



IEEE Data Storage Technical Committee Update

Haitao (Tony) Xia

Chair, IEEE Data Storage Technical Committee

Agenda



- Introduction / Tony Xia
- Mailing List Migration / Brian Kurkoski
- Conference Reports
 - ICC 2013 / Tiffany Li
 - GLOBECOM 2013 / Edward Au
 - ICC 2014 / Brian Kurkoski
- JSAC Report / Lara Dolecek
- Best Paper Awards / Kai Cui
- Membership / Tony Xia
- TAC Report / Tony Xia, Brian Kurkoski
- ComSoC Best Readings / Brian Kurkoski

Introduction



- Technical Committee Officers:
 - Chair: Dr. Haitao (Tony) Xia, LSI Corporation, USA
 - Vice Chair of Industry: Dr. Xinde Hu, SanDisk, USA
 - Vice Chair of Academic: Prof. Sedat Olcer, Istanbul Bilgi University, Turkey
 - Secretary: Prof. Brian M. Kurkoski, Japan Advanced Institute of Science of Technology (JAIST), Japan
 - Treasurer: Dr. Kui Cai, Data Storage Institute, Singapore

Introduction



- Goals and Activities:
 - Technical group under IEEE Communications Society to promote data storage related technologies and their applications
 - Scope covers signal processing and coding for magnetic and non-volatile storage systems, cloud storage/computing, mobile storage and big data
 - Bridge between storage industry and universities to engage research collaboration
 - Sponsor and co-sponsor conferences, workshop, etc.
- Join us:
 - Website: <http://committees.comsoc.org/spfs/>
 - Contact us through Prof. Brian M. Kurkoski (kurkoski@jaist.ac.jp)

Mailing List

Migration to IEEE Listserv



- DSTC Mailing list is maintained by the secretary
 - Low-volume announcements: ICC/Globecom CFPs, DSTC meetings, etc.
 - Mailing list is de-facto member list (about 180 members)
- Current DATASTORAGE list from secretary's university mail server
- Want to migrate to IEEE listserv
 - More stable when officers change
 - Consistent for members
 - Official IEEE address
 - Listserv is fairly powerful:
 - subscribe by web or "subscribe dstc yyy@xxx.com"
- Current status
 - Obtained the listserv account dstc@ieee.org
 - Testing
- To do
 - Move current member list from old server to listserv
 - Add moderators: Executive committee, ICC/GC Track chairs

Conference Reports



■ Conference support from DSTC:

- ICC 2013, Budapest Hungary
 - Chair: Prof. Tiffany Li, Lehigh University
 - 25 papers submitted
- Globecom 2013, Atlanta, Georgia, USA
 - Chair: Edward Au, Huawei Technologies Canada
 - 18 papers submitted; paper review completes;
 - Paper acceptance notification by July 1
- ICC 2014, Sydney, Australia
 - Chair: Prof. Brian Kurkoski, JAIST
- Globecom 2014, Austin, Texas, USA
 - Chair: Prof. Lara Dolecek, UCLA
- ICNC 2014, Honolulu, Hawaii, USA
 - Co-Chairs: Haitao (Tony) Xia, LSI Corporation, Prof. Yiran Chen, University of Pittsburg
- ICC 2015, London, UK
 - Chair: Xinde Hu, SanDisk, USA
- Globecom 2015, San Diego, USA
 - Chair: Haitao (Tony) Xia, LSI Corporation



IEEE INTERNATIONAL CONFERENCE
ON COMMUNICATIONS
INDUSTRY FORUM & EXHIBITION



www.ieee-icc.org/2014



- Call for Papers: ICC 2014 Sydney, Australia 10-14 June
- SAC - Data Storage Track. Topic Areas:
 - 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
 - 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.
 - Energy-efficient designs for storage
- Submission Deadline is September 15

JSAC Report



- IEEE Journal on Selected Areas on Communications
Special Issue on Communication Methodologies for the Next-Generation Storage Systems
- GUEST EDITORS: Lara Dolecek (lead), Mario Blaum, Jehoshua Bruck, Anxiao (Andrew) Jiang, Kannan Ramchandaran, Bane Vasic
- Timeline
 - Initial paper submission: May 1, 2013 (extended to May 15)
 - First/second reviews: Sept. 1/Nov. 1 , 2013
 - Final manuscripts due: Dec. 15, 2013
 - Publication: Second Quarter 2014
- “terrific turn out” About 50 submitted papers
- Anticipate around 35% acceptance rate.
- Scope of submitted papers: coding for non-volatile memories, detection and estimation, new storage channels, distributed network storage, general combinatorial problems related to the new storage/memory channels, others.

Best Paper Award



- Best Paper Award and Best Student Paper Award given each year
- 2011 and 2012 nomination deadline was March 31, 2013
- Nominations received:
 - 2 nominations for 2011 Best Student Paper Award,
 - 2 nominations for 2012 Best Student Paper Award,
 - 1 nomination for 2011 Best Paper Award.
- Proposal:
 - Merge the 2011 and 2012 Best Student Paper Awards.
 - No Best Paper Award
 - Decision to be announced at the end of November 2013
- Call for Volunteers
 - Join the Best Paper Award committee
 - Contact Kui Cai Cai_Kui@dsi.a-star.edu.sg

Membership



- Membership Promotion support from DSTC:
 - 2013 Distinguish Lecturer Nomination
 - Prof. Bane Vasic, University of Arizona
 - 2013 IEEE Fellow Nomination (co-nomination)
 - Prof. Krishna Narayanan, Texas A&M University
 - 2013 IEEE Senior Member Nomination
 - Prof. Lara Dolecek, UCLA

TAC Report



- Technical Activities Council meeting at ICC'13 on June 11
- Recertification and Voting
 - Recertification is proceeding -- announcements at Globecom 2013
 - DTSC already has clear criteria for voting members:
 - (1) Attend TC meetings at least twice in the past three years;
 - (2) Organized & chaired a data storage track at ICC/Globecom past three years;
 - (3) Served in a ICC/Globecom Data Storage Track TPC twice in the past three years
- Ombudsman - new position “first point of contact for ComSoc complaints” e.g. plagiarism, disputes, etc.
- Humanitarian Communications Technology - Ad Hoc Committee
 - Advise ComSoc helping people in developing regions have same communications technologies as people developed countries
 - They want one representative from each technical committee
- Student Competition update:
 - “Communication Technology Changing the World” Deadline is end of August
 - Asked TC for nominations for representative. Only 4 received.

Best Readings



- Summary of important papers, books etc. within a given field
- Opportunity for “Best Readings” in Data Storage. Volunteers?

A screenshot of the IEEE website's "Best Readings" page. The page header includes the IEEE Communications Society logo and the tagline "The world's leading membership organization for communications professionals." Below the header is a navigation menu with links for Home, About ComSoc, Conferences, Publications, Membership, Career, Digital Library, Community, and Blog. The main content area features a large "BEST READINGS" title. Below the title, there are social media sharing buttons for Facebook, Twitter, and LinkedIn. The page lists several featured topics: "Broadband Access", "Power Line in Communications", "Cognitive Radio", and "Green Communications". Each topic is accompanied by a brief description. On the right side of the page, there is an advertisement for a "Brand new T&M book on the market" with an image of a person holding a blue ball.