

2013 Asilomar Conference on Signals, Systems and Computers

Student Paper Contest Results

Judging Panel

D. Richard Brown III, Worcester Polytechnic Institute, Chair, Behnaam Aazhang, Rice University, Milica Stojanovic, Northeastern University (also affiliated with Woods Hole Oceanographic Institution and the Massachusetts Institute of Technology), David Love, Purdue University, Weiyu Xu, University of Iowa.

1st place: \$500.00 prize, and free registration at the 2014 Conference

Akshay Krishnamurthy, Carnegie Mellon University, USA

Recovering Graph-Structured Activations using Adaptive Compressive Measurements

Co-authors: James Sharpnack and Aarti Singh, Carnegie Mellon University, USA

This paper considers the problem of localizing a cluster of activated vertices in a graph using adaptively designed compressive measurements. By exploiting the cluster structure, the authors are able to provide localization guarantees at weaker signal to noise ratios than prior approaches.

2nd place: \$400.00 Prize

Karl F. Nieman, University of Texas at Austin, USA

FPGA Implementation of a Message-Passing OFDM Receiver for Impulsive Noise Channels

Co-authors: Marcel Nassar, Jing Lin, and Brian L. Evans, University of Texas at Austin, USA

This paper describes an implementation of approximate message passing for estimation and mitigation of impulsive noise in OFDM power line communications. The OFDM receiver is implemented on an FPGA and shown to achieve full streaming throughputs at G3-PLC rates and be resistant to impulsive noise over a wide SNR range.

3rd place: \$300.00 Prize

Pratik Patil, University of Toronto, Canada

Delay-Optimal Streaming Codes under Source-Channel Rate Mismatch

Co-authors: Ahmed Badr, Ashish Khisti, Univ. of Toronto, Canada, and Wai-Tian Tan, Hewlett-Packard Labs, USA.

This paper considers low-delay error correction codes for streaming recovery over a class of packet-erasure channels. The authors characterize the capacity of a certain class of burst-erasure channels and develop explicit codes that attain this capacity.



From left to right: *Phil Schniter*, 2013 Technical Chair; *Akshay Krishnamurthy*, 1st place Winner; *Robert Heath*, 2013 General Chair; *Rick Brown*, Student paper Contest Judging Panel Chair; *Pratik Patil*, 3rd place Winner, and *Karl Nieman*, 2nd place Winner, Asilomar Conference Grounds, Pacific Grove, CA, 11/4/13.