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# Asiacrypt 2023

## Conference Program

The 29th International Conference on the  
Theory and Application of Cryptology  
and Information Security

December 4-8, 2023, Guangzhou, China



暨南大學  
JINAN UNIVERSITY



中山大學  
SUN YAT-SEN UNIVERSITY

## AGENDA

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## WELCOME MESSAGE

On behalf of the local organizing committee, Jinan University and Sun Yat-sen University, we are delighted to welcome you to Guangzhou.

Asiacrypt 2023 will be held December 4-8 2023 with an excellent program consisting of two prestigious keynote speakers, 106 compelling paper presentations, and the traditional rump session. This handbook gives you the detailed schedule of the program.

Apart from attending this one of the flagship conferences in cryptography, we do wish that you will have a chance to explore our wonderful city in your spare time.

Finally, we would like to take this opportunity to thank the many people who have contributed to Asiacrypt 2023. Special thanks go to every member of the local organizing team and our gracious sponsors (ANT Research, National Financial Cryptography Research Center, SANSEC, TOPSEC, IBM, Meta, SANGFOR). We hope you thoroughly enjoy the conference.

Jian Weng  
Fanguo Zhang  
Asiacrypt 2023 General Co-chairs

## ORGANIZERS



暨南大學  
JINAN UNIVERSITY



中山大學  
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## HIGHLIGHTS OF GUANGZHOU FACTS

### Climate

Average highest temperature in July: 32.8 °C (90.9 °F)

Average lowest temperature in January: 10.3 °C (50.5 °F)

Humid subtropical climate with annual monsoons from April to September; annual precipitation: 1,735 mm (68.3 in). There is a sudden onset of the monsoon season involving rainfall and a change of temperature each spring.

### Economy

Development: Developed, the per capita income is among the highest of China's large cities. It is an electronics and clothing manufacture center and a trade hub for international merchants.

CBD: Including Tianhe North, the Pearl River New Town and Guangzhou International Financial City.

Shopping streets: Beijing Lu Pedestrian Street, Shangxiajiu Pedestrian Street, Tee Mall.

### Geography

Significance of city: International merchants center, China's third largest city.

Nearby cities: Dongguan (50 km/31 mi), Shenzhen (244 km/152 mi), Hong Kong (134 km/84 mi)

Municipality terrain: Pearl River Delta and low mountains with the South China Sea as the southern boundary

Main rivers: Pearl River

### Transportation

Guangzhou Baiyun International Airport is one of the three national international aviation hubs, one of the Belt and Road Initiative, the Air Silk Road important international hub, and holds a core position at Guangdong-Hong Kong-Macao Greater Bay Area aviation hubs.

- 8 subway lines cover a total length of 236 km (147 mi)
- 2 central ring roads
- 4 regular rail lines

The Guangzhou High-Speed Railway covers 980 km (610 mi) at an average speed of 320 km/h.

(For information about transportation to conference hotel/venue, please refer to Pages 6-7)

For more information to plan your stay in Guangzhou, please visit :

<https://www.chinahighlights.com/guangzhou/>

## GUANGZHOU ATTRACTIONS

### Canton Tower

<https://www.cantontower.com>

### Guangzhou Museum Of Art

<https://gzam.com.cn/index.aspx>

### South China National Botanical Garden

<http://scbg.cas.cn/>

### Guangzhou Shamian Island

[http://en.wikipedia.org/w/index.php?title=Shamian\\_Island](http://en.wikipedia.org/w/index.php?title=Shamian_Island)

For more information, please visit:

<https://www.gz.gov.cn/zlgz/index.html>

### Chimelong, Guangzhou

<https://www.chimelong.com/gz/>

### Haizhu National Wetland Park

<http://ehaizhu.shidicn.com/>

### Sun Yat-sen Memorial Hall

<http://www.zs-hall.cn/>

### Nansha Wetland Park

<http://gznsd.com.cn/>

## AIRPORT TRANSFER

From Guangzhou Baiyun International Airport to Conference Venue and Hotel, you can take :

### • Metro

<https://cs.gzmtr.com/ckfwEnglish/>

*appx 51 mins, cost around 7 CNY (about 0.97 USD or 0.89 EUR)*

1. Go to Terminal 1 or 2, and enter Airport S. Station of Guangzhou Metro Line 3.
2. Transfer to Line 2 at Jiahewanggang Station towards Guangzhou South Railway Station.
3. Get off at Yuexiu Park Station from Exit D1. China Hotel is on the left of Exit D1.

### • Taxi

*appx 40 mins, cost around 100 CNY (about 13.80 USD or 12.69 EUR)*

Show the taxi driver the following paragraph:

广东省广州市越秀区流花路122号中国大酒店

For more information, please visit:

<https://asiacrypt.iacr.org/2023/travel.php>

## CONFERENCE VENUE/ HOTEL

### Conference Venue and Hotel

China Hotel 中国大酒店

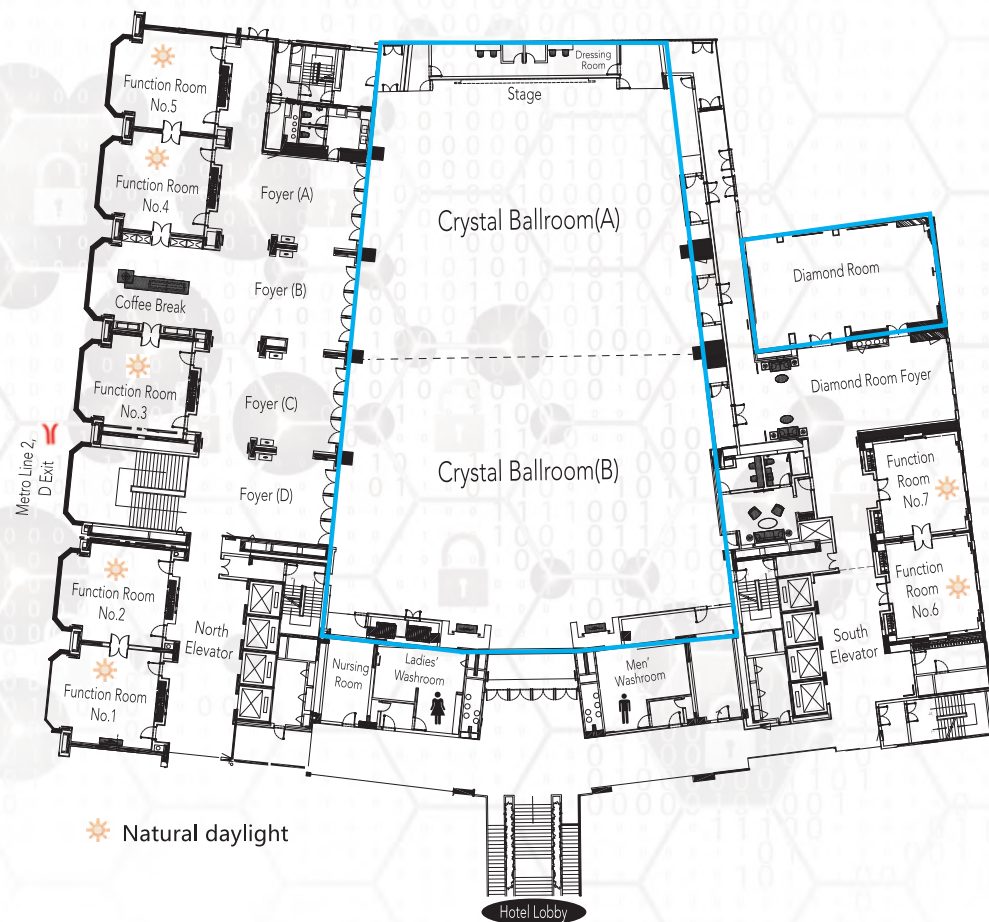
122 Liuhua Road, Yuexiu District, Guangzhou, Guangdong China

中国广东省广州市越秀区流花路122号

Line 2 - Yuexiu Park Station, Exit D1 (2号线 地铁越秀公园 D1 出口)

Tel : 86(20)8666 6888

<https://chinahotelgz.com/>



# PROGRAM (Conference Venue : 2F China Hotel 中国大酒店)

## Name Badge

Please wear your Asiacrypt 2023 name badge throughout the conference.

## Track - Venue

- Track 1 - Crystal Ballroom(A) 丽晶殿A厅
- Track 2 - Crystal Ballroom(B) 丽晶殿B厅
- Track 3 - Diamond Room 钻石厅

### Monday, December 4 2023 (Guangzhou)

17:00-18:30	Registration (Hotel Lobby)
18:00-20:30	Reception (4F Swimming Pool Side Welcome Cocktail Party)

### Tuesday, December 5 2023 (Guangzhou)

8:00-9:00	Registration (Hotel Lobby)
9:00-9:15	Opening remarks (Crystal Ballroom)
9:15-10:15	<b>Invited Talk 1: Xiaoyun Wang (Crystal Ballroom)</b>
Session Chair : Jian Guo	<u>Lattice-based Cryptography: From Theory to Practice</u>

10:15-10:45	Coffee Break
10:45-12:25	

<b>Track 1</b>	<u>Anonymous Counting Tokens</u> <i>Fabrice Benhamouda, Mariana Raykova, Karn Seth</i>
Anonymity 1	<u>Predicate Aggregate Signatures and Applications</u> <i>Tian Qiu, Qiang Tang</i>
Session Chair : Jan Bobolz	<u>Short Concurrent Covert Authenticated Key Exchange (Short cAKE)</u> <i>Karim Eldefrawy, Nicholas Genise, Stanislaw Jarecki</i>
	<u>Bicameral and Auditably Private Signatures</u> <i>Khoa Nguyen, Partha Sarathi Roy, Willy Susilo, Yanhong Xu</i>

<b>Track 2</b>	<u>Forgery Attacks on Several Beyond-Birthday-Bound Secure MACs</u> <i>Yaobin Shen, François-Xavier Standaert, Lei Wang</i>
Symmetric-Key Cryptanalysis 1	<u>Correlation Cube Attack Revisited: Improved Cube Search and Superpoly Recovery Techniques</u> <i>Jianhua Wang, Lu Qin, Baofeng Wu</i>
Session Chair : Guozhen Liu	<u>Differential-Linear Approximation Semi-Unconstrained Searching and Partition Tree: Application to LEA and Speck</u> <i>Yi Chen, Zhenzhen Bao, Hongbo Yu</i>
	<u>Cryptanalysis of Elisabeth-4</u> <i>Henri Gilbert, Rachelle Heim Boissier, Jérémy Jean, Jean-René Reinhard</i>

<b>Track 3</b>	<u>Registered ABE via Predicate Encodings</u> <i>Ziqi Zhu, Kai Zhang, Junqing Gong, Haifeng Qian</i>
Functional Encryption 1	<u>Registered (Inner-Product) Functional Encryption</u> <i>Danilo Francati, Daniele Friolo, Monosij Maitra, Giulio Malavolta, Ahmadreza Rahimi, Daniele Venturi</i>
Session Chair : Duong Hieu Phan	<u>Robust Decentralized Multi-Client Functional Encryption: Motivation, Definition, and Inner-Product Constructions</u> <i>Yamin Li, Jianghong Wei, Fuchun Guo, Willy Susilo, Xiaofeng Chen</i>
	<u>Cuckoo Commitments: Registration-Based Encryption and Key-Value Map Commitments for Large Spaces</u> <i>Dario Fiore, Dimitris Kolonelos, Paola de Perthuis</i>

12:25-14:00	Lunch (1F Food Street / 2F Cafe Veranda)
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14:00-15:40	
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<b>Track 1</b>	<u>Threshold Structure-Preserving Signatures</u> <i>Elizabeth Crites, Markulf Kohlweiss, Bart Preneel, Mahdi Sedaghat, Daniel Slamanig</i>
Anonymity 2	<u>Practical Round-Optimal Blind Signatures in the ROM from Standard Assumptions</u> <i>Shuichi Katsumata, Michael Reichle, Yusuke Sakai</i>
Session Chair : Xinyi Huang	<u>A Generic Construction of an Anonymous Reputation System and Instantiations from Lattices</u> <i>Johannes Blömer, Jan Bobolz, Laurens Porzenheim</i>
	<u>Universally Composable Auditably Surveillance</u> <i>Valerie Fetzer, Michael Klooß, Jörn Müller-Quae, Markus Raiber, Andy Rupp</i>

<b>Track 2</b>	<u>Algebraic Attacks on Round-Reduced Rain and Full AIM-III</u> <i>Kaiyi Zhang, Qingju Wang, Yu Yu, Chun Guo, Hongrui Cui</i>
Symmetric-Key Cryptanalysis 2	<u>Quantum Speed-Up for Multidimensional (Zero Correlation) Linear Distinguishers</u> <i>Akinori Hosoyamada</i>
Session Chair : Thomas Peyrin	<u>Exact Security Analysis of ASCON</u> <i>Bishwajit Chakraborty, Chandranan Dhar, Mridul Nandi</i>

<b>Track 3</b>	<p><u>On the (Im)possibility of Time-Lock Puzzles in the Quantum Random Oracle Model</u> <i>Abtin Afshar, Kai-Min Chung, Yao-Ching Hsieh, Yao-Ting Lin, Mohammad Mahmoody</i></p> <p><u>Towards compressed permutation oracles</u> <i>Dominique Unruh</i></p> <p><u>Tighter Security for Generic Authenticated Key Exchange in the QROM</u> <i>Jiaxin Pan, Benedikt Wagner, Runzhi Zeng</i></p> <p><u>Post-Quantum Security of Key Encapsulation Mechanism against CCA Attacks with a Single Decapsulation Query</u> <i>Haodong Jiang, Zhi Ma, Zhenfeng Zhang</i></p>
Quantum Random Oracle Model	
Session Chair : Pierrick Méaux	
15:40-16:10	Coffee Break
16:10-17:50	
<b>Track 1</b>	<p><u>Generalized Fuzzy Password-Authenticated Key Exchange from Error Correcting Codes</u> <i>Jonathan Bootle, Sebastian Faller, Julia Hese, Kristina Hostáková, Johannes Ottenhues</i></p> <p><u>A Generic Construction of Tightly Secure Password-based Authenticated Key Exchange</u> <i>Jiaxin Pan, Runzhi Zeng</i></p> <p><u>An Efficient Strong Asymmetric PAKE Compiler Instantiable from Group Actions</u> <i>Jiayu Xu, Ian McQuoid</i></p> <p><u>New SIDH Countermeasures for a More Efficient Key Exchange</u> <i>Andrea Basso, Tako Boris Fouotsa</i></p>
Key Exchange	
Session Chair : Kaitai Liang	
<b>Track 2</b>	<p><u>Oblivious Transfer from Zero-Knowledge Proofs. Or How to Achieve Round-Optimal Quantum Oblivious Transfer and Zero-Knowledge Proofs on Quantum States</u> <i>Léo Colisson, Garazi Muguruza, Florian Speelman</i></p> <p><u>On the (Im)plausibility of Public-Key Quantum Money from Collision-Resistant Hash Functions</u> <i>Prabhanjan Ananth, Zihan Hu, Henry Yuen</i></p> <p><u>Improved Quantum Circuits for AES: Reducing the Depth and the Number of Qubits</u> <i>Qun Liu, Bart Preneel, Zheng Zhao, Meiqin Wang</i></p>
Quantum Cryptography & Quantum Cryptanalysis	
Session Chair : Xiaoyang Dong	

<b>Track 3</b>	<p><u>Weak Zero-Knowledge via the Goldreich-Levin Theorem</u> <i>Dakshita Khurana, Giulio Malavolta, Kabir Tomer</i></p> <p><u>A Simple and Efficient Framework of Proof Systems for NP</u> <i>Yuyu Wang, Chuanjie Su, Jiaxin Pan, Yu Chen</i></p> <p><u>Sigma Protocols from Verifiable Secret Sharing and Their Applications</u> <i>Min Zhang, Yu Chen, Chuanzhou Yao, Zhichao Wang</i></p>
Zero-Knowledge Proofs – Foundations	
Session Chair : Moti Yung	

### Wednesday, December 6 2023 (Guangzhou)

9:00-10:15	<b>Award Papers</b> <span style="float: right;"><i>(Crystal Ballroom)</i></span>
Session Chair : Ron Steinfeld	<p><u>On Gaussian Sampling, Smoothing Parameter and Application to Signatures</u> <i>Thomas Espitau, Alexandre Wallet, Yang Yu</i></p> <p><u>Exploiting the Symmetry of <math>\mathbb{Z}^n</math>: Randomization and the Automorphism Problem</u> <i>Kaijie Jiang, Anyu Wang, Hengyi Luo, Guoxiao Liu, Yang Yu, Xiaoyun Wang</i></p> <p><u>Exploiting Algebraic Structure in Probing Security</u> <i>Maxime Plancon</i></p>
10:15-10:45	Coffee Break
10:45-12:25	
<b>Track 1</b>	<p><u>Antrag: Annular NTRU Trapdoor Generation</u> <i>Thomas Espitau, Thi Thu Quyen Nguyen, Chao Sun, Mehdi Tibouchi, Alexandre Wallet</i></p> <p><u>G+G: A Fiat-Shamir Lattice Signature Based on Convolved Gaussians</u> <i>Julien Devevey, Alain Passelègue, Damien Stehlé</i></p> <p><u>Cryptographic Smooth Neighbors</u> <i>Giacomo Bruno, Maria Corte-Real Santos, Craig Costello, Jonathan Komada Eriksen, Michael Meyer, Michael Naehrig, Bruno Sterner</i></p> <p><u>Non-Interactive Commitment from Non-Transitive Group Actions</u> <i>Giuseppe D'Alconzo, Andrea Flamini, Andrea Gangemi</i></p>
Lattice-Based Signatures & Elliptic-Curve Cryptography	
Session Chair : Yang Yu	

<p><b>Track 2</b></p> <p>Searchable Encryption &amp; Updatable Encryption</p> <p>Session Chair : Xiuhua Wang</p>	<p><u>Injection-Secure Structured and Searchable Symmetric Encryption</u> <i>Ghous Amjad, Seny Kamara, Tarik Moataz</i></p> <p><u>Hermes: I/O-Efficient Forward-Secure Searchable Symmetric Encryption</u> <i>Brice Minaud, Michael Reichle</i></p> <p><u>Efficient Updatable Public-Key Encryption from Lattices</u> <i>Calvin Abou Haidar, Damien Stehlé, Alain Passelègue</i></p> <p><u>CCA-1 Secure Updatable Encryption with Adaptive Security</u> <i>Huanhuan Chen, Yao Jiang Galteland, Kaitai Liang</i></p>
<p><b>Track 3</b></p> <p>MPC for General Functionalities 1 &amp; Functional Encryption 2</p> <p>Session Chair : Junqing Gong</p>	<p><u>Robust Publicly Verifiable Covert Security: Limited Information Leakage and Guaranteed Correctness with Low Overhead</u> <i>Yi Liu, Junzuo Lai, Qi Wang, Xianrui Qin, Anjia Yang, Jian Weng</i></p> <p><u>Ramp hyper-invertible matrices and their applications to MPC protocols</u> <i>Hongqing Liu, Chaoping Xing, Yanjiang Yang, Chen Yuan</i></p> <p><u>Improved Fully Adaptive Decentralized MA-ABE for NC1 from MDDH</u> <i>Jie Chen, Qiaohan Chu, Ying Gao, Jianting Ning, Luping Wang</i></p> <p><u>Verifiable Decentralized Multi-Client Functional Encryption for Inner Product</u> <i>Dinh Duy Nguyen, Duong Hieu Phan, David Pointcheval</i></p>
<p>12:25-13:45</p>	<p>Lunch <span style="float: right;">(1F Food Street / 2F Cafe Veranda)</span></p>
<p>13:45-15:00</p>	
<p><b>Track 1</b></p> <p>Threshold Cryptography &amp; Distributed Broadcast</p> <p>Session Chair : Qiang Tang</p>	<p><u>Simple Threshold (Fully Homomorphic) Encryption From LWE With Polynomial Modulus</u> <i>Katharina Boudgoust, Peter Scholl</i></p> <p><u>VSS from Distributed ZK Proofs and Applications</u> <i>Shahla Atapoor, Karim Baghery, Daniele Cozzo, Robi Pedersen</i></p> <p><u>Threshold Linear Secret Sharing to the Rescue of MPC-in-the-Head</u> <i>Thibault Feneuil, Matthieu Rivain</i></p> <p><u>Distributed Broadcast Encryption from Bilinear Groups</u> <i>Dimitris Kolonelos, Giulio Malavolta, Hoeteck Wee</i></p>

<p><b>Track 2</b></p> <p>Side-Channels &amp; Public-key Cryptanalysis</p> <p>Session Chair : Alexandre Wallet</p>	<p><u>SCA-LDPC: A Code-Based Framework for Key-Recovery Side-Channel Attacks on Post-Quantum Encryption Schemes</u> <i>Qian Guo, Denis Nabokov, Alexander Nilsson, Thomas Johansson</i></p> <p><u>Practically Efficient Private Set Intersection From Trusted Hardware with Side-Channels</u> <i>Felix Dörre, Jeremias Mechler, Jörn Müller-Quade</i></p> <p><u>Quantitative Fault Injection Analysis</u> <i>Jakob Feldtkeller, Tim Gueneysu, Patrick Schaumont</i></p> <p><u>We Are on the Same Side. Alternative Sieving Strategies for the Number Field Sieve</u> <i>Charles Bouillaguet, Ambroise Fleury, Pierre-Alain Fouque, Paul Kirchner</i></p>
<p><b>Track 3</b></p> <p>Functional Commitments and Proofs &amp; MPC</p> <p>Session Chair : Khoa Nguyen</p>	<p><u>Zero-Knowledge Functional Elementary Databases</u> <i>Xinxuan Zhang, Yi Deng</i></p> <p><u>LERNA: Secure Single-Server Aggregation via Key-Homomorphic Masking</u> <i>Hanjun Li, Huijia Lin, Antigoni Polychroniadou, Stefano Tessaro</i></p> <p><u>Non-Interactive Zero-Knowledge Functional Proofs</u> <i>Gongxian Zeng, Junzuo Lai, Zhengan Huang, Linru Zhang, Xiangning Wang, Kwok-Yan Lam, Huaxiong Wang, Jian Weng</i></p>
<p>15:25-15:55 Coffee Break</p>	
<p>15:55-17:35</p>	
<p><b>Track 1</b></p> <p>Fully Homomorphic Encryption</p> <p>Session Chair : Alain Passelègue</p>	<p><u>Amortized Bootstrapping Revisited: Simpler, Asymptotically-faster, Implemented</u> <i>Antonio Guimarães, Hilder V. L. Pereira, Barry van Leeuwen</i></p> <p><u>Rotation Key Reduction for Client-Server Systems of Deep Neural Network on Fully Homomorphic Encryption</u> <i>Joon-Woo Lee, Eunsang Lee, Young-Sik Kim, Jong-Seon No</i></p> <p><u>Homomorphic Polynomial Evaluation using Galois Structure and Applications to BFV Bootstrapping</u> <i>Hiroki Okada, Rachel Player, Simon Pohmann</i></p> <p><u>Amortized Functional Bootstrapping in less than 7ms, with <math>\sim O(1)</math> polynomial multiplications</u> <i>Zeyu Liu, Yunhao Wang</i></p>

<b>Track 2</b>	<u>Quantum Attacks on Hash Constructions with Low Quantum Random Access Memory</u> <i>Xiaoyang Dong, Shun Li, Phuong Pham, Guoyan Zhang</i>
Quantum Cryptanalysis	<u>On Quantum Secure Compressing Pseudorandom Functions</u> <i>Ritam Bhaumik, Benoît Cogliati, Jordan Ethan, Ashwin Jha</i>
Session Chair : Zhenzhen Bao	<u>Hidden Stabilizers, the Isogeny To Endomorphism Ring Problem and the Cryptanalysis of pSIDH</u> <i>Péter Kutas, Christophe Petit, Gábor Ivanyos, Mingjie Chen, Antonin Leroux, Muhammad Imran</i>
	<u>Concrete Analysis of Quantum Lattice Enumeration</u> <i>Shi Bai, Maya-Iggy van Hoof, Floyd B. Johnson, Tanja Lange, Tran Ngo</i>
<b>Track 3</b>	<u>Unified View for Notions of Bit Security</u> <i>Shun Watanabe, Kenji Yasunaga</i>
Security Models	<u>The Relationship Between Idealized Models Under Computationally Bounded Adversaries</u> <i>Cong Zhang, Mark Zhandry</i>
Session Chair : Chun Guo	<u>Just How Fair is an Unreactive World?</u> <i>Srinivasan Raghuraman, Yibin Yang</i>
18:30-21:00	Dinner Reception <i>(Crystal Ballroom)</i>
19:30-22:00	Rump Session <i>(Crystal Ballroom)</i>
Session Chair : Kang Yang and Yu Yu	

### Thursday, December 7 2023 (Guangzhou)

9:00-10:00	<b>Invited talk 2: Mehdi Tibouchi</b> <i>(Crystal Ballroom)</i>
Session Chair : Ron Steinfeld	<u>Mathematical Problems arising from Timing Attacks on Signatures and their Countermeasures</u>
10:00-10:30	Coffee Break
10:30-12:10	
<b>Track 1</b>	<u>Automated Meet-in-the-Middle Attack Goes to Feistel</u> <i>Qingliang Hou, Lingyue Qin, Xiaoyang Dong, Guoyan Zhang, Xiaoyun Wang</i>
Symmetric Key Cryptanalysis - Automated Tools	<u>Revisiting Higher-Order Differential-Linear Attacks from an Algebraic Perspective</u> <i>Kai Hu, Thomas Peyrin, Quan Quan Tan, Trevor Yap Hong Eng</i>
Session Chair : Meicheng Liu	<u>More Insight on Deep Learning-aided Cryptanalysis</u> <i>Zhenzhen Bao, Jinyu Lu, Yiran Yao, Liu Zhang</i>

<b>Track 2</b>	<u>A New Approach based on Quadratic Forms to Attack the McEliece Cryptosystem</u> <i>Alain Couvreur, Rocco Mora, Jean-Pierre Tillich</i>
Cryptanalysis of Post-Quantum Cryptography	<u>Solving the Hidden Number Problem for CSIDH and CSURF via Automated Coppersmith</u> <i>Jonas Meers, Julian Nowakowski</i>
Session Chair : Thomas Espitau	<u>Memory-Efficient Attacks on Small LWE Keys</u> <i>Andre Esser, Rahul Girme, Arindam Mukherjee, Santanu Sarkar</i>
	<u>Too Many Hints - When LLL Breaks LWE</u> <i>Alexander May, Julian Nowakowski</i>
<b>Track 3</b>	<u>Fiat-Shamir Security of FRI and Related SNARKs</u> <i>Alexander R. Block, Albert Garreta, Jonathan Katz, Justin Thaler, Pratyush Ranjan Tiwari, Michał Zając</i>
Zero-Knowledge Proofs - Succinctness	<u>On Black-Box Knowledge-Sound Commit-And-Prove SNARKs</u> <i>Helger Lipmaa</i>
Session Chair : Kang Yang	<u>Protostar: Generic Efficient Accumulation/Folding for Special-sound Protocols</u> <i>Benedikt Bünz, Binyi Chen</i>
	<u>Polynomial IOPs for Memory Consistency Checks in Zero-Knowledge Virtual Machines</u> <i>Yuncong Zhang, Shi-Feng Sun, Ren Zhang, Dawu Gu</i>
12:10-13:30	Lunch <i>(1F Food Street / 2F Cafe Veranda)</i>
13:30-14:45	
<b>Track 1</b>	<u>To Attest or not to Attest, This is the Question - Provable Attestation in FIDO2</u> <i>Nina Bindel, Nicolas Gama, Sandra Guasch, Eyal Ronen</i>
Real-World Protocols	<u>WhatsApp with Sender Keys? Analysis, Improvements and Security Proofs</u> <i>David Balbás, Daniel Collins, Phillip Gajland</i>
Session Chair : Seth Karn	<u>The Pre-Shared Key Modes of HPKE</u> <i>Joël Alwen, Jonas Janneck, Eike Kiltz, Benjamin Lipp</i>



<b>Track 2</b>	<u>Pseudorandomness of Decoding, Revisited: Adapting OHCP to Code-Based Cryptography</u> <i>Maxime Bombar, Alain Couvreur, Thomas Debris-Alazard</i>
Code-Based Cryptography	<u>Blockwise Rank Decoding Problem and LRPC Codes: Cryptosystems with Smaller Sizes</u> <i>Yongcheng Song, Jiang Zhang, Xinyi Huang, Wei Wu</i>
Session Chair : Andre Esser	<u>SDitH in the QROM</u> <i>Andreas Huelsing, Carlos Aguilar-Melchor, David Joseph, Christian Majenz, Eyal Ronen, Dongze Yue</i>
	<u>A New Formulation of the Linear Equivalence Problem and Shorter LESS Signatures</u> <i>Edoardo Persichetti, Paolo Santini</i>
<b>Track 3</b>	<u>Degree-\$D\$ Reverse Multiplication-Friendly Embeddings: Constructions and Applications</u> <i>Daniel Escudero, Cheng Hong, Hongqing Liu, Chaoping Xing, Chen Yuan</i>
MPC for General Functionalities 2	<u>Adaptive Distributional Security for Garbling Schemes with <math>O( x )</math> Online Complexity</u> <i>Estuardo Alpirez Bock, Chris Brzuska, Pihla Karanko, Sabine Oechsner, Kirthivaasan Puniamurthy</i>
Session Chair : Siu Ming Yiu	<u>MPC With Delayed Parties Over Star-Like Networks</u> <i>Mariana Gama, Emad Heydari Beni, Emmanuela Orsini, Nigel Smart, Oliver Zajonc</i>
14:45-15:45	IACR Membership Meeting <i>(Crystal Ballroom - A)</i>
15:45-19:00	Free Afternoon
19:00-21:30	Banquet <i>(Entry begins at 18:30 - Crystal Ballroom)</i>

### Friday, December 8 2023 (Guangzhou)

9:00-10:15	
<b>Track 1</b>	<u>Sender-Anamorphic Encryption Reformulated: Achieving Robust and Generic Constructions</u> <i>Yi Wang, Rongmao Chen, Xinyi Huang, Moti Yung</i>
Public-Key Encryption - Special Functionalities	<u>Efficient Secure Storage with Version Control and Key Rotation</u> <i>Long Chen, Hui Guo, Ya-Nan Li, Qiang Tang</i>
Session Chair : Wouter Castryck	<u>Fine-Grained Proxy Re-Encryption: Definitions &amp; Constructions from LWE</u> <i>Yunxiao Zhou, Shengli Liu, Shuai Han, Haibin Zhang</i>

<b>Track 2</b>	<u>The Indifferentiability of the Duplex and its Practical Applications</u> <i>Jean Paul Degabriele, Marc Fischlin, Jérôme Govinden</i>
Symmetric-Key - Design	<u>Populating the Zoo of Rugged Pseudorandom Permutations</u> <i>Jean Paul Degabriele, Vukašin Karadžić</i>
Session Chair : Yaobin Shen	<u>Generic Security of the SAFE API and Its Applications</u> <i>Dmitry Khovratovich, Mario Marhuenda Beltrán, Bart Mennink</i>
<b>Track 3</b>	<u>Scalable Multi-party Private Set Union from Multi-Query Secret-Shared Private Membership Test</u> <i>Xiang Liu, Ying Gao</i>
MPC for Specific Functionalities	<u>Lattice-Based Functional Commitments: Fast Verification and Cryptanalysis</u> <i>Hoeteck Wee, David J. Wu</i>
Session Chair : Karim Baghery	<u>Unconditionally Secure Multiparty Computation for Symmetric Functions with Low Bottleneck Complexity</u> <i>Reo Eriguchi</i>
10:15-10:45	Coffee Break
10:45-12:00	
<b>Track 1</b>	<u>FESTA: Fast Encryption from Supersingular Torsion Attacks</u> <i>Andrea Basso, Luciano Maino, Giacomo Pope</i>
Post-Quantum Encryption	<u>A Polynomial Time Attack on Instances of M-SIDH and FESTA</u> <i>Wouter Castryck, Frederik Vercauteren</i>
Session Chair : Edoardo Persichetti	<u>NEV: Faster and Smaller NTRU Encryption using Vector Decoding</u> <i>Jiang Zhang, Dengguo Feng, Di Yan</i>
<b>Track 2</b>	<u>Breaking the Size Barrier: Universal Circuits meet Lookup Tables</u> <i>Yann Disser, Daniel Günther, Thomas Schneider, Maximilian Stillger, Arthur Wigandt, Hossein Yalame</i>
Secure Two-Party Computation	<u>Amortized NISC over <math>\mathbb{Z}_{2^k}</math> from RMFE</u> <i>Fuchun Lin, Chaoping Xing, Yizhou Yao, Chen Yuan</i>
Session Chair : Yuncong Hu	<u>Two-Round Concurrent 2PC from Sub-Exponential LWE</u> <i>Behzad Abdolmaleki, Saikrishna Badrinarayanan, Rex Fernando, Giulio Malavolta, Ahmadreza Rahimi, Amit Sahai</i>
12:00-12:10	Closing remarks <i>(Crystal Ballroom - A)</i>
12:10-14:00	Lunch <i>(2F Cafe Veranda)</i>