japan. Oct. 2018 – Nov. 2019
- ▷ **JSPS Research Fellow (PD)**, the University of Electro-Communications, Japan.  
Host researcher: Asso. Prof. Dr. Mitsugu Iwamoto Apr. 2016 – Sep. 2018
- ▷ **Collaborative Researcher**, Information Technology Research Institute (ITRI), AIST, Japan. Apr. 2016 – Sep. 2018
- ▷ **JSPS Research Fellow (DC1)**, Yokohama National University, Japan.  
Host researcher: Asso. Prof. Dr. Junji Shikata Apr. 2013 – Mar. 2016
- ▷ **Technical Trainee**, ITRI, AIST, Japan. Apr. 2015 – Mar. 2016
- ▷ **Technical Trainee**, Research Institute for Secure Systems (RISEC), AIST, Japan. May 2014 – Mar. 2015

## AWARDS AND HONERS

- ▷ **KISTI Best Paper Award** at MobiSec 2023, 2023.
- ▷ **Best Paper Award** at ProvSec 2022, 2022.
- ▷ **CSS 2022 Best Paper Award** at CSS 2022 (domestic conference in Japan), 2022.
- ▷ **CSS 2020 Encouragement Research Award** at CSS 2020 (domestic conference in Japan), 2020.
- ▷ **CSS 2019 Encouragement Research Award** at CSS 2019 (domestic conference in Japan), 2019.
- ▷ **IEEE Information Theory Society Japan Chapter Young Researcher Best Paper Award** at ISITA 2018, 2018.
- ▷ **CSS 2018 Best Paper Award** at CSS 2018 (domestic conference in Japan), 2018.
- ▷ **Invitation to 4th Heidelberg Laureate Forum**, 2016.
- ▷ **SCIS Paper Award** at SCIS 2016 (domestic conference in Japan), 2016.
- ▷ **CSS 2014 Student Paper Award** at CSS 2014 (domestic conference in Japan), 2014.
- ▷ **Best Poster Award** at IWSEC 2014, 2014.
- ▷ **JSPS Research fellowship for young scientists (PD)**, 2016 – 2019.
- ▷ **JSPS Research fellowship for young scientists (DC1)**, 2013 – 2016.
- ▷ **Paper(s) invited to special issues of journal(s):**
  - Invited to International Journal of Applied Cryptography (IJACT) from ACISP 2015.

## COMMITTEES

- ▷ **Editor:** IEICE Trans. on Fundamentals of Electronics, Communications and Computer Sciences.
  - ENG Edition: Editor (Jun. 2023 – May 2024).
  - JPN Edition: Editor (Jun. 2022 – May 2024).
  - Special Issue on Information Theory and its Applications: Guest Associate Editor (2020).
- ▷ **Program Committees:** APKC 2024, APKC 2023, APKC 2022, ITW 2021, IWSEC 2021, APKC 2021, IWSEC 2020, APKC 2020, IWSEC 2019, APKC 2019, APKC 2018 (co-Chair).
- ▷ **Local Organizing Committees:** IWSEC 2024, IWSEC 2023, SCIS 2023, PKC 2022 (co-Chair), IWSEC 2022, CSS 2021, IWSEC 2021, SCIS 2021, CSS 2019, IWSEC 2019, IWSEC 2018.
- ▷ **Others:** CRYPTREC Cryptographic Technique Investigation WG (Advanced Cryptography) Member (May 2022 – Mar. 2023).

## TEACHING

### At UEC

- ▷ Fall 2023: *Cryptography, Advanced Topics on Cryptography, Cryptography and Information Security, Information Security Engineering Laboratory.* Fall 2022: *Cryptography, Advanced Topics on Cryptography, Cryptography and Information Security, Information Security Engineering Laboratory.*
- ▷ Fall 2021: *Cryptography, Advanced Topics on Cryptography, Cryptography and Information Security, Information Security Engineering Laboratory.*
- ▷ Fall 2020: *Cryptography, Cryptography and Information Security, Information Security Engineering Laboratory.*
- ▷ Fall 2019: *Cryptography.*

## At Other Universities

- ▷ Spring 2023: *Computer Literacy* (Japan Women’s University).
- ▷ Spring & Fall 2022: *Computer Literacy* (Japan Women’s University).
- ▷ Spring & Fall 2021: *Computer Literacy* (Japan Women’s University).
- ▷ Spring & Fall 2020: *Computer Literacy* (Japan Women’s University).
- ▷ Fall 2019: *Computer Literacy* (Japan Women’s University).
- ▷ Spring 2019: *Computer Literacy* (Japan Women’s University), *Project Learning* (Yokohama National University).
- ▷ Fall 2018: *Computer Literacy* (Japan Women’s University).

## RESEARCH GRANTS

- ▷ JSPS Grant-in-Aid for Scientific Research (A), “真に高機能暗号の社会展開に資する物理・視覚暗号 (# 23H00479),” CI (PI: Goichiro Hanaoka). April 2023 – March 2026
- ▷ JSPS Grant-in-Aid for Scientific Research (B), “Towards Encrypted Search Protocols with Flexible Search Functions and High Efficiency (# 21H03341),” PI. April 2021 – March 2025
- ▷ JSPS Grant-in-Aid for Scientific Research (B), “十分統計量に基づくシミュレーションベース安全性の深化 (# 21H03395),” CI (PI: Mitsugu Iwamoto). April 2021 – March 2025
- ▷ JSPS Grant-in-Aid for Scientific Research (S), “Resilience Enhancement of IoT Ecosystem by Cryptographic Technologies (# 18H05289),” CI (PI: Kazuo Sakiyama). June 2018 – March 2023  
(Joined in April 2020)
- ▷ JSPS Grant-in-Aid for Scientific Research (C), “Searchable Symmetric Encryption for a Long Term Use (# 18K11293),” CI (PI: Kazuo Ohta). April 2018 – March 2022  
(Joined in April 2020, and extended to March 2023)
- ▷ MEXT Leading Initiative for Excellent Young Researchers (LEADER), PI. December 2019 – March 2021
- ▷ JSPS Grant-in-Aid for Young Scientists (B), “Improvement of security and efficiency of identity-based encryption schemes resilient to key leakage (# 17K12697),” PI. April 2017 – March 2021
- ▷ JSPS Grant-in-Aid for Scientific Research (B), “推測秘匿性に基づく情報理論的暗号理論の新展開 (# 17H01752),” CI (PI: Mitsugu Iwamoto). April 2017 – March 2021  
(extended to March 2022)
- ▷ Grant-in-Aid for JSPS Fellows (# 16J10532), “Simultaneous Realization of Dynamic Access Control and Data Analysis for Encrypted Data,” PI. April 2016 – March 2019
- ▷ Grant-in-Aid for JSPS Fellows (#13J03998), “時刻で制御可能な暗号基礎技術の研究開発,” PI. April 2013 – March 2016

## EDITED VOLUMES

- [1] G. Hanaoka, J. Shikata, and Y. Watanabe, *Public-Key Cryptography – PKC 2022*, Part I, Virtual Event, March 8-11, 2022. LNCS 13177, Springer, 2022.
- [2] G. Hanaoka, J. Shikata, and Y. Watanabe, *Public-Key Cryptography – PKC 2022*, Part II, Virtual Event, March 8-11, 2022. LNCS 13178, Springer, 2022.
- [3] K. Emura, J.H. Seo, and Y. Watanabe, *Proceedings of the 5th ACM Asia Public-Key Cryptography Workshop (APKC 2018)*, Incheon, Korea, June 4, 2018. ACM, 2018.

## PEER-REVIEWED JOURNAL ARTICLES

- [4] K. Yamashita, K. Hara, Y. Watanabe, N. Yanai, and J. Shikata, “Designated Verifier Signature with Claimability,” *IEICE Transactions*, vol. E107-A, no. 3, pp. 203–217, IEICE, 2024.
- [5] K. Minematsu, J. Shikata, Y. Watanabe, and N. Yanai, “Anonymous Broadcast Authentication with One-to-Many Transmission to Control IoT Devices,” *IEEE Access*, vol. 11, pp. 62955–62969, IEEE, 2023.
- [6] H. Kobayashi, Y. Watanabe, K. Minematsu, and J. Shikata, “Tight Lower Bounds and Optimal Constructions of Anonymous Broadcast Encryption and Authentication,” *Designs, Codes and Cryptography*, vol. 91, pp. 2523–2562, Springer, 2023.
- [7] Y. Abe, T. Nakai, Y. Watanabe, M. Iwamoto, and K. Ohta, “A Computationally Efficient Card-Based Majority Voting Protocol with Fewer Cards in the Private Model,” *IEICE Transactions*, vol. E106-A, no. 3, pp. 315–324, IEICE, 2023.
- [8] Y. Watanabe, T. Seito, and J. Shikata, “Multi-Designated Receiver Authentication Codes: Models and Constructions,” *IEICE Transactions*, vol. E106-A, no. 3, pp. 394–405, IEICE, 2023.
- [9] Y. Watanabe, T. Nakai, K. Ohara, T. Nojima, Y. Liu, M. Iwamoto, and K. Ohta, “How to Make a Secure Index for Searchable Symmetric Encryption, Revisited,” *IEICE Transactions*, vol. E105-A, no. 12, pp. 1559–1579, IEICE, 2022.
- [10] Y. Abe, T. Nakai, Y. Kuroki, S. Suzuki, Y. Koga, Y. Watanabe, M. Iwamoto, and K. Ohta, “Efficient Card-based Majority Voting Protocols,” *New Generation Computing*, vol. 40, pp. 173–198, Springer, 2022.
- [11] K. Emura, S. Katsumata, and Y. Watanabe, “Identity-Based Encryption with Security against the KGC: A Formal Model and Its Instantiations,” *Theoretical Computer Science*, vol. 900, pp. 97–119, Elsevier, 2022.
- [12] K. Emura, A. Takayasu, and Y. Watanabe, “Efficient Identity-Based Encryption with Hierarchical Key-Insulation from HIBE,” *Designs, Codes and Cryptography*, vol. 89(10), pp. 2397–2431, Springer, 2021.
- [13] K. Emura, A. Takayasu, and Y. Watanabe, “Adaptively Secure Revocable Hierarchical IBE from  $k$ -linear Assumption,” *Designs, Codes and Cryptography*, vol. 89(7), pp. 1535–1574, Springer, 2021.
- [14] K. Emura, J.H. Seo, and Y. Watanabe, “Efficient Revocable Identity-based Encryption with Short Public Parameters,” *Theoretical Computer Science*, vol. 863, pp. 127–155, Elsevier, 2021.
- [15] A. Takayasu and Y. Watanabe, “Revocable Identity-based Encryption with Bounded Decryption Key Exposure Resistance: Lattice-based Construction and More,” *Theoretical Computer Science*, vol. 849, pp. 64–98, Elsevier, 2021.
- [16] H. Anada, A. Kanaoka, N. Matsuzaki, and Y. Watanabe, “Key-Updatable Public-Key Encryption with Keyword Search (Or: How to Realize PEKS with Efficient Key Updates for IoT Environments),” *International Journal of Information Security*, vol. 19, pp. 15–38, Springer, 2020.
- [17] K. Ohara, Y. Watanabe, M. Iwamoto, and K. Ohta, “Multi-Party Computation for Modular Exponentiation based on Replicated Secret Sharing,” *IEICE Transactions*, vol. 102-A, no. 9, pp. 1079–1090, IEICE, 2019.
- [18] J. Shikata and Y. Watanabe, “Identity-based Encryption with Hierarchical Key-insulation in the Standard Model,” *Designs, Codes and Cryptography*, vol. 87(5), pp. 1005–1033, Springer, 2019.
- [19] A. Prasitsupparote, Y. Watanabe, J. Sakamoto, J. Shikata, and T. Matsumoto, “Implementation and Analysis of Fully Homomorphic Encryption in Resource-Constrained Devices,” *International Journal of Digital Information and Wireless Communications (IJDIWC)*, vo.8(4), pp. 288–303, SDIWC Library, 2018.
- [20] Y. Watanabe and J. Shikata, “Timed-Release Computational Secret Sharing and Threshold Encryption,” *Designs, Codes and Cryptography*, vol. 86(1), pp. 17–54, Springer, 2018.

- [21] Y. Ishida, J. Shikata, and Y. Watanabe, “CCA-secure Revocable Identity-based Encryption Schemes with Decryption Key Exposure Resistance,” *International Journal of Applied Cryptography (IJACT)*, vol. 3, no. 3, pp. 288–311, Inderscience Publishers, 2017.
- [22] Y. Watanabe and J. Shikata, “Information-Theoretically Secure Timed-Release Secret Sharing Schemes,” *Journal of Information Processing*, vol. 24, no. 4, pp. 680–689, IPSJ, 2016.
- [23] Y. Watanabe and J. Shikata, “Unconditionally Secure Broadcast Encryption Schemes with Trade-offs between Communication and Storage,” *IEICE Transactions*, vol. 99-A, no. 6, pp. 1097–1106, IEICE, 2016.

#### PEER-REVIEWED CONFERENCE PAPERS

- [24] Y. Watanabe, T. Tomita, and J. Shikata, “Lattice-based Multi-Entity Identification Protocols,” In: *MobiSec 2023*, pp. xxx–yyy, Springer, 2023. (To appear) [**KISTI Best Paper Award**]
- [25] S. Uchizono, T. Nakai, Y. Watanabe, and M. Iwamoto, “Constant-Deposit Multiparty Lotteries on Bitcoin for Arbitrary Number of Players and Winners,” In: *ICISC 2023*, LNCS 14562, pp. 133–156, Springer, 2024.
- [26] T. Ono, K. Shinagawa, T. Nakai, Y. Watanabe, and M. Iwamoto, “Single-Shuffle Card-Based Protocols with Six Cards per Gate,” In: *ICISC 2023*, LNCS 14562, pp. 157–169, Springer, 2024.
- [27] T. Amada, M. Iwamoto, and Y. Watanabe, “Efficient Result-Hiding Searchable Encryption with Forward and Backward Privacy,” In: *ICISC 2023*, LNCS 14562, pp. 170–193, Springer, 2024.
- [28] K. Sugimoto, T. Nakai, Y. Watanabe, and M. Iwamoto, “The Two Sheriffs Problem: Cryptographic Formalization and Generalization,” In: *COCOA 2023*, LNCS 14461, pp. 512–523, Springer, 2023.
- [29] T. Nishiuchi, Y. Abe, Y. Watanabe, M. Iwamoto, and K. Sawada, “Packet Analysis and Information Theory on Attack Detection for Modbus TCP,” In: *IECON 2023*, pp. 1–6, IEEE, 2023.
- [30] Y. Watanabe, N. Yanai, and J. Shikata “IoT-REX: A Secure Remote-Control System for IoT Devices from Centralized Multi-Designated Verifier Signatures,” In: *ISPEC 2023*, LNCS 14341, pp. 105–122, Springer, 2023.
- [31] K. Yamashita, K. Hara, Y. Watanabe, N. Yanai, and J. Shikata “Designated Verifier Signature with Claimability,” In: *APKC 2023*, pp. 21–32, ACM Press, 2023.
- [32] Y. Liu, Y. Watanabe, and J. Shikata “Forward and Backward Private Dynamic Searchable Encryption with Better Space Efficiency,” In: *CISS 2023*, pp. 1–6, IEEE, 2023.
- [33] K. Asano, K. Emura, A. Takayasu, and Y. Watanabe, “A Generic Construction of CCA-secure Attribute-based Encryption with Equality Test,” In: *ProvSec 2022*, LNCS 13600, pp. 3–19, Springer, 2022. [**Best Paper Award**]
- [34] A. Doi, T. Ono, T. Nakai, K. Shinagawa, Y. Watanabe, K. Nuida, and M. Iwamoto, “Card-based Cryptographic Protocols for Private Set Intersection,” In: *ISITA 2022*, pp. xxx–yyy, IEEE, 2022. (To appear)
- [35] S. Shimizu, T. Nakai, Y. Watanabe, and M. Iwamoto, “An Improvement of Multi-Party Private Set Intersection Based on Oblivious Programmable PRFs,” In: *ISITA 2022*, pp. xxx–yyy, IEEE, 2022. (To appear)
- [36] K. Emura, R. Ito, S. Kanamori, R. Nojima, and Y. Watanabe, “State-free End-to-End Encrypted Storage and Chat Systems based on Searchable Encryption,” In: *ICEIS 2022*, pp. 106–113, SciTePress Digital Library, 2022.
- [37] Y. Watanabe, K. Ohara, M. Iwamoto, and K. Ohta, “Efficient Dynamic Searchable Encryption with Forward Privacy under the Decent Leakage,” In: *ACM CODASPY 2022*, pp. 312–323, ACM, 2022.
- [38] T. Seito, J. Shikata, and Y. Watanabe, “Multi-Designated Receiver Authentication-Codes with Information-Theoretic Security,” In: *CISS 2022*, pp. 84–89, IEEE, 2022.

- [39] H. Kobayashi, Y. Watanabe, and J. Shikata, “Asymptotically Tight Lower Bounds in Anonymous Broadcast Encryption and Authentication,” In: IMACC 2021, LNCS 13129, pp. 105–128, Springer, 2021.
- [40] M. Ebina, J. Mita, J. Shikata, and Y. Watanabe, “Efficient Threshold Public Key Encryption from the Computational Bilinear Diffie–Hellman Assumption,” In: APKC 2021, pp. 23–32, ACM Press, 2021.
- [41] Y. Watanabe, N. Yanai, and J. Shikata, “Anonymous Broadcast Authentication for Securely Remote-Controlling IoT Devices,” In: AINA 2021, LNNS 226, pp. 679–690, Springer, 2021.
- [42] T. Uemura, Y. Watanabe, Y. Li, N. Miura, M. Iwamoto, K. Sakiyama, and K. Ohta, “A Key Recovery Algorithm Using Random Key Leakage from AES Key Schedule,” In: ISITA 2020, pp. 382–386, IEEE, 2020.
- [43] J. Ida, J. Shikata, and Y. Watanabe, “On the Power of Interaction in Signcryption,” In: ISITA 2020, pp. 348–352, IEEE, 2020.
- [44] K. Emura, S. Katsumata, and Y. Watanabe, “Identity-Based Encryption with Security against the KGC: A Formal Model and Its Instantiation from Lattices,” In: ESORICS 2019, LNCS 11736, pp. 113–133, Springer, 2019.
- [45] A. Prasitsupparote, Y. Watanabe, and J. Shikata, “Implementation and Analysis of Fully Homomorphic Encryption in Wearable Devices,” In: ISDF 2018. pp. 1–14, SDIWC Library, 2018.
- [46] Y. Watanabe, Y. Kuroki, S. Suzuki, Y. Koga, M. Iwamoto, and K. Ohta, “Card-Based Majority Voting Protocols with Three Inputs Using Three Cards,” In: ISITA 2018, pp. 218–222, IEEE, 2018. **[IEEE Information Society Japan Chapter Young Researcher Best Paper Award]**
- [47] H. Anada, A. Kanaoka, N. Matsuzaki, and Y. Watanabe, “Key-updatable Public-key Encryption with Keyword Search: Models and Generic Constructions,” In: ACISP 2018, LNCS 10946, pp. 341–359, Springer, 2018.
- [48] Y. Watanabe, “Broadcast Encryption with Guessing Secrecy,” In: ICITS 2017, LNCS 10681, pp. 39–57, Springer, 2017.
- [49] A. Takayasu and Y. Watanabe, “Lattice-based Revocable Identity-based Encryption with Bounded Decryption Key Exposure Resistance,” In: ACISP 2017, Part I, LNCS 10342, pp. 184–204, Springer, 2017.
- [50] T. Yoshizawa, Y. Watanabe, and J. Shikata, “Unconditionally Secure Searchable Encryption,” In: CISS 2017, pp. 1–6, IEEE, 2017.
- [51] Y. Watanabe, K. Emura, and J.H. Seo, “New Revocable IBE in Prime-Order Groups: Adaptively Secure, Decryption Key Exposure Resistant, and with Short Public Parameters,” In: CT-RSA 2017, LNCS 10159, pp. 432–449, Springer, 2017.
- [52] Y. Watanabe, G. Hanaoka, J. Shikata, “Unconditionally Secure Revocable Storage: Tight Bounds, Optimal Construction, and Robustness,” In: ICITS 2016, LNCS 10015, pp. 213–237, Springer, 2016.
- [53] S. Tomita, Y. Watanabe, and J. Shikata, “Sequential Aggregate Authentication Codes with Information Theoretic Security,” In: CISS 2016, pp. 192–197, IEEE, 2016.
- [54] Y. Watanabe and J. Shikata, “Identity-based Hierarchical Key-insulated Encryption without Random Oracles,” In: PKC 2016, Part I, LNCS 9614, pp. 255–279, Springer, 2016.
- [55] Y. Watanabe and J. Shikata, “Constructions of Unconditionally Secure Broadcast Encryption from Key Predistribution Systems with Trade-offs between Communication and Storage,” In: ProvSec 2015, LNCS 9451, pp. 489–502, Springer, 2015.
- [56] K. Emura, L. T. Phong, and Y. Watanabe, “Keyword Revocable Searchable Encryption with Trapdoor Exposure Resistance and Re-generateability,” In: IEEE TrustCom 2015, vol. 1, pp. 167–174, IEEE, 2015.

- [57] Y. Ishida, Y. Watanabe, and J. Shikata, “Constructions of CCA-secure Revocable Identity-based Encryption,” In: ACISP 2015, LNCS 9144, pp. 174–191, Springer, 2015.
- [58] N. Takei, Y. Watanabe, and J. Shikata, “Information-Theoretically Secure Blind Authentication Codes without Verifier’s Secret Keys,” Josai Mathematical Monograph 8, pp. 115–133, Graduate School of Sciences, Josai University, 2015.
- [59] Y. Watanabe and J. Shikata, “Timed-Release Secret Sharing Schemes with Information Theoretic Security,” In: BalkanCryptSec 2014, LNCS 9024, pp. 219–236, Springer, 2014.
- [60] Y. Watanabe and J. Shikata, “Timed-Release Computational Secret Sharing Scheme and Its Applications,” In: ProvSec 2014, LNCS 8782, pp. 326–333, Springer, 2014.
- [61] T. Seito, Y. Watanabe, K. Kinose, and J. Shikata, “Information-Theoretically Secure Anonymous Group Authentication with Arbitration: Formal Definition and Construction,” Josai Mathematical Monograph 7, pp. 85–110, Graduate School of Sciences, Josai University, 2014.
- [62] S. Hajime, Y. Watanabe, and J. Shikata, “Information-Theoretically Secure Entity Authentication in the Multi-user Setting,” In: ICISC 2013, LNCS 8565, pp. 400–417, Springer, 2013.
- [63] N. Takei, Y. Watanabe, and J. Shikata, “Unconditionally Secure Blind Authentication Codes in the Manual Channel Model,” In: The 3rd International Symposium on Engineering, Energy and Environment (3rd ISEEE), pp. 297–302, 2013.
- [64] T. Seito, Y. Watanabe, K. Kinose, and J. Shikata, “Unconditionally Secure Anonymous Group Authentication with an Arbiter,” In: The 3rd International Symposium on Engineering, Energy and Environment (3rd ISEEE), pp. 291–296, 2013.
- [65] A. Kubai, J. Shikata, and Y. Watanabe, “Information-Theoretically Secure Aggregate Authentication Code: Model, Bounds, and Constructions,” In: CD-ARES Workshops, MoCrySEn 2013, LNCS 8128, pp. 16–28, Springer, 2013.
- [66] Y. Watanabe, T. Seito and J. Shikata, “Information-Theoretic Timed-Release Security: Key-Agreement, Encryption and Authentication Codes,” In: ICITS 2012, LNCS 7412, pp. 167–186, Springer, 2012.

#### NON PEER-REVIEWED POSTERS

- [67] H. Anada, A. Kanaoka, N. Matsuzaki, and Y. Watanabe, “Key-updatable Public-key Encryption with Keyword Search: An Efficient Construction,” IWSEC 2018, Sendai, Japan, 2018.
- [68] Y. Watanabe, G. Hanaoka, and J. Shikata, “How to Provide Long-term Security and Required Functionality for Cloud Storage,” Yokohama Environment and Information Sciences (YEIS) International Forum, Yokohama, Japan, 2015.
- [69] Y. Ishida, Y. Watanabe, and J. Shikata, “Constructions of Strongly Secure Revocable Identity-based Encryption,” Yokohama Environment and Information Sciences (YEIS) International Forum, Yokohama, Japan, 2015.
- [70] Y. Watanabe, G. Hanaoka, and J. Shikata, “How to Provide Long-term Security and Required Functionality for Cloud Storage,” PRIVAGEN 2015, Japan, 2015.
- [71] Y. Watanabe and J. Shikata, “Information-Theoretically Secure Revocable-Storage Broadcast Encryption,” IWSEC 2014, Japan, 2014. [**Best Poster Award**]

#### INVITED TALKS

- [72] “Unconditionally Secure Revocable Storage,” IWSEC 2015, Japan, 2015.
- [73] “Timed-Release Cryptography -Two Theoretical Approaches to Achieve Security,” JSPS-DST Asian Academic Seminar 2013 (AAS 2013), Japan, 2013.