



Symposium on Data Storage and Cloud Computing

Symposium Co-Chairs

Dr. Xinde Hu

SanDisk Corp. xinde.hu@sandisk.com

The 2015 IEEE International Conference on Communications (ICC) will be held in London, UK from 8-12 June 2015. Themed “Smart City & Smart World,” with its proximity to Tech City, the fastest growing technology cluster in Europe, this flagship conference of IEEE Communications Society will feature a comprehensive technical program including twelve Symposia and a number of Tutorials and Workshops. IEEE ICC 2015 will also include an exceptional Industry Forum & Exhibition program including business panels and keynote speakers. We invite you to submit your original technical papers, and industry forum, workshop, and tutorial proposals to this event. Accepted and presented papers will be published in the IEEE ICC 2015 Conference Proceedings and in IEEE Xplore®. Full details of submission procedures are available at <http://www.ieee-icc.org/2015>.

Scope and Topics of Interest

Data storage is at the core of the information technology revolution, from the smartphones in our hands to data centers in the cloud. Hard disk drives, flash memories, new non-volatile memory technologies, as well as distributed storage networks combine to provide ubiquitous access to data. But these new and existing systems pose novel problems of storage density, reliability, efficiency and security.

Data storage is not limited to the personal devices, rather “floating” in the cloud. Each day, petabytes of data is computed in the cloud, stored in the cloud, and secured in the cloud. Key technologies, such as ECC and DSP will play a new key role in enabling fast, reliable, secure cloud storage/computing infrastructure.

Signal processing and coding techniques are the foundation for solving these problems. While storage channel models are fundamentally communication channels, the unique demands of recording and storage create new challenges to maintain the pace of growth. Researchers and engineers are invited to submit novel and practical results relating to aspects of signal processing and coding for data storage in areas including, but not limited to:

- Equalization, detection and filtering for data storage systems
- Timing recovery and write pre-compensation techniques
- Channel and noise characterization for magnetic recording, flash memories and emerging memory technologies
- Error-correcting codes for storage channels and distributed storage networks
- ECC decoding techniques
- Information theory for storage
- Network coding techniques for distributed storage networks
- DSP/ECC for flash-based data storage systems
- Channel coding/equalization for flash-based data storage systems

- Energy-efficient designs for storage
- Signal processing for shingled writing, heat-assisted magnetic recording and bit-patterned media
- WOM codes, modulation codes and run-length limited codes
- Circuit design for coding, detection, and read/write channels
- Security for cloud storage and storage devices
- Novel and emerging storage media: optical, PCM, MRAM, RRAM, etc.
- Network attached storage solutions
- Digital signal processing for cloud computing and cloud storage systems
- RAID for cloud storage systems
- Energy-efficient designs for storage

Submission Guidelines

Prospective authors are invited to submit original technical papers by the deadline 30 September 2014 for publication in the IEEE ICC 2015 Conference Proceedings. All submissions should be written in English with a maximum paper length of Six (6) printed pages (10-point font) including figures without incurring additional page charges (maximum 1 additional page with over length page charge if accepted).

Standard IEEE Transactions templates for Microsoft Word or LaTeX formats found at

<http://www.ieee.org/portal/pages/pubs/transactions/stylesheets.html>

Alternatively you can follow the sample instructions in template.pdf at

<http://www.comsoc.org/confs/globecom/2008/downloads/template.pdf>

Only PDF files will be accepted for the review process and all submissions must be done through EDAS at

<http://edas.info/>

Co-Chairs Biographies

Dr. Xinde Hu is currently System Architect at SanDisk. His responsibility includes creating, designing, and evaluating innovative system architecture concepts and implementations for the next generations of non-volatile memory based storage systems. Dr. Xinde Hu received his Ph. D in Electrical and Computer Engineering from Carnegie Mellon University (CMU). Prior to joining SanDisk, Dr. Hu worked for STEC and STMicroelectronics inc. as a system architect.

Dr. Xinde Hu has authored more than a dozen technical papers on the area of coding/signal processing for data storage systems and has 20+ patent applications pending. His paper, "Error Floor Estimation of Long LDPC Codes on Partial response Channels," was awarded the best student paper award in signal processing & coding for data storage (awarded by IEEE Communications Society). He is currently serving as Vice Chairman of the IEEE Data Storage Technical Committee (DSTC). And he is an organizer of the annual Flash Memory Summit conference and serves on the committee for key IEEE conferences.