

# Highlights from the 2013 Fall Workshop on Information Theory and Communications, Tainan, Taiwan

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The 2013 Fall Workshop on Information Theory and Communications took place in Chiayi, Taiwan during 15-16 August 2013. This two-day workshop was held by the National Chung Cheng University (CCU), Taiwan, and was supported by the IEEE Taipei and Tainan Chapter of Communications Society, and the Taipei Chapter of the IEEE Information Theory Society. The workshop has attracted more than 250 attendees from both academia and industry with 150 papers presented in the poster sessions and 7 invited speeches given by distinguished researchers from Hong Kong and Taiwan.

Three invited speeches were scheduled on the first day of the workshop. In the first talk titled "Facets of Physical-Network Coding (PNC)," Prof. Soung-Chiang Liew, IEEE Fellow, Division Head at the Department of Information Engineering of the Chinese University of Hong Kong (CUHK) first gave an overview on the concepts of PNC and then disclosed some of the recent results in his theoretical and experimental investigations. The second talk was given by Prof. Ping-Cheng Yeh from the Department of Electrical Engineering of National Taiwan University (NTU). In his talk titled "Diffusion-Based Molecular Communications," Prof. Yeh introduced the idea of molecular communications and presented several new channel coding designs for this type of communications. In the third speech titled "On Imperfect Channel Knowledge in Fading Channels," Dr. A. Taufiq Asyari from the Department of Electrical and Computer Engineering of National Chiao Tung University (NCTU), Taiwan, presented his latest research progress on the capacity of non-coherent fading channels.

On the second day of the workshop, the first speech titled "Design of Optimal and Near-Optimal Variable-Length Error-Correcting Codes" was given by Prof. Po-Ning Chen from the Department of Electrical and Computer Engineering of NCTU. In this talk, Prof. Chen presented his research on the algorithmic construction of optimal and near-optimal variable length error-correcting prefix codes.



Researchers enjoyed the wonderful speeches given in the 2013 Fall Workshop on Information Theory and Communications.

In the second talk "Rooting out the Rumor Culprit in Online Social Networks," Prof. Chee Wei Tan from City University of Hong Kong, presented his research on the detectability and detection of a rumor source in different topology of social networks. The third talk was given by Prof. Kuei-Chiang Lai from the Department of Electrical Engineering of National Cheng Kung University (NCKU), Taiwan. In his talk titled "Equalization Techniques for Single-Carrier Block Transmission (SCBT) Systems," Prof. Lai presented a new equalization scheme enabling high-performance low-complexity detection in a SCBT system. The last speech of the workshop was given by Prof. Tsung-Hui Chang from the Department of Electronic and Computer Engineering of National Taiwan University of Science and Technology (NTUST). In the talk titled "Decentralized Demand Response Control for Future Smart Grid Networks," Prof. Chang showed how the modern optimization techniques can be utilized to address both centralized and decentralized coordinated demand side management (CoDSM) design problems in a smart grid network.

The Workshop on Information Theory and Communications is a long-established bi-annual event in Taiwan, which provides great opportunities for domestic researchers working in the field of communications and information theory to exchange research ideas, make new connections, and also enjoy the scenery of the host city. The 2014 Spring Workshop on Information Theory and Communications will be hosted in Kaohsiung, Taiwan by the National Kaohsiung Normal University (NKNU). We sincerely look forward to your participation.



Group photo of faculty attendees after the Workshop (Front row, left to right: W.-H. Sheen, Y. Li, J.-T. Tsai, Y.-L. Chen, M.-C. Lin, C.-C. Chao, S.-C. Liew, C.-L. Wang, C. W. Tan, P.-C. Yeh, T.-H. Chang, C.-H. Lee, C.-L. Chang, M.-X. Chang, and C. Huang; Second row, left to right: M.-C. Chiu, S.-P. Tseng, C.-P. Li, C.-Y. Chi, G.-C. Yang, H.-J. Su, W.-C. Liu, C.-E. Chen, Y.-W. Hong, B. Su, and K.-C. Lai.)