

IEEE Globecom 2015  
Symposium on Selected Areas in Communications  
**Data Storage Track**

**Sponsoring Technical Committee**

Data Storage Technical Committee

**Co-Chair**

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**Scope and Motivation**

Data storage is the key enabler of the ongoing data revolution. New storage technologies are being developed to support the unprecedented data growth and processing. At the device level, recent advances in emerging data storage technologies, such as non-volatile memories (NVM), bit-patterned media recording (BPMR) and heat-assisted magnetic recording (HAMR) are bound to transform the storage industry. At the system level, massive distributed storage networks, data centers and cloud storage systems require new coding schemes to improve storage efficiency. The unique characteristics of emerging data storage systems offer new challenges in reliability, resource-efficiency and security. Opportunities for fundamental advancements in channel modeling, signal processing and communication algorithms, and in information and coding theory with applications to modern data storage systems abound. This track will be focused on recent theoretical and experimental developments in emerging data storage applications.

**Main Topics of Interest**

- Device-level channel modeling and noise characterization for emerging storage and non-volatiles technologies
- Analysis and performance evaluation of novel recording paradigms, timing recovery, equalization, and write pre-compensation techniques
- Information theory and fundamental data transmission limits for new storage channels
- Practical coding methods cognizant of underlying physical constraints (e.g., WOM codes, rank modulation)
- Circuit design for coding, detection, and read/write channels
- Novel and emerging storage media: optical, PCM, MRAM, RRAM, etc.
- Innovative signal processing and decoding algorithms and methods for emerging data memories
- Network coding and communication techniques for cloud storage and distributed storage networks
- Architecture and design of large-scale storage subsystems based on new non-volatile memories
- Security and data compression/deduplication for data centers
- Energy-efficient designs for storage

**Sponsoring Technical Committees:**

- Data Storage Committee

## How to Submit a Paper:

The IEEE Globecom 2015 website provides full instructions on how to submit papers. You will select the desired symposium when submitting. The paper submission deadline is April 1, 2015.

## Biography of Co-Chair



**Dr. HAITAO (TONY) XIA** is Senior Manager of R&D at Avago Technologies, leading the research and development of advanced read channel and Serdes architectures for data storage systems. Dr. Xia is the current Chairman of IEEE Data Storage Technical Committee and President of Chinese American Information Storage Society (CAISS). Before his work at Avago/LSI, Dr. Xia worked at Linked-A-Media Devices on signal processing and coding in the area of magnetic recording channels and non-volatile memories. Dr. Xia has published more than 20 articles in peer-reviewed journals/conferences, and has more than 50 US patent granted to his name. Dr. Xia is an IEEE Senior Member and Member of Sigma Xi. He received the Ph. D degree from University of Oklahoma in 2004, and B.S. and M.S. degrees from Southeast University, Nanjing, China, in 1994 and 1997, respectively.