

# IEEE Globecom 2017 Symposium on Selected Areas in Communications Data Storage Track

## **Scope and Motivation**

Data storage systems are among the main drivers of the information technology revolution. Today, the digital data that needs to be stored still grows increasingly, fueling the needs for ever efficient and powerful technologies to store and successfully retrieve of huge amount of data.

The invention of novel nonvolatile memory technologies as well as the advancement of more traditional ones such as the hard-disk drives, the emergence of massive distributed data storage networks, the multiplication of cloud storage services, as well as the proliferation of data centers pose a whole range of new scientific and engineering challenges. Efficiency, reliability, and stability turn out to be critical design aspects of advanced data storage systems. To address these problems, novel solutions need to be developed in many fields of engineering science concurrently, such as information theory, coding theory, communication theory, channel modeling, and signal processing.

## **Topics of Interest**

To ensure complete coverage of the advances in data storage for the current and future systems, the Data Storage Track cordially invites original contributions in, but not limited to, the following topical areas:

- Channel modeling and noise characterization for flash memories, emerging nonvolatile memory technologies, and ultra-high density magnetic recording systems
- Information theory and fundamental data transmission limits for new storage channels
- Equalization and channel detection for data storage channels
- Error-correction coding for data storage channels and distributed storage networks
- Constrained codes for data storage channels
- Signal processing for HAMR, TDMR, and BPMR
- Circuit design for coding, detection, and read/write channels
- Network coding techniques for distributed storage networks
- Novel and emerging storage media: MRAM, RRAM, PCM, etc.
- Security for cloud storage and storage devices
- Energy-efficient designs for storage
- New concepts for cloud-storage systems, data centers, and massive distributed storage networks

## Sponsoring Technical Committee

Data Storage Technical Committee

(<http://committees.comsoc.org/dstc/index.php?page=cfp-gc2016>)

## How to Submit a Paper:

The IEEE Globecom 2017 website provides full instructions on how to submit papers. You shall select the desired symposium when submitting.

## Symposium Track-Chair

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**Cai Kui** received B.E. degree in information and control engineering from Shanghai Jiao Tong University, Shanghai, China, M.Eng degree in electrical engineering from National University of Singapore, and joint Ph.D. degree in electrical engineering from Technical University of Eindhoven, The Netherlands, and National University of Singapore.

Currently she is an Associate Professor with Singapore University of Technology and Design (SUTD). Before joining SUTD, she had been with Data Storage Institute (DSI), Singapore, where she served as the Leader of the Coding and Signal Processing Group. Cai Kui is a senior member of IEEE and the Vice-Chair (Academia) of IEEE Communications Society, Data Storage Technical Committee (DSTC). She is the recipient of 2008 IEEE Communications Society Best Paper Award in Coding and Signal Processing for Data Storage. Her research interests include coding theory, communication theory, and signal processing for various data storage systems and digital communications.