

Kai-Min Chung

Institute of Information Science, Academia Sinica
Room 716 New Building
No 128, Academia Road, Section 2
Nankang, Taipei 11529, Taiwan

886-2-2788-3799 #1716
kmchung@iis.sinica.edu.tw
<http://www.iis.sinica.edu.tw/pages/kmchung/>
<http://www.iis.sinica.edu.tw/~kmchung/>

CURRENT POSITION

Research Fellow Feb. 2020 – Present
Institute of Information Science, Academia Sinica, Taiwan

PREVIOUS POSITION

Associate Research Fellow Mar. 2015 – Feb. 2020
Institute of Information Science, Academia Sinica, Taiwan

Assistant Research Fellow Sep. 2013 – Mar. 2015
Institute of Information Science, Academia Sinica, Taiwan

Postdoctoral Research Associate Aug. 2010 – Aug. 2013
Cornell University, Ithaca NY, USA
• Advisor: Rafael Pass
• *Simons Postdoctoral Fellowship (Aug. 2010 – Aug. 2012)*

EDUCATION

Harvard University, Cambridge MA, USA
Ph.D. in Computer Science Sep. 2005 – Mar. 2011
• Advisor: Salil P. Vadhan
• Thesis: *Efficient Parallel Repetition Theorems with Applications to Security Amplification*
• Visiting student at University of California, Berkeley Sep. 2007 – Jun. 2008

National Taiwan University, Taipei, Taiwan
Bachelor of Science in Engineering Sep. 1999 – Jun. 2003
• Major: Computer Science & Information Engineering; Minor: Mathematics

RESEARCH INTERESTS

Quantum Cryptography and Quantum Complexity Theory

HONORS AND AWARDS

MOST Outstanding Research Award 2021

Academia Sinica Investigator Award 2021
associated with a five-year funding for research on “Theoretical Exploration in Quantum Cryptography”

Academia Sinica Research Award for Junior Research Investigators 2020

MOST Ta-You Wu Memorial Award 2018

IICM K. T. Li Young Researcher Award	2017
FAOS Young Scholar Creative Research Award	2017
Academia Sinica Career Development Award associated with a five-year funding for research on “Crypto for Modern Cloud Architecture and Post-quantum Crypto against Quantum Side-Info”	2016
Simons-Berkeley Research Fellowships in Cryptography	2015
Li Foundation Heritage Prize	2014
Simons Postdoctoral Fellowship	2010
Best Student Paper Award at TCC 2010 for paper “Parallel Repetition Theorems for Interactive Arguments” (with Feng-Hao Liu)	2010

SYNERGISTIC ACTIVITIES

General Chair

- 21st IACR Theory of Cryptography Conference (TCC 2023)
- 28th Annual International Conference on The Theory and Application of Cryptology and Information Security (Asiacrypt 2022)
- 12th International Conference on Quantum Cryptography (QCrypt 2022)
- 19th International Conference on the Theory and Practice of Public-Key Cryptography (PKC 2016)

Organizing Committee

- 16th Asian Quantum Information Science Conference (AQIS 2016)

Organizer

- Theory Day in Taiwan 2020, Winter Theory Workshop
- Theory Day in Taiwan 2020, New Year Special
- Theory Day in Taiwan 2019-A, B
- Theory Day in Taiwan 2018, Post X-mas Special
- Theory Day in Taiwan 2017-A, B, C
- Theory Day in Taiwan 2016-A, B

Program Chair

- 4th Information-Theoretic Cryptography conference (ITC 2023)

Program Committee

- 42nd Annual International Cryptology Conference (CRYPTO 2023)
- 26th Annual Conference on Quantum Information Processing (QIP 2023)
- 63rd Annual IEEE Symposium on Foundations of Computer Science (FOCS 2022)

- 54th Annual ACM Symposium on Theory of Computing (STOC 2022)
- 17th Conference on the Theory of Quantum Computation, Communication and Cryptography (TQC 2022)
- 3rd Conference on Information-Theoretic Cryptography (ITC 2022)
- 2nd Conference on Information-Theoretic Cryptography (ITC 2021)
- 27th Annual International Conference on The Theory and Application of Cryptology and Information Security (Asiacrypt 2021)
- 40th Annual International Conference on the Theory and Applications of Cryptographic Techniques (EUROCRYPT 2021)
- 18th IACR Theory of Cryptography Conference (TCC 2020)
- Conference on Information-Theoretic Cryptography (ITC 2020)
- 23rd International Conference on the Theory and Practice of Public-Key Cryptography (PKC 2020)
- 17th IACR Theory of Cryptography Conference (TCC 2019)
- 38th Annual International Cryptology Conference (CRYPTO 2019)
- 38th Annual International Conference on the Theory and Applications of Cryptographic Techniques (EUROCRYPT 2019)
- 29th International Symposium on Algorithms and Computation (ISAAC 2018)
- 8th International Conference on Quantum Cryptography (QCrypt 2018)
- 21st International Conference on the Theory and Practice of Public-Key Cryptography (PKC 2018)
- 23rd Annual International Conference on the Theory and Application of Cryptology and Information Security (Asiacrypt 2017)
- 15th IACR Theory of Cryptography Conference (TCC2017)
- 32nd Computational Complexity Conference (CCC 2017)
- 14th IACR Theory of Cryptography Conference-B (TCC2016)
- 21st Annual International Conference on the Theory and Application of Cryptology and Information Security (ASIACRYPT 2015)
- 26th International Symposium on Algorithms and Computation (ISAAC 2015)
- 12th Theory of Cryptography Conference (TCC 2015)
- 11th Theory of Cryptography Conference (TCC 2014)
- 20th Annual International Conference on the Theory and Application of Cryptology and Information Security (ASIACRYPT 2014)
- 33rd Annual International Cryptology Conference (CRYPTO 2013)

Editor

- ACM Computing Surveys (CSUR) Nov. 2021 - present
- ACM Transactions on Computation Theory (TOCT) Jan. 2021 - present
- Journal of Information Science and Engineering (JISE) Jan. 2020 - present

Association Director

- Taiwan Association of Quantum Computation and Information Technology Nov. 2020 - present
- Algorithm and Computation Theory Association (ACTA) Feb. 2020 - present

GRANTS

- Theoretical Development in Quantum Computer Science (1/5)** 2022-2023
 Funded by Ministry of Science and Technology, Taiwan.
 PI: Kai-Min Chung, Bo-Yin Yang, Yu-Fang Chen and Han-Hsuan Lin
 (No: 111-2119-M-001-004)
- Academia Sinica 2021 Investigator Award** 2021-2025
 Funded by Academia Sinica, Taiwan.
- Cryptography, a Challenge in the Age of Quantum Computing** 2021-2024
 Funded by Academia Sinica, Taiwan.
 PI: Bo-Yin Yang, Kai-Min Chung, and Bow-Yaw Wang
- Secure Multiparty Quantum Computation** 2020-2022
 Funded by Air Force Office of Science Research (AFOSR), USA.
- Theoretical Challenges and Opportunities in Post-Quantum Cryptography** 2020-2023
 Funded by Ministry of Science and Technology, Taiwan.
 (No: 109-2223-E-001-001-MY3)
- Silicon-based quantum devices, quantum computing and quantum communication**
Sub-project 4: Quantum communication and cryptography 2018-2023
 Funded by Ministry of Science and Technology, Taiwan.
 (No: 107-2627-E-002-002)
- Crypto for Modern Cloud Architecture** 2017-2020
 Funded by Ministry of Science and Technology, Taiwan.
 (No: 106-2628-E-001-002-MY3)
- The Young Scholars' Creativity Award** 2017-2019
 Funded by Foundation for the Advancement of Outstanding Scholarship, Taiwan.
- Academia Sinica 2016 Career Development Award** 2016-2020
 Funded by Academia Sinica, Taiwan.
- Li Foundation Heritage Prize for "Excellence in Creativity"** 2014-2015
 Funded by The Li Foundation, Inc., USA.
- Advancing New Age Cryptography—New Assumptions, Tasks, and Challenges** 2014-2017
 Funded by Ministry of Science and Technology, Taiwan.
 (No: 103-2221-E-001-022-MY3)
- Short-term Abroad Research Program** Jan.-Dec. 2015
 Funded by Ministry of Science and Technology, Taiwan.

PATENTS

Rafael Pass, Elette Boyle, Kai-Min Chung. 2014. Oblivious Parallel Random Access Machine System and Methods.

U.S. Provisional Patent Application No. 15/329,730, filed July 31, 2015.

Yaoyun Shi, Kai-Min Chung, Xiaodi Wu. 2014. Extraction of Random Numbers from Physical Systems.

U.S. Provisional Patent Application No. 61/927,472, filed January 14, 2014. Patent issued date: October 18, 2016, Patent No. 9471280

CONFERENCE PUBLICATIONS

[73] *AutoQ: An Automata-based Quantum Circuit Verifier*

Yu-Fang Chen, Kai-Min Chung, Ondrej Lengal, Jyun-Ao Lin, Wei-Lun Tsai, Di-De Yen
in proceedings of 35th International Conference on Computer Aided Verification (CAV), 2023.

[72] *On the Impossibility of General Parallel Fast-forwarding of Hamiltonian Simulation*

Nai-Hui Chia, Kai-Min Chung, Yao-Ching Hsieh, Han-Hsuan Lin, Yao-Ting Lin, Yu-Ching Shen
to appear in The Computational Complexity Conference (CCC), 2023.

[71] *An Automata-based Framework for Verification and Bug Hunting in Quantum Circuits*

Yu-Fang Chen, Kai-Min Chung, Ondřej Lengál, Jyun-Ao Lin, Wei-Lun Tsai, Di-De Yen
to appear in The 44th ACM SIGPLAN Conference on Programming Language Design and Implementation (PLDI), 2023.

[70] *Black-Box Separations for Non-Interactive Commitments in a Quantum World*

Kai-Min Chung, Yao-Ting Lin, Mohammad Mahmoody
to appear in The 42nd Annual International Conference on the Theory and Applications of Cryptology and Information Security (EUROCRYPT), 2023.

[69] *Collusion-Resistant Functional Encryption for RAMs*

Prabhanjan Ananth, Kai-Min Chung, Xiong Fan, Luowen Qian
In The 28th Annual International Conference on the Theory and Applications of Cryptology and Information Security (ASIACRYPT), 2022.

[68] *On the Impossibility of Key Agreements from Quantum Random Oracles*

Per Austrin, Hao Chung, Kai-Min Chung, Shiuan Fu, Yao-Ting Lin, Mohammad Mahmoody
In proceeding of The 42nd International Cryptology Conference (CRYPTO), 2022.

[67] *Post-Quantum Simulatable Extraction with Minimal Assumptions: Black-Box and Constant-Round*

Nai-Hui Chia, Kai-Min Chung, Xiao Liang, Takashi Yamakawa
In proceeding of The 42nd International Cryptology Conference (CRYPTO), 2022.

[66] *Constant-round Blind Classical Verification of Quantum Sampling*

Kai-Min Chung, Yi Lee, Han-Hsuan Lin, Xiaodi Wu
In proceeding of The 41st Annual International Conference on the Theory and Applications of Cryptology and Information Security (Eurocrypt), 2022.

[65] *A Note on the Post-Quantum Security of (Ring) Signatures*

Rohit Chatterjee, Kai-Min Chung, Xiao Liang and Giulio Malavolta
In proceedings of The 25th Practice and Theory of Public-Key Cryptography (PKC), 2022.

- [64] *On the Impossibility of Post-Quantum Black-Box Zero-Knowledge in Constant Rounds*
Nai-Hui Chia, Kai-Min Chung, Qipeng Liu and Takashi Yamakawa
In proceedings of The 62nd Annual IEEE Symposium on Foundations of Computer Science (**FOCS**), 2021.
Contributed talk at the 11th International Conference on Quantum Cryptography (**QCrypt**), 2021.
• Merged with Black-Box Approach to Post-Quantum Zero-Knowledge in Constant Round

Contributed talk at the 25th Annual Conference on Quantum Information Processing (**QIP**), 2022.
• Merged with Black-Box Approach to Post-Quantum Zero-Knowledge in Constant Round
- [63] *On the Concurrent Composition of Quantum Zero-Knowledge*
Prabhanjan Ananth, Kai-Min Chung, and Rolando L. La Placa
In proceedings of The 41st International Cryptology Conference (**CRYPTO**), 2021.
- [62] *Round Efficient Secure Multiparty Quantum Computation with Identifiable Abort*
Bar Alon, Hao Chung, Kai-Min Chung, Mi-Ying Huang, Yi Lee, and Yu-Ching Shen
In proceedings of The 41st International Cryptology Conference (**CRYPTO**), 2021.
- [61] *Game-Theoretic Fairness Meets Multi-Party Protocols: The Case of Leader Election*
Kai-Min Chung, T-H. Hubert Chan, Ting Wen, and Elaine Shi
In proceedings of The 41st International Cryptology Conference (**CRYPTO**), 2021.
- [60] *A Black-Box Approach to Post-Quantum Zero-Knowledge in Constant Rounds*
Nai-Hui Chia, Kai-Min Chung, and Takashi Yamakawa
In proceedings of The 41st International Cryptology Conference (**CRYPTO**), 2021.
- [59] *Sample Efficient Algorithms for Learning Quantum Channels in PAC Model and the Approximate State Discrimination Problem*
Kai-Min Chung and Han-Hsuan Lin
In proceedings of The 16th Conference on the Theory of Quantum Computation, Communication and Cryptography (**TQC**), 2021.
- [58] *On the Compressed-Oracle Technique, and Post-Quantum Security of Proofs of Sequential Work*
Kai-Min Chung, Serge Fehr, Yu-Hsuan Huang, Tai-Ning Liao
In proceedings of The 40th Annual International Conference on the Theory and Applications of Cryptographic Techniques (**Eurocrypt**), 2021.
Contributed talk at the 11th International Conference on Quantum Cryptography (**QCrypt**), 2021.
- [57] *Classical Verification of Quantum Computations with Efficient Verifier*
Nai-Hui Chia, Kai-Min Chung, Takashi Yamakawa
In proceedings of The 18th Theory of Cryptography Conference (**TCC**), 2020.
- [56] *Tight Quantum Time-Space Tradeoffs for Function Inversion*
Kai-Min Chung, Siyao Guo, Qipeng Liu and Luowen Qian
In proceedings of The 61st Annual IEEE Symposium on Foundations of Computer Science (**FOCS**), 2020.
- [55] *On the Hardness of Massively Parallel Computation*
Kai-Min Chung, Kuan-Yi Ho and Xiaorui Sun
In proceedings of The 32nd ACM Symposium on Parallelism in Algorithms and Architectures (**SPAA**), 2020.
- [54] *Lower Bounds for Function Inversion with Quantum Advice*
Kai-Min Chung, Tai-Ning Liao and Luowen Qian
In proceedings of The 1st Information-Theoretic Cryptography (**ITC**), 2020.

- [53] *MPC for MPC: Secure Computation on a Massively Parallel Computing Architecture*
T-H. Hubert Chan, Kai-Min Chung, Wei-Kai Lin and Elaine Shi
In proceedings of The 11th Innovations in Theoretical Computer Science (**ITCS**), 2020.
- [52] *On the Need for Large Quantum Depth*
Nai-Hui Chia, Kai-Min Chung, Ching-Yi Lai
In proceedings of STOC, 2020 (**STOC**), 2020.
Contributed talk at the 23rd Annual Conference on Quantum Information Processing (**QIP**), 2020.
- [51] *Adaptively Secure Garbling Schemes for Parallel Computations*
Kai-Min Chung and Luowen Qian
In proceedings of The 17th Theory of Cryptography Conference (**TCC**), 2019.
- [50] *Interactive Leakage Chain Rule for Quantum Min-entropy*,
Kai-Min Chung and Ching-Yi Lai
In proceedings of The 2019 IEEE International Symposium on Information Theory, 2019 (**ISIT**), 2019.
- [49] *A Quantum-Proof Non-Malleable Extractor With Application to Privacy Amplification against Active Quantum Adversaries*
Divesh Aggarwal, Kai-Min Chung, Han-hsuan Lin and Thomas Vidick
In proceedings of The 38th Annual International Conference on the Theory and Applications of Cryptographic Techniques (**Eurocrypt**), 2019.
- [48] *On Quantum Advantage in Information Theoretic Single-Server PIR*
Dorit Aharonov, Zvika Brakerski, Kai-Min Chung, Ayal Green, Ching-Yi Lai and Or Sattath
In proceedings of The 38th Annual International Conference on the Theory and Applications of Cryptographic Techniques (**Eurocrypt**), 2019.
- [47] *Foundations of Differentially Oblivious Algorithms*
T-H. Hubert Chan, Kai-Min Chung, Bruce Maggs and Elaine Shi
In proceedings of ACM-SIAM Symposium on Discrete Algorithms (**SODA**), 2019.
- [46] *On the Algorithmic Power of Spiking Neural Networks*
Kai-Min Chung, Chi-Ning Chou and Chi-Jen Lu
In proceedings of The 10th Innovations in Theoretical Computer Science (**ITCS**), 2019.
- [45] *Game Theoretic Notions of Fairness in Multi-Party Coin Toss*
Kai-Min Chung, Yue Guo, Wei-Kai Lin, Rafael Pass and Elaine Shi
In proceedings of the 16th Theory of Cryptography Conference (**TCC**), 2018.
- [44] *On the Complexity of Simulating Auxiliary Input*
Yi-Hsiu Chen, Kai-Min Chung, and Jyun-Jie Liao
In proceedings of the 37th Annual International Conference on the Theory and Applications of Cryptographic Techniques (**EUROCRYPT**), 2018.
- [43] *On the Depth of Oblivious Parallel RAM*
T-H. Hubert Chan, Kai-Min Chung, Elaine Shi
In proceedings of the 23rd Annual International Conference on the Theory and Applications of Cryptology and Information Security (**ASIACRYPT**), 2017.
- [42] *Computational Notions of Quantum Min-Entropy*
Yi-Hsiu Chen, Kai-Min Chung, Ching-Yi Lai, Salil Vadhan and Xiaodi Wu
Contributed talk at the 7th International Conference on Quantum Cryptography (**QCrypt**), 2017.

- [41] *General Randomness Amplification with Non-signaling Security*
Kai-Min Chung and Yaoyun Shi and Xiaodi Wu
Contributed talk at the 20th Annual Conference on Quantum Information Processing (**QIP**), 2017.
- [40] *Delegating RAM Computations with Adaptive Soundness and Privacy*
Prabhanjan Ananth and Yu-Chi Chen and Kai-Min Chung and Huijia Lin and Wei-Kai Lin
In proceedings of the 14th Theory of Cryptography Conference (**TCC-B**), 2016.
- [39] *Cryptography for Parallel RAM via Indistinguishability Obfuscation*
Yu-Chi Chen and Sherman S. M. Chow and Kai-Min Chung and Russell W. F. Lai and Wei-Kai Lin and Hong-Sheng Zhou
In proceedings of the 7th Innovations in Theoretical Computer Science (**ITCS**), 2016.
- [38] *Oblivious Parallel RAM and Applications*
Elette Boyle and Kai-Min Chung and Rafael Pass
In proceedings of the 13th Theory of Cryptography Conference (**TCC**), 2016.
- [37] *Large-Scale Secure Computation: Multi-party Computation for (Parallel) RAM Programs*
Elette Boyle and Kai-Min Chung and Rafael Pass
In proceedings of the 35th International Cryptology Conference (**Crypto**), 2015.
- [36] *Constant-Round Concurrent Zero-knowledge from Indistinguishability Obfuscation*
Kai-Min Chung and Huijia Lin and Rafael Pass
In proceedings of the 35th International Cryptology Conference (**Crypto**), 2015.
- [35] *Parallel Repetition for Entangled k -player Games via Fast Quantum Search*
Xiaodi Wu and Kai-Min Chung and Henry S. Yuen
In proceedings of the 30th Computational Complexity Conference (**CCC**), 2015.
- [34] *Tight Parallel Repetition Theorems for Public-Coin Arguments using KL -divergence*
Kai-Min Chung and Rafael Pass
In proceedings of the 12th Theory of Cryptography Conference (**TCC**), 2015.
- [33] *From Weak to Strong Zero-Knowledge and Applications*
Kai-Min Chung and Edward Lui and Rafael Pass
In proceedings of the 12th Theory of Cryptography Conference (**TCC**), 2015.
- [32] *Statistically-secure ORAM with $\tilde{O}(\log^2 n)$ Overhead*
Kai-Min Chung and Zhenming Liu and Rafael Pass
In proceedings of the 20th Annual International Conference on the Theory and Application of Cryptology and Information Security (**ASIACRYPT**), 2014.
- [31] *On the Impossibility of Cryptography with Tamperable Randomness*
Per Austrin and Kai-Min Chung and Mohammad Mahmoody and Rafael Pass and Karn Seth
Algorithmica, 79(4):1052-1101, December 2017
In proceedings of the 34th International Cryptology Conference (**CRYPTO**), 2014.
- [30] *Distributed Algorithms for the Lovasz Local Lemma and Graph Coloring*
Kai-Min Chung and Seth Pettie and Hsin-Hao Su
In proceedings of the 2014 ACM Symposium on Principles of Distributed Computing (**PODC**), 2014.
- [29] *Physical Randomness Extractors: Generating Random Numbers with Minimal Assumptions*
Kai-Min Chung and Yaoyun Shi and Xiaodi Wu

- Accepted as a *plenary talk* (joint with “Robust Protocols for Securely Expanding Randomness and Distributing Keys Using Untrusted Quantum Devices” by Carl Miller and Yaoyun Shi) at the 17th Conference on Quantum Information Processing (**QIP**), 2014.
- [28] *On Extractability (a.k.a. Differing-Inputs) Obfuscation*
Elette Boyle and Kai-Min Chung and Rafael Pass
In proceedings of the 11th IACR Theory of Cryptography Conference (**TCC**), 2014.
- [27] *4-Round Resettably-Sound Zero Knowledge*
Kai-Min Chung and Rafail Ostrovsky and Rafael Pass and Muthuramakrishnan Venkitasubramaniam and Ivan Visconti
In proceedings of the 11th IACR Theory of Cryptography Conference (**TCC**), 2014.
- [26] *Multi-Source Randomness Extractors Against Quantum Side Information, and their Applications*
Kai-Min Chung and Xin Li and Xiaodi Wu
In proceedings of ECCO 2014 (**ECCC**), 2014
- [25] *Interactive Coding, Revisited*
Kai-Min Chung and Rafael Pass and Sidharth Telang
In proceedings of the 54th Annual IEEE Symposium on Foundations of Computer Science (**FOCS**), 2013
- [24] *Constant-Round Concurrent Zero Knowledge From P-Certificates*
Kai-Min Chung and Huijia Lin and Rafael Pass
In proceedings of the 54th Annual IEEE Symposium on Foundations of Computer Science (**FOCS**), 2013
- [23] *Simultaneous Resettability from One-Way Functions*
Kai-Min Chung and Rafail Ostrovsky and Rafael Pass and Ivan Visconti
In proceedings of the 54th Annual IEEE Symposium on Foundations of Computer Science (**FOCS**), 2013
- [22] *Why Simple Hash Functions Work: Exploiting the Entropy in a Data Stream*
Kai-Min Chung and Michael Mitzenmacher and Salil P. Vadhan
Theory of Computing, 9(30):897–945, 2013
- [21] *Functional Encryption from (Small) Hardware Tokens*
Kai-Min Chung and Jonathan Katz and Hong-Sheng Zhou
In proceedings of the 19th Annual International Conference on the Theory and Application of Cryptology and Information Security (**ASIACRYPT**), 2013
- [20] *Non-Black-Box Simulation from One-Way Functions And Applications to Resettable Security*
Kai-Min Chung and Rafael Pass and Karn Seth
In proceedings of the 45th ACM Symposium on Theory of Computing (**STOC**), 2013.
- [19] *On the Lattice Smoothing Parameter Problem*
Kai-Min Chung and Daniel Dadush and Feng-Hao Liu and Chris Peikert
In proceedings of the 28nd Annual IEEE Conference on Computational Complexity (**CCC**), 2013.
- [18] *Parallel Repetition Theorems for Interactive Arguments*
Kai-Min Chung and Rafael Pass
SIGACT News, Complexity Theory Column, Volumn 44 Issue 1, March 2013.
- [17] *Randomness-Dependent Message Security*
Eleanor Birrell and Kai-Min Chung and Rafael Pass and Sidharth Telang
In proceedings of the 10th IACR Theory of Cryptography Conference (**TCC**), 2013.

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- [16] *Can Theories be Tested? A Cryptographic Treatment of Forecast Testing*
Kai-Min Chung and Edward Lui and Rafael Pass
In proceedings of the 4th Innovations in Theoretical Computer Science (**ITCS**), 2013
- [15] *On the Power of Nonuniformity in Proofs of Security*
Kai-Min Chung and Huijia Lin and Mohammad Mahmoody and Rafael Pass
In proceedings of the 4th Innovations in Theoretical Computer Science (**ITCS**), 2013
- [14] *The Knowledge Tightness of Parallel Zero-Knowledge*
Kai-Min Chung and Rafael Pass and Wei-Lung Dustin Tseng
In proceedings of the 9th IACR Theory of Cryptography Conference (**TCC**), 2012
- [13] *Chernoff-Hoeffding Bounds for Markov Chains: Generalized and Simplified*
Kai-Min Chung and Henry Lam and Zhenming Liu and Michael Mitzenmacher
In proceedings of the 28th International Symposium on Theoretical Aspects of Computer Science (**STACS**), 2012
- [12] *The Randomness Complexity of Parallel Repetition*
Kai-Min Chung and Rafael Pass
In proceedings of the 52nd Annual IEEE Symposium on Foundations of Computer Science (**FOCS**), 2011
- [11] *Memory Delegation*
Kai-Min Chung and Yael Tauman Kalai and Feng-Hao Liu and Ran Raz
In proceedings of the 31st Annual Cryptology Conference (**CRYPTO**), 2011
- [10] *Efficient Secure Two-Party Exponentiation*
Ching-Hua Yu and Sherman S.M. Chow and Kai-Min Chung and Feng-Hao Liu
In proceedings of the Cryptographer's Track at the RSA Conference (**CT-RSA**), 2011
- [9] *Improved Delegation of Computation Using Fully Homomorphic Encryption*
Kai-Min Chung and Yael Tauman Kalai and Salil P. Vadhan
In proceedings of the 30th Annual Cryptology Conference (**CRYPTO**), 2010
- [8] *Efficient String-commitment From Weak Bit-commitment*
Kai-Min Chung and Feng-Hao Liu and Chi-Jen Lu and Bo-Yin Yang
In proceedings of the 16th Annual International Conference on the Theory and Application of Cryptology and Information Security (**ASIACRYPT**), 2010
- [7] *Parallel Repetition Theorems for Interactive Arguments*
Kai-Min Chung and Feng-Hao Liu
In proceedings of the 7th IACR Theory of Cryptography Conference (**TCC**), 2010
Best Student Paper ; invited to Journal of Cryptology.
- [6] *AMS Without 4-Wise Independence on Product Domains*
Vladimir Braverman and Kai-Min Chung and Zhenming Liu and Michael Mitzenmacher and Rafail Ostrovsky
In the proceedings of the 26th International Symposium on Theoretical Aspects of Computer Science (**STACS**), 2010
- [5] *Tight Bounds for Hashing Block Sources*
Kai-Min Chung and Salil Vadhan
In proceedings of Approximation, Randomization and Combinatorial Optimization. Algorithms and Techniques, 12th International Workshop, RANDOM 2008 (**RANDOM**), 2008

- [4] *S-t Connectivity on Digraphs with a Known Stationary Distribution*
Kai-Min Chung and Omer Reingold and Salil Vadhan
In proceedings of the 22nd Annual IEEE Conference on Computational Complexity (CCC), 2007
ACM Transactions on Algorithms, 7(3):30, 2011
- [3] *An Optimal Algorithm for Maximum-Density Segment Problem*
Kai-Min Chung and Hsueh-I Lu
In proceedings of European Symposium on Algorithms (ESA), 2003
SIAM Journal on Computing, 34(2):373-387, 2004
- [2] *Decomposition Methods for Linear Support Vector Machines, Neural Computation*
Kai-Min Chung and Wei-Chun Kao and Chia-Liang Sun and Chih-Jen Lin
In proceedings of International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2003.
Neural Computation, 16:1689-1704, 2004.
- [1] *Radius Margin Bounds for Support Vector Machines with RBF Kernel*
Kai-Min Chung and Wei-Chun Kao and Chia-Liang Sun and Li Lun Wang, Chih-Jen Lin
In proceedings of International Conference on Neural Information Processing (ICONIP), 2002
Neural Computation, 15:2654-2681, 2003.

JOURNAL PUBLICATIONS

- [15] *On the Need for Large Quantum Depth*
Nai-Hui Chia, Kai-Min Chung, Ching-Yi Lai
The Journal of the ACM (JACM), 70(6), February 2023
- [14] *Foundations of Differentially Oblivious Algorithms*
T-H. Hubert Chan, Kai-Min Chung, Bruce Maggs, Elaine Shi
The Journal of the ACM (JACM), 69(4), August 2022, Featured Article
- [13] *Cryptography with Disposable Backdoors*
Kai-Min Chung, Marios Georgiou, Ching-Yi Lai and Vassilis Zikas
Cryptography, 3(3): 22, September 2019
- [12] *Quantum encryption and generalized Shannon impossibility*
Ching-Yi Lai and Kai-Min Chung
Design, Codes and Cryptography, 87(9), 1961-1972, January 2019
- [11] *On Statistically-Secure Quantum Homomorphic Encryption*
Ching-Yi Lai and Kai-Min Chung
Quantum Information and Computation, 18(9-10): 785-794, August 2018
- [10] *Space-efficient classical and quantum algorithms for the shortest vector problem*
Ching-Yi Lai and Yanlin Chen and Kai-Min Chung
Quantum Information and Computation, 18(3 & 4): 285-306, January 2018
- [9] *On the Impossibility of Cryptography with Tamperable Randomness*
Per Austrin and Kai-Min Chung and Mohammad Mahmoody and Rafael Pass and Karn Seth
Algorithmica, 79(4):1052-1101, December 2017
- [8] *Distributed algorithms for the Lovász local lemma and graph coloring*
Kai-Min Chung, Seth Pettie, and Hsin-Hao Su
Distributed Computing, 30(4):261-280, August 2017

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- [7] *Non-Black-Box Simulation from One-Way Functions And Applications to Resettable Security*
Kai-Min Chung and Rafael Pass and Karn Seth
SIAM Journal on Computing, 45(2):415-458, May 2016
- [6] *Guest column: parallel repetition theorems for interactive arguments.*
Kai-Min Chung and Rafael Pass
SIGACT News, 44(1): 50-69, 2013
- [5] *Why Simple Hash Functions Work: Exploiting the Entropy in a Data Stream.*
Kai-Min Chung and Michael Mitzenmacher and Salil P. Vadhan
Theory of Computing, 9: 897-945, 2013
- [4] *S-T Connectivity on Digraphs with a Known Stationary Distribution*
Kai-Min Chung and Omer Reingold and Salil Vadhan
ACM Transactions on Algorithms, 7(3):30, 2011
- [3] *Decomposition Methods for Linear Support Vector Machines*
Kai-Min Chung and Wei-Chun Kao and Chia-Liang Sun and Chih-Jen Lin
Neural Computation, volume16, number8, pages1689-1704, August 2004
- [2] *An Optimal Algorithm for Maximum-Density Segment Problem*
Kai-Min Chung and Hsueh-I Lu
SIAM Journal on Computing, 34(2):373-387, 2004
- [1] *Radius Margin Bounds for Support Vector Machines with RBF Kernel*
Kai-Min Chung and Wei-Chun Kao and Chia-Liang Sun and Li Lun Wang, Chih-Jen Lin
Neural Computation, 15: 2654-2681, 2003.

MANUSCRIPTS

- [3] *Leakage Chain Rule and Superdense Coding*
Kai-Min Chung and Ching-Yi Lai and Yi-Hsiu Chen and Xiaodi Wu
Manuscript, 2017
- [2] *A Simple ORAM*
Kai-Min Chung and Rafael Pass
Manuscript, 2014
- [1] *Unprovable Security of Two-Message Zero-Knowledge*
Kai-Min Chung and Edward Lui and Mohammad Mahmoody and Rafael Pass
Manuscript, 2013

BOOK CHAPTER

- [1] *When Simple Hash Functions Suffices*
Kai-Min Chung and Michael Mitzenmacher and Salil Vadhan
Beyond the Worst-Case Analysis of Algorithms, Chapter 26, 2020

RESEARCH ADVISING

Postdoctoral Fellows
Chia-Liang Sun

Aug. 2021-Present

- Ph.D., Mathematics, University of Texas at Austin, USA
- Research on Mathematics

Jyun-Ao Lin Oct. 2020-Present

- Ph.D., Mathematics, Paris Diderot University 7, France
- Research on Mathematics

Gelo Noel Tabia (co-advised with Prof. Yeong-Cherng Liang) Oct. 2018-Present

- Ph.D., Department of Physics and Astronomy, University of Waterloo, Canada
- Research on Quantum Cryptography

Ching-Yi Lai Sep. 2015-Jul. 2018

- Ph.D., Electrical Engineering, University of Southern California, Los Angeles
- Research on Quantum Information Theory and Quantum Cryptography
- Now as an assistant professor at Inst. of Comm. Eng., National Chiao Tung University

Yu-Chi Chen Jan. 2014-Jul. 2017

- Ph.D., Computer Science, National Chung Hsing University
- Research on Cryptography
- Now as an assistant professor at Dept. of Comp. Sci. and Engineering, Yuan Ze University

Han-Hsuan Lin Oct. 2016-Nov. 2016

- Ph.D., Physics, Massachusetts Institute of Technology
- Research on Quantum Information
- Now as a postdoc at UT Austin

Research Assistants

Er-Cheng Tang Aug. 2022-Present

- M.S., Department of Mathematics, National Taiwan University
- Research on Cryptography, Quantum Information

Tzu-Hsiang Huang Jul. 2022-Present

- B.S., Department of Computer Science and Information Engineering, National Taiwan University
- Research on Cryptography

Jhih-Wei Shih Aug. 2021-Present

- B.S., Department of Electrical Engineering, National Taiwan Normal University
- Research on Algorithms, Computational Complexity

Hsiao-Yu Hu Mar. 2021- Aug. 2022

- B.S., Department of Industrial Engineering and Engineering Management, National Tsing Hua University
- Research on Algorithms

Wei-Hsiang Hung Oct. 2020-Present

- B.S., Interdisciplinary Program of Electrical Engineering and Computer Science, National Tsing Hua University.
- Research on Cryptography

Yao-Ching Hsieh Jul. 2020-Aug. 2022

- B.S., Computer Science and Information Engineering, National Taiwan University.
- Research on Cryptography

Yuan-Ho Yao Apr. 2020-Mar. 2021

- M.S., Philosophy, National Yang Min University
- Research on Communication Complexity

Yao-Ting Lin Jan. 2020-Sep. 2022

- M.S., Department of Physics, National Taiwan University.
- Research on Cryptography, Quantum Information

Shiuan Fu Dec. 2019-May. 2022

- M.S., Mathematics, National Taiwan University.
- Research on Cryptography, Algorithms, Quantum Information, Computational Complexity

Yi-Hsin Ma Jul. 2019-Apr. 2021

- M.S., Department of Applied Mathematics, National Chiao-Tung University.
- Research on Quantum Information

Yu-Ching Shen Jun. 2019-Present

- M.S., Department of Physics, National Taiwan University.
- Research on Cryptography

Yi Lee Mar. 2019-Nov. 2020

- M.S., Department of Mathematics, Johns Hopkins University.
- PhD student, University of Maryland
- Research on Cryptography, Quantum Information

Chun-Hsiang Chan Sep. 2018-Jul. 2019

- B.S., Electrical Engineering, National Taiwan University
- Research on Cryptography

Hao-Ting Wei Sep. 2018-Mar. 2019

- M.S., Department of Industrial Engineering, National Tsing Hua University.
- Research on Algorithms

Hao Chung Aug. 2018-Feb. 2021

- M.S., Electrical Engineering, National Taiwan University
- PhD student, Carnegie Mellon University
- Research on Cryptography, Quantum Information

Mi-Ying Huang Jul. 2018- Aug. 2021

- B.S. Student, Department of Electrophysics, National Chiao Tung university
- Ph.D., Computer Science, University of Southern California
- Research in cryptography, complexity theory, and learning theory

Kuan-Yi Ho Dec. 2017-Aug. 2018

- B.S., Electrical Engineering, National Taiwan University
- Research on Algorithms and Complexity

Chun-Peng Chang Sep. 2017-Apr. 2018

- Ph.D., Physics, National Tsing Hua University
- Research on Quantum Key Distribution Protocols

Jyun-Jie Liao Nov. 2016-Aug. 2018

- B.S., Undergraduate Honors Program of Electrical Engineering and Computer Science, National Chiao Tung University
- Research on Computational Complexity and Algorithms

Yin-Hsun Huang Nov. 2016-Jul. 2017

- B.S., Electrical Engineering, National Taiwan University
- Research on Cryptography

Chi-Ning Chou Jun. 2016-Jul. 2017

- B.S., Computer Science, National Taiwan University
- Research on Computational Complexity and Algorithms

Yan-Lin Chen Jul. 2016-Jun. 2020

- M.S., Electrical Engineering, National Taiwan University
- PhD student, Centrum Wiskunde en Informatica
- Research on Quantum Information and Cryptography

Tsung-Hsuan Hung Jul. 2015-Jan. 2017

- M.S., Mathematical Modeling and Scientific Computing, National Chiao Tung University
- Research on Cryptography

Wei-Kai Lin Nov. 2014-Jul. 2016

- M.S., Electrical Engineering, National Taiwan University
- Research on Cryptography

Graduate Students

Tong-Nong Lin Aug. 2018-Jul. 2019

- M.S. Student, Electrical Engineering, National Taiwan University
- Research on Algorithm and Complexity

Hsien-Ming Pan Sep. 2018-June. 2020

- M.S. Student, Department of Mathematics, National Tsing Hua University

I-Hung Hsu Sep. 2017-Jun. 2019

- M.S. Student, Department of Mathematics, National Tsing Hua University
- Research on Algorithm and Complexity

Tsung-Hsuan Hung Feb. 2017-Aug. 2018

- Ph.D. student, Computer Science and Information Engineering, National Taiwan University

- Research on Cryptography

Hao Chung (co-advised) Jul. 2016-Aug. 2018

- M.S., Electrical Engineering, National Taiwan University

- Research on Cryptography, Quantum Information

Chiao-Hsun Wang Sep. 2015-Aug. 2017

- M.S. Student, Physics Department, National Taiwan University

- Research on Quantum Cryptography

Yan-Lin Chan (co-advised) May 2014-Jun. 2016

- M.S. Student, Electrical Engineering, National Taiwan University

- Research on Quantum Information and Cryptography

Kai-Bin Huang (short-term co-advised) May 2014-Dec. 2014

- Ph.D. student, Computer Science, National Chengchi University

- Research on Cryptography

Undergraduate Students

Tzu-Hsiang Huang Apr. 2022-Jun. 2022

- Department of Computer Science and Information Engineering, National Taiwan University

- Research on Cryptography

Hsi Tai Jul. 2020-Dec. 2020

- Computer Science, University of Michigan

- Research on Cryptography

Tai-Ning Liao Sep. 2018-Jan. 2020

- Department of Electrical Engineering, National Taiwan University

Chun-Chi Wu Sep. 2018-Feb. 2019

- Department of Electrical Engineering, National Taiwan University

Tun-Yi Chang Feb. 2016-Jul. 2017

- Department of Physics, National Taiwan University

Kuan-Yi Ho Jul. 2016-Jul. 2017

- Electrical Engineering, National Taiwan University

- Research on Algorithm and Complexity

Chi-Ning Chou (summer intern) Jul. 2015-Aug. 2015

- Computer Science, National Taiwan University

- Research on Cryptography

VISITORS HOSTED

Short Term Visitors

Mi-Ying Huang (University of Southern California, USA)	Jun. 13- Aug. 17, 2023
Yao-Ching, Hsieh (University of Washington, USA)	Jun. 12- Jul. 18, 2023
Ethan Yi Lee (University of Maryland, USA)	Jun. 12- Aug. 18, 2023
Eli Goldin (New York University, USA)	Jun. 3- Jul. 31, 2023
Taiga Hiroka (Kyoto University, Japan)	May 22-26, 2023
Minki Hhan (Korea Institute For Advanced Study, Korea)	May 18-27, 2023
Takashi Yamakawa (NTT Social Informatics Laboratories, Japan)	May 15-25, 2023
Tomoyuki Morimae (Kyoto University, Japan)	May 13-21, 2023
Shih-Han Hung (University of Texas at Austin, USA)	Apr. 11-15, 2023
Luca Trevisan (Bocconi University, Italy)	Jan. 5-14, 2023
Chi-Ning Chou (Carnegie Mellon University, USA)	Dec. 30, 2022-Jan. 19, 2023
Hao Chung (Carnegie Mellon University, USA)	Dec. 24, 2022-Jan. 15, 2023
Mi-Ying Huang (University of Southern California)	Dec. 22, 2022-Jan. 4, 2023
Andreas Hülsing (Eindhoven University of Technology, Netherlands)	Dec. 10-15, 2022
Yingkai Ouyang (National University of Singapore, Singapore)	Dec. 10-14, 2022
Christopher Brzuska (Aalto University, Finland)	Dec. 10-18, 2022
Christoph Egger (Institut de Recherche en Informatique Fondamentale, France)	Dec. 10-17, 2022
Dominique Unruh (University of Tartu, Estonia)	Dec. 1-19, 2022
Li Chen (Georgia Institute of Technology, USA)	Sep. 10-25, 2022
Omri Shmueli (Tel Aviv University, Israel)	Sep. 1-10, 2022
Nai-Hui Chia (Indiana University Bloomington, USA)	Jul. 6-8, 2022
Mi-Ying Huang (University of Southern California, USA)	Jul. 2-19, 2022
Kazuo Iwama (RIMS, Kyoto University, Japan)	Jun. 23-26, 2022
Hao Chung (Carnegie Mellon University, USA)	Dec. 31, 2021-Jan. 22, 2022
Yan-Lin Chen (CWI and QuSoft, Netherlands)	Dec. 17, 2021-Jan. 15, 2022
Yan-Lin Chen (CWI and QuSoft, Netherlands)	Dec. 21, 2020-Jan. 15, 2021
Liang Yeong-Cherng (NCKU, Taiwan)	July. 8-15, 2020
Jyun-Ao Lin(Xiamen University Malaysia,Malaysia)	Feb. 14-Mar.22, 2020
Hoeteck Wee (École normale supérieure, France)	Jan. 1-7, 2020
Hubert Chan (The University of Hong Kong, China)	Dec. 23, 2019-Jan. 3, 2020
Elaine Shi (Cornell University, USA)	Dec. 17, 2019-Jan. 10, 2020
Min-Hsiu Hsieh (University of Technology Sydney, Australia)	Nov. 29, 2019-Jan. 25, 2020
Yuyi Wang (ETH Zürich, Switzerland)	Oct. 28-Nov. 7, 2019
Takashi Yamakawa (NTT, Japan)	Oct. 6-Nov. 5, 2019
Han-Hsuan Lin (UTCS,USA)	Aug. 19-Sep. 4, 2019
Hong-Sheng Zhou (Virginia Commonwealth University,USA)	Jul. 2-4, 2019
Penghui Yao (Nanjing University, China)	Feb. 17-28, 2019
Shota Yamada (National Institute of Advanced Industrial Science and Technology)	Apr. 14-21, 2019
Angela Capel Cuevas (ICMAT-Institute of Mathematical Sciences, Spain)	Jun. 25-Sep. 14, 2018
Chen-Fu Chiang (SUNY Polytechnic Institute, USA)	Jun. 6, 2018
Somitra Kumar Sanadhya (IIT Ropar, India)	May 15-Jul. 19, 2018
Amit Kumar Chauhan (IIT Ropar, India)	May 15-Jul. 29, 2018
Min-Hsiu Hsieh (University of Technology Sydney, Australia)	Apr. 2, 2018
Yingkai Ouyang (National University of Singapore, Singapore)	Mar. 14-22, 2018
Zvika Brakersk (Weizmann Institute of Science, Israel)	Feb. 15-24, 2018

Elette Boyle (IDC Herzliya, Israel)	Feb. 15-24, 2018
Yicong Zheng (National University of Singapore, Singapore)	Dec. 3-9, 2017
Danny Chen (University of Notre Dame, USA)	Nov. 26-Dec. 4, 2017
Kharchenko Natalia (Universite Pierre et Marie Curie, France)	Oct. 1-Nov. 30, 2017
Masahito Hayashi (Nagoya University, Japan)	Aug. 27-Sep. 1, 2017
Hao-Chung Cheng (University of Technology Sydney, Australia)	Jul. 10-14, 2017
Yicong Zheng (National University of Singapore, Singapore)	May 7-14, 2017
Xiongfeng Ma (TsingHua University, Beijing, China)	Feb. 13-19, 2017
Min-Hsiu Hsieh (University of Technology Sydney, Australia)	Jan. 25-Feb. 16, 2017
Vassilis Zikas (Rensselaer Polytechnic Institute, New York, USA)	Jan. 5-13, 2017
Luca Trevisan (University of California, Berkeley, USA)	Jan. 3-9, 2017
Cedric Lin (University of Maryland, USA)	Dec. 25, 2016-Jan. 6, 2017
Prabhanjan Ananth (University of California, Los Angeles, USA)	Dec. 5-16, 2016
Marios Georgiou (City University of New York, USA)	Oct. 31-Nov. 6, 2016
Ilan Komargodsk (Weizmann Institute of Science, Israel)	Oct. 1-15, 2016
Mark Bun (Harvard University, USA)	May 16-25, 2016
Yuichi Yoshida (National Institute of Informatics, Japan)	May 16-18, 2016
Georgios Piliouras (Singapore University of Technology and Design, Singapore)	May 15-18, 2016
Anthony Man-Cho, So (The Chinese University of Hong Kong, Hong Kong)	Mar. 25-28, 2016
Shengyu Zhang (The Chinese University of Hong Kong, Hong Kong)	Mar. 25-28, 2016
Xin Han (Dalian University of Technology, China)	May 13-17, 2016
Ran Cohan (Bar-Ilan University, Israel)	May 01-10, 2016
Mark Simkin (Saarland University, Germany)	Mar. 01-10, 2016
Yuval Ishai (Technion, Israel and UCLA, USA)	Feb. 29-Mar. 10, 2016
Hsin-Hao Su (Massachusetts Institute of Technology, USA)	Dec. 23-26, 2015
Meng-Tsung Tsai (Rutgers University, USA)	Dec. 17-24, 2015
Nai-Hui, Chia (Penn State University, USA)	Dec. 16-23, 2015
Christopher Williamson (Chinese University of Hong Kong)	Dec. 6-8, 2015
Luca Trevisan (University of California, Berkeley, USA)	Dec. 5-15, 2015
Gang Xu (Beijing University of Posts and Telecommunications, China)	Dec. 1-9, 2015
Hao-Chung Cheng (University of Technology Sydney, Australia)	Nov. 27-Dec. 2, 2015
Thomas Steinke (Harvard University, USA)	Aug. 22-27, 2015
Siyao Guo (CUHK, Hong Kong)	Apr. 20-25, 2015
Yeong-Cherng Liang (NCKU, Taiwan)	Apr. 13-15, 2015
Muthuramakrishnan Venkitasubramaniam (Rochester University, USA)	Mar. 8-14, 2015
Lior Seeman (Cornell University, USA)	Dec. 18-23, 2014
Yitong Yin (Nanjing University, China)	Dec. 15-25, 2014
Fang Song (University of Waterloo, Canada)	Dec. 6-13, 2014
Arno Mittelbach (CASED, Germany)	Dec. 3-6, 2014
Christina Brzuska (Microsoft Research Cambridge, UK)	Dec. 3-6, 2014
Andrej Bogdanov (CUHK, Hong Kong)	Nov. 18-23, 2014
Chung-Chih Li (Illinois State University, USA)	Jul. 9, 2014
Hsin-Hao Su (University of Michigan, USA)	Jan. 25-28, 2014
Sze-Ming Sherman Chow (CUHK, Hong Kong)	Jan. 9-15, 2014
David Xiao (CNRS, France)	Nov. 20-23, 2013

TALKS

On the Impossibility of General Parallel Fast-forwarding of Hamiltonian Simulation

National Center for Theoretical Sciences, National Cheng Kung University, Taiwan 05/22/2023

Computer and Information Network Center, National Chung Hsing University, Taiwan 07/04/2023

Post-Quantum Cryptography: The Key to Resisting Quantum Attack (Popular Science Talk)

Aerospace technology research and development center, Chung Yuan Christian University, Taiwan 09/07/2022

Theoretical Aspects of Post-Quantum Cryptography

Cybersecurity Center of Excellence (CCOE), Taiwan 07/08/2022

Potential and Limit of Quantum Computing (Popular Science Talk)

Post-quantum Cryptography Forum, Taiwan 01/14/2022

A personal view on quantum computation and cryptography and an interactive discussion

Institute of Statistical Science, Academia Sinica, Taiwan 10/18/2021

Compressed Oracle as a Quantum Lazy Sampling Technique

Workshop on Quantum Techniques for Provable Security (QUIQUES), Croatia (Virtual) 10/17/2021

Tight Quantum Time-Space Tradeoffs for Function Inversion

International Conference on the 16th TQC 2021, Latvia (Virtual) 07/07/2021

The Second Kyoto Workshop on Quantum Information, Computation, and Foundation (QICF21), Japan (Virtual) 09/14/2021

On the Power of Hybrid Classical and Low-depth Quantum Computation

Institute of Network Engineering Seminar, NYCU, Taiwan 05/05/2021

Department of Computer Science Seminar, NTHU, Taiwan 04/28/2021

Joint CQSE-NCTS-CASTS-CTP Seminar, NTU, Taiwan 04/16/2021

Workshop on Quantum Science and Technology (QST), Taiwan 08/20/2020

How well can a classical client delegate quantum computation?

Pengcheng Lab Quantum Computing Research Center, China 07/17/2020

Centre for Quantum Software and Information, UTS, Australia 06/02/2020

Quantum Cryptography and Quantum Complexity

Quantum Information Science (QIS) and Mathematics, Taiwan 10/17/2020

Meeting the Quantum Era — A Brief Talk on the Potential and Limits of Quantum Computing (Popular Science Talk)

Institute of Information Science, Academia Sinica, Taiwan	10/26/2019
TCS, Crypto and Quantum	
Institute of Information Science, Academia Sinica, Taiwan	11/29/2019
On the Hardness of Massively Parallel Computation	
Lower Bounds in Cryptography, Bertinoro, Italy	07/08/2019
Department of Computer Science, Cornell University, USA	08/01/2019
On the Algorithmic Power of Spiking Neural Networks	
AI forum 2019, National Chung Hsing University, Taiwan	04/26/2019
When Schrodinger meets Turing — Cryptography 2.0 in the Quantum Era (Popular Science Talk)	
Department of Computer Science and Engineering, Yuan Ze University, Taiwan	03/29/2019
Prospect Talk Series for Popular Science, National Taiwan University, Taiwan	06/15/2018
Privacy Amplification against Active Quantum Adversaries and Quantum-Proof Non-Malleable Extractors	
Department of Computer Science, University of Maryland, USA	03/06/2019
Intro to Pseudo-randomness	
IISc-IACR School on Cryptology, Indian Institute of Science, Bangalore, India	01/04/2018
Randomness Extraction in the Quantum World	
Workshop on The New Theory and Application in Cryptography, Sanya, China	12/14/2017
International Conference on Information Theoretic Security (ICITS) 2017, Hong Kong, China	12/01/2017
Computational Notions of Quantum Min-Entropy	
Workshop on Quantum Algorithms and Complexity Theory, CQT, Singapore	02/27/2018
Workshop on Quantum Science and Technology, NCTS, Taipei, Taiwan	09/06/2017
General Randomness Amplification with Non-signaling Security	
IIS, Tsinghua University, Beijing, China	06/02/2017
Department of Computer Science, Cornell University, USA	04/20/2017
CQT CS Talk, Centre for Quantum Technologies, Singapore	02/22/2017
Winter'17 Quantum Day @ Portland, Portland, USA	01/13/2017
True Randomness from Minimal Assumptions	
Department of Computer and Electrical Engineering and Computer Science, FAU, USA	03/26/2017
Institute for Interdisciplinary Information Sciences, Beijing, China	12/23/2016

Workshop on Mathematics of Information -Theoretic Cryptography 2016, Singapore	09/29/2016
Trustworthy Quantum Information (TYQI) 2016, Shanghai, China	06/30/2016
Computational Notions of Quantum Entropy	
Tsinghua-Cornell Workshop on Security and Cryptography, Beijing, China	12/22/2016
The Quantum-Safe Crypto Workshop 2016, Singapore	10/03/2016
Randomness Extractors beyond the Classical Setting	
Shanghai University of Finance and Economics (SUFU), 2016, Shanghai, China	06/18/2016
Workshop on Spectral Graph Theory and Its Applications 2015, Taipei, Taiwan	12/09/2015
Cryptography for Parallel RAM from Indistinguishability Obfuscation	
DIMACS/MACS Workshop on Cryptography for the RAM Model of Computation(DIMACS) 2016, Boston, USA	06/09/2016
Toward Cryptography for Modern Parallel Architecture	
Asian Association for Algorithms and Computation (AAAC) 2016, Taipei, Taiwan	05/16/2016
No-signalling Secure Physical Randomness Extractors, or Randomness Amplification for Arbitrary Weak Sources	
Workshop on Quantum Nonlocality, Causal Structures and Device-independent Quantum Information 2015, Tainan, Taiwan	12/14/2015
Randomness Extraction beyond the Classical World	
International Conference on Quantum Cryptography (QCrypt) 2015, Tokyo, Japan	09/29/2015
Randomness Extractors: from Classical to Quantum Worlds	
University of Michigan, International Workshop: Trustworthy Quantum Information	06/29/2015
Multi-Source and Network Extractors in the Presence of Quantum Side Information	
National Taiwan University, CQSE-CASTS Seminar	05/01/2015
Institute for Quantum Computing, University of Waterloo, Seminar	10/23/2014
Physical Randomness Extractors: Generating Random Numbers with Minimal Assumptions	
National Cheng Kung University, Seminar	04/16/2015
Institute of Statistical Science, Academia Sinica, Seminar	05/12/2014
National Taiwan University, CASTS Seminar	05/09/2014
Simons' Institute, Quantum Gathering	04/09/2014
Computation-Trace Indistinguishability Obfuscation and its Applications	
Microsoft Research, London	04/07/2015

Tight Parallel Repetition Theorems for Public-Coin Arguments using KL-divergence	
Theory of Cryptography Conference (TCC) 2015, Warsaw, Poland	03/25/2015
Statistically-secure ORAM with $\tilde{O}(\log^2 n)$ Overhead	
National Cheng Kung University, Tainan, Taiwan	03/06/2015
National Tsing Hua University, Seminar	12/17/2014
ASIACRYPT Conference 2014	12/10/2014
National Chung Hsing University, Seminar	05/16/2014
University of California Santa Barbara, Colloquium	02/18/2014
(Cryptography) Research in Taiwan	
International View of the State-of-the-Art of Cryptography and Security and its Use in Practice (VI), join presentation with Dr. Bo-Yin Yang	12/12/2014
Interactive Coding, Revisited	
NYU, Crypto Seminar	12/03/2013
MSR-Silicon Valley Theory, Seminar	08/26/2013
University of Maryland, Crypto Seminar	07/17/2013
On the Lattice Smoothing Parameter Problem	
Purdue University Theory Seminar	06/18/2013
CCC'13	06/07/2013
Can Theories be Tested? A Cryptographic Treatment of Forecast Testing	
DIMACS Workshop on Current Trends in Cryptology	05/01/2013
Cornell Theory Seminar	04/01/2013
On the (Im)Possibility of Tamper-Resilient Cryptography: Using Fourier Analysis in Computer Viruses	
IBM Research Cryptography Seminar	09/17/2012
NYU Cryptography Seminar	09/12/2012
Recent Progress on Parallel Repetition	
University of Michigan Theory Seminar	03/11/2013
NYU Theory Seminar	09/13/2012
Academia Sinica IIS Seminar	03/28/2012
University of Connecticut CSE Colloquia	03/12/2012
National Taiwan University	12/30/2011
The Knowledge Tightness of Parallel Zero-Knowledge	
TCC'12	03/21/2012
Chernoff-Hoeffding Bounds for Markov Chains: Generalized and Simplified	
STACS'12	03/03/2012
The Randomness Complexity of Parallel Repetition	
BU Security Seminar	02/28/2012
Penn-State University CSE Seminar	01/19/2012

FOCS'11	10/25/2011
Cornell Theory Seminar	09/26/2011
Memory Delegation	
CRYPTO'11	08/15/2011
Harvard Theory of Computation Seminar	04/22/2011
Improved Delegation of Computation Using Fully Homomorphic Encryption	
New York Crypto Day	10/14/2010
CRYPTO'10	08/18/2010
Verifiable Computation Workshop, MIT	08/11/2010
Security Amplification via Parallel Repetition	
Cornell Cryptography Seminar	03/17/2010
Georgia Tech ARC Colloquium	02/15/2010
Parallel Repetition Theorems for Interactive Arguments	
TCC'10	02/09/2010
MIT CIS/Microsoft Seminars	12/11/2009
Brown Theory Lunch	12/08/2009
Tight Bounds for Hashing Block Sources	
Harvard Theory of Computation Seminar	11/10/2008
Approx-Random'08	08/25/2008
S-t Connectivity on Digraphs with a Known Stationary Distribution	
CCC'07	06/15/2007
An Optimal Algorithm for the Maximum-Density Segment Problem	
ESA'03	09/18/2003