

| Date<br>Time         | 2019/10/20           | 2019/10/21  | 2019/10/22              | 2019/10/23                      | 2019/10/24              |
|----------------------|----------------------|---|-------------------------|---------------------------------|-------------------------|
| 9:00-9:20            | Registration         | Opening Remark                                      | Keynote Speech 3        | Keynote Speech 4                | Session 7<br>(4 Papers) |
| 9:20-10:00           |                      | Keynote Speech 1                                    |                         |                                 |                         |
| 10:00-10:20          |                      | Coffee Break  | Session 3<br>(6 Papers) | Session 4<br>(6 Papers)         | Coffee Break            |
| 10:20-10:40          |                      |   |                         |                                 | Session 1<br>(5 Papers) |
| 10:40-12:20          |                      |   |                         |                                 |                         |
| 12:20-13:40          |                      | Lunch   |                         |                                 |                         |
| 13:40-15:00          |                      | Session 2<br>(4 Papers)                             | Tour to Humen           | Session 5<br>(4 Papers)         | Session 9<br>(5 Papers) |
| 15:00-15:20          |                      | Shuttle to Huawei                                   |                         | Coffee Break                    |                         |
| 15:20-15:40          |                      |   |                         | Session 6<br>(4 Papers)         | Closing Remark          |
| 15:40-16:40          |                      | Visit the Public Area of<br>Huawei in Songshan Lake |                         |                                 |                         |
| 16:40-17:00          |                      | Keynote Speech 2<br>(Hyatt)                         |                         |                                 |                         |
| 17:00-17:20          |                      |   |                         | Shuttle to Banquet              |                         |
| 17:20-18:00          |                      |   |                         |                                 |                         |
| 18:00-20:00          | Reception<br>(Aloft) | Dinner<br>(Hyatt)                                   | Dinner<br>(Aloft)       | Banquet<br>(Royal Garden Hotel) |                         |
| Registration Address | Aloft                | DGUT  |                         |                                 |                         |

## Keynote Speeches

**Keynote Speech 1:** Distributed Inference in the Presence of Byzantines

Pramod K. Varshney (Syracuse University)

9:20-10:20, Monday, Oct 21, 2019

Chair: Yunghsiang S. Han (yunghsiangh@gmail.com)

**Keynote Speech 2:** Sequences with Low Correlation and Related Topics

Tor Helleseth (University of Bergen)

17:00-18:00, Monday, Oct 21, 2019 (Hyatt Regency, Songshan Lake)

Chair: Hong-Yeop Song (hysong@yonsei.ac.kr)

**Keynote Speech 3:** Recent Advances of Protocol and Schedule Sequences and their Applications

Wing Shing Wong (The Chinese University of Hong Kong)

9:00-10:00, Tuesday, Oct 22, 2019

Chair: Pingzhi Fan (pzf@swjtu.edu.cn)

**Keynote Speech 4:** Linear Codes from Functions

Siham Mesnager (University of Paris VIII)

9:00-10:00, Wednesday, Oct 23, 2019

Chair: Tor Helleseth (tor.helleseth@uib.no)

### **Session 1: Application of Sequences (5 Papers)**

10:40-12:20, Monday, Oct 21, 2019

Chair: Udaya Parampalli (udaya@unimelb.edu.au)

1-1. Jiahuan Wang, Pingzhi Fan, Zhengchun Zhou and Yang Yang. Doppler Resilient Sequences with Low Local Ambiguity Functions for Fully Polarimetric Radar Systems

1-2. Takeru Miyazaki, Shunsuke Araki, Kohei Kawase, Satoshi Uehara and Yasuyuki Nogami. Properties of Knuth's Quadratic Congruential Sequences with Modulus  $m=2^W p$

1-3. Gangsan Kim, Min Hyung Lee and Hong-Yeop Song. Some notes on the binary sequences of length  $2^n-1$  with the run property

1-4. Lanping Li, Xiaohu Tang and Chintha Tellambura. Deep Learning Based Modified Message Passing Algorithm for Sparse Code Multiple Access

1-5. Huan Chen, Pingzhi Fan and Li Li. Active Users Detection Based on Deterministic Sequences for Massive Connectivity

### **Session 2: Boolean and Related Functions (4 Papers)**

13:40-15:00, Monday, Oct 21, 2019

Chair: Dianhua Wu (dhwu@gxnu.edu.cn)

2-1. **(Invited Paper)** Sihem Mesnager and Ahmet Sinak. Strongly regular graphs from weakly regular plateaued functions

2-2. Nikolay Kaleyski. An Update on Known Invariants of Vectorial Boolean Functions

2-3. Kangquan Li, Sihem Mesnager and Longjiang Qu. Further study of  $\mathbb{F}_2$ -to- $\mathbb{F}_2$  mappings over  $\mathbb{F}_{2^n}$

2-4. Pingzhi Yuan. Permutation Polynomials from two piecewise functions

### **Session 3: Complementary and ZCZ Sequence Sets (6 Papers)**

10:20-12:20, Tuesday, Oct 22, 2019

Chair: Kojima Tetsuya (kojt@tokyo-ct.ac.jp)

3-1. Yubo Li, Chengqian Xu and Xiuping Peng. More Quasi-Complementary Sequence Sets from Difference Sets and Almost Difference Sets

3-2. Yajing Zhou, Zhengchun Zhou and Yang Yang.  $4^q$ -QAM Complementary Sequence Sets with Non-Power-of-Two Length

3-3. Yong Wang, Tinghua Hu, Yang Yang and Zhengchun Zhou. Large Zero Correlation Zones of Golay Complementary Sets

3-4. Zhi Gu, Yang Yang and Zhengchun Zhou. New Sets of Even-Length Binary Z-Complementary Pairs

3-5. Bingsheng Shen, Yang Yang, Zhengchun Zhou and Yajing Zhou. New Constructions of Binary (Near) Complementary Sets

3-6. Xiuping Peng, Chengqian Xu and Yubo Li. Mismatched Binary Periodic Complementary Pairs with Period  $3q$

#### **Session 4: Theoretical Bounds and Sequences Design (6 Papers)**

10:20-12:20, Wednesday, Oct 23, 2019

Chair: Kenneth Shum (wkshum@cuhk.edu.cn)

4-1. Shibsankar Das, Udaya Parampalli, Sudhan Majhi and Zilong Liu. An Introduction to Z-Paraunitary Matrices

4-2. Mingxing Zhang, Zhengchun Zhou, Yang Yang and Haode Yan. Optimization Method for Designing Sequences With Low Partial-period Correlation Sidelobes

4-3. Peihua Li, Cuiling Fan and Yang Yang. New Bounds on the Partial Hamming Correlation of Wide-Gap Frequency-Hopping Sequence Sets

4-4. Hongyu Han, Limengnan Zhou and Xing Liu. New Construction for Low Hit Zone Frequency Hopping Sequence Sets with Optimal Partial Hamming Correlation

4-5. Bing Liu, Zhengchun Zhou and Udaya Parampalli. A Tighter Correlation Lower Bound for Quasi-Complementary Sequence Sets with Low Correlation Zone

4-6. Geyang Wang and Qi Wang. An OACF-Preserving Operation Based on Parker's Transformation

#### **Session 5: Coding for Communications (4 Papers)**

13:40-15:00, Wednesday, Oct 23, 2019

Chair: Wai Ho Mow (eewhmow@ust.hk)

5-1. Qiaoling Zhang, Lei Zheng, Minquan Cheng and Qingchun Chen. The advantages of the Grouping Method for Repeat Requests in Coded Caching

5-2. Inseon Kim and Hong-Yeop Song. A new class of parity-check concatenated polar codes using

belief propagation decoding

5-3. Sung Chul Byun, Gangsan Kim, Won Jun Kim and Hong-Yeop Song. A Construction of Non-binary Polar codes with 4 by 4 kernels

5-4. Mu Hang. Iterative Successive Cancellation List Decoding in Bit-interleaved Polar Coded Modulation System

### **Session 6: Coding Theory 1 (4 Papers)**

15:20-16:40, Wednesday, Oct 23, 2019

Chair: Yuri Borissov (youri@math.bas.bg)

6-1. Zhuojun Zhuang, Bin Dai, Keke Zhang, Zhen Jing, Jia Huang and Hao Zhu. On Asymptotic Analysis of Relative Generalized Hamming Weight

6-2. Jia-Jyun Wu, Chung-Hsuan Wang and Chi-Chao Chao. Decoding Scheduling for Unequal Error Protection Quasi-Cyclic Low-Density Parity-Check Codes

6-3. Chin Hei Chan and Maosheng Xiong. Random Matrices from Linear Codes and Wigner's Semicircle Law II

6-4. Zhengbang Zha and Lei Hu. The Boomerang Uniformity of Power Permutations  $x^{2^k-1}$  over  $\mathbb{F}_{2^n}$

### **Session 7: Network Coding and Storage Coding (4 Papers)**

9:00-10:20, Thursday, Oct 24, 2019

Chair: Qi Wang (wangqi@sustech.edu.cn)

7-1. Kenneth Shum and Hanxu Hou. Network Coding Based on Byte-wise Circular Shift and Integer Addition

7-2. Zhi Jing, Gangsan Kim and Hong-Yeop Song. A concatenated binary locally repairable codes with locality 2 using puncturing

7-3. Shangyao Huang, Hanxu Hou and Xiangshou Yu. A Lower Bound on Disk Reads for Single Information Disk Failure Recovery and One Recovery Scheme for EVENODD(p, 3)

7-4. Jerod Michel and Qi Wang. Placement Delivery Arrays from Combinations of Strong Edge Colorings

### **Session 8: Coding Theory 2 (5 Papers)**

10:40-12:20, Thursday, Oct 24, 2019

Chair: Zhengchun Zhou (zzc@swjtu.edu.cn)

8-1. Xina Zhang, Xiaoni Du, Rong Wang and Fujun Zhang. Weight Distributions of a Class of Linear Codes

8-2. Linman Yu, Zhuojun Zhuang, Zheng Ma and Bin Dai. Two Lower Bounds on the Secrecy Capacity of the Action-dependent Dirty Paper Wiretap Channel

8-3. Sota Eguchi, Takeru Miyazaki, Shunsuke Araki, Satoshi Uehara and Yasuyuki Nogami. Relations Between Evaluations of NIST tests and Lyapunov Exponents of Sequences Generated by the Piecewise Logistic Map over Integers

8-4. Jinchen Bao, Rong Shi, Xuehua Wang, Chang Liu, Ke Deng and Jian Yan. Performance Analysis of Uplink Sparse Code Multiple Access in Rician Fading

8-5. Tetsuya Kojima. Some Properties of Hadamard-type Matrices on Finite Fields

### **Session 9: Signal Processing and Computation Theory (5 Papers)**

13:40-15:20, Thursday, Oct 24, 2019

Chair: Hanxu Hou (houhanxu@163.com)

9-1. Chao Peng, Lei Yang, Xiaomin Jiang, Yue Song and Sha Zou. A Simple Ship Radiated Noise Model and Its Application in Weak Signal Detection Based on Higher Order Cumulant

9-2. Yuri Borissov and Miroslav Markov. An Approach for Computing the Number of Points on Elliptic Curve  $y^2 = x^3 + a \pmod{p}$  via Explicit Formula for That Number Modulo  $p$

9-3. Zhao Zhang and Sheng Zhang. Robust Weight-Constraint Decorrelation Normalized Maximum Versoria Algorithm

9-4. Sian-Jheng Lin, Ziting Gao and Yung-Hsiang S. Han. Arithmetic Coding Based on Reflected Binary Codes

9-5. Lei Deng. Convex Set of Doubly Substochastic Matrices