



4th Annual Electrical Engineering  
**Research**  
Festival

October 11, 2013

Courtyard **8:00am** Check-in & Welcome

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Patio **9:00am** Poster Session #1

Applied electromagnetics, Bio-electronics and bio-optics, Communications, Integrated circuits and systems, Photonics, Signal Processing, VLSI

Auditorium **11:00am** Graduating Ph.D. Research Overview

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Courtyard **12:00pm** Lunch

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Patio **1:30pm** Poster Session #2

Architecture, Controls, Networks, Signal Processing

Courtyard **3:30pm** Awards Ceremony & Reception

9:00am – 11:00am Poster Session #1 (Gerontology Patio)

- Applied electromagnetics
- Bio-electronics and bio-optics
- Communications
- Integrated circuits and systems
- Photonics
- Signal Processing
- VLSI

1.	Agnelo Silva	<i>Applied Electromagnetics</i>	The Design and Implementation of a Subsurface Wireless Communication System Based on Lateral Wave Antenna and Asynchronous Low Duty-Cycle Wireless Sensor Network Architecture
2.	Chih-Chieh Hsu	<i>Bio-Electronics and Bio-Optics</i>	Dendritic Spike-Evoked Precise Neuronal Firing Timing in Neuromorphic Circuits
3.	Kiran Gururaj	<i>Bio-Electronics and Bio-Optics</i>	A Shared Architecture ADC for Closed-loop Bio-medical Applications
4.	Sajjad Beygi	<i>Communications</i>	Vehicle to Vehicle (V2V) Channel Estimation
5.	Sunav Choudhary	<i>Communications</i>	Identifiability Results for Ill-posed Bilinear Inverse Problems
6.	Vinod Kristem	<i>Communications</i>	Making UWB Positioning Robust to Multiuser-Interference (MUI)
7.	Yongxiong Ren	<i>Communications</i>	Simultaneous Turbulence Compensation of Multiple Orbital Angular Momentum 100 Gbit/s QPSK Data
8.	Mohammad Reza Chitgarha	<i>Communications</i>	Flexible Optical Transmitter and OSNR Monitor for Data Center Applications
9.	Uldric Antao	<i>Integrated Circuits &amp; Systems</i>	Low Power False Positive Tolerant Event Detector for Seismic Sensors
10.	Hooman Abediasl	<i>Integrated Circuits &amp; Systems</i>	Measurement of Quality Factor of Tunable On-Chip Silicon Ring Resonators
11.	Ren Chen	<i>Architecture</i>	Tunable Algorithms for High Energy Efficiency

12.	Jaewon Nam	<i>Integrated Circuits &amp; Systems</i>	A 95-MS/s 11-bit 1.36mW Asynchronous SAR ADC with Embedded Passive Gain in 65nm CMOS
13.	Mark Harrison	<i>Photonics</i>	Spatiotemporal Fluorescent Detection Measurements using Embedded Waveguide Sensors
14.	Jungyeon Kim	<i>Signal Processing</i>	Approximate 3D face modeling for face recognition in the wild
15.	Davi Leite	<i>Signal Processing</i>	MRI-based Classification of Human Abdominal Fat Phenotypes
16.	Christopher Sandino	<i>Undergrad Student</i>	Efficient Generation of Dynamic Cardiac Phantoms
17.	Colin Vaz	<i>Signal Processing</i>	A Two-step Technique for MRI Audio Enhancement using Dictionary Learning and Wavelet Packet
18.	Divya Varadarajan	<i>Signal Processing</i>	Statistical Estimation with noisy Rician/non-central chi distributed MR images
19.	Yongzhe Wang	<i>Signal Processing</i>	Intra Predictive Transform Coding based on Predictive Graph Transform
20.	James Gibson	<i>Signal Processing</i>	Spectro-Temporal Directional Derivative Features for Automatic Speech Recognition
21.	Yi Guo	<i>Signal Processing</i>	Comparison of ADMM and NLCG reconstruction in DCE MRI
22.	Ahsan Javed	<i>Signal Processing</i>	Semi-Automated Analysis of Dynamic 3D Upper Airway MRI
23.	Jangwon Kim	<i>Signal Processing</i>	Airway-tissue boundary segmentation in the upper airway images recorded by real-time magnetic resonance imaging
24.	Mohammad Reza Rajati	<i>Signal Processing</i>	Advanced Computing with Words Using Arithmetic Operations on Linguistic Belief Structures
25.	Xue Wang	<i>Signal Processing</i>	Fully Automated Segmentation of Mitochondria Based on Morphological Feature Learning
26.	Bo Xiao	<i>Signal Processing</i>	Data driven Modeling of Head Motion Towards Analysis of Behaviors in Couple Interactions

27.	Gopi Neela	<i>VLSI</i>	Techniques for Assigning Inter-Tier Signals to Bondpoints in a Face-to-Face Bonded 3DIC
28.	Yilda Irizarry	<i>VLSI</i>	The BioRC Biomimetic Real-Time Cortex
29.	Vikram Ramanarayanan	<i>Signal Processing</i>	Articulatory settings are mechanically advantageous for speech motor control

11:00am Gerontology Auditorium

Graduating Ph.D. 4 Minute Research Overview (Auditorium)

Syed Ashrafulla	<i>Modeling and Estimating Granger Causality between Signals Category: Signal Processing</i>
Kartik Audhkhasi	Diversity Benefits in Multi-System Sequence Classification With a Case Study of Automatic Speech <i>Category: Signal Processing</i>
Sergul Aydore	Minimizing Performance Penalty for Power-gating of Clos Network-on-Chip <i>Category: Signal Processing</i>
Yuchi Che	Carbon Material-based Nanoelectronics and RF Electronics <i>Category: Signal Processing</i>
Yenting Lin	High Contrast Travel Time Tomography with Sparse Data <i>Category: Signal Processing</i>
Mohammad Korjani	Intelligent Knowledge Acquisition Systems <i>Category: VLSI</i>
Daphney-Stavroula Zois	Tracking and Resource Allocation in Heterogeneous Sensor Networks <i>Category: Communications</i>

12:00pm Lunch (Courtyard)

1:30pm – 3:30pm Poster Session #2 (Gerontology Patio)

- Architecture
- Controls
- Networks
- Signal Processing

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1.	Aditya Deshpande	<i>Architecture</i>	Quantifying the Dominance of Leakage Energy in Large-Scale System Caches
2.	Yun Qu	<i>Architecture</i>	High-performance Dynamically Updatable Packet Classification
3.	Lihang Zhao	<i>Architecture</i>	PUNO: Predictive Unicast and Notification for Energy Efficient HTM
4.	Da Tong	<i>Architecture</i>	High Throughput Online Traffic Classification on FPGA
5.	Mohammad Abdel- majeed	<i>Architecture</i>	Warped Gating: Gating Aware Scheduling and Power Gating for GPGPUS
6.	Afshin Abadi	<i>Controls</i>	Smart Personalized Car Navigation System
7.	Saeid Jafari	<i>Controls</i>	Adaptive Vibrational Control for High Accuracy Systems
8.	Naumaan Nayyar	<i>Controls</i>	Decentralized Control for Asymmetric Information Sharing Patterns
9.	Tooraj Rajabioun	<i>Controls</i>	Intelligent Parking Assist
10.	Vadim Butakov	<i>Controls</i>	Driver/vehicle diagnostics
11.	Nachikethas Jagedeesan	<i>Networks</i>	Adaptive Power and Rate Allocation over Markovian Fading Channels

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12.	Yi-Hsuan Kao Parisa	<i>Networks</i>	Optimizing Mobile Computational Offloading with Delay Constraints
13.	Mansourifard	<i>Networks</i>	Baysian Congestion Control Over a Markovian Network Bandwidth Process
14.	Shangxing Wang	<i>Networks</i>	Robotic Message Ferrying for Wireless Networks using Coarse-Grained Backpressure Control
15.	*Marcelo Segura & Sam Mandegaran	<i>Integrated Circuits and Systems</i>	50 MHz – 6 GHz, 2 x 2 MIMO, Reconfigurable Transceiver <i>*demo included</i>
17.	Yanting Wu	<i>Networks</i>	Efficient Mechanism Design for Competitive Uplink Carrier Selection and Rate Allocation
18.	Anas Al Majali	<i>Networks</i>	A Systems Approach to Analysing Cyber-Physical Threats in the Smart Grid
19.	Masoud Moshref Javadi	<i>Networks</i>	MRM: Delivering Predictability and Service Differentiation in Shared Compute Clusters
20.	Keyvan Rezaei Moghadam	<i>Networks</i>	Data Dissemination in Intermittently Connected Mobile Networks
21.	Wenyuan Tang	<i>Networks</i>	Pricing Mechanisms in the Wholesale Electricity Market
22.	Chitresh Bhushan	<i>Signal Processing</i>	Accelerated Data Acquisition for Bo-Distortion Correction Using Interlaced q-space Sampling in Diffusion MRI
23.	Daniel Bone	<i>Signal Processing</i>	Computational Behavioral Analysis of Child-Psychologist Interactions
24.	Theodora Chaspari	<i>Signal Processing</i>	Analyzing the Structure of Parent-Moderated Narratives from Children with ASD using an Entity-based Approach
25.	Rahul Gupta	<i>Signal Processing</i>	Paralinguistic Event Detection from Speech using Probabilistic Time Series Smoothing and Masking
26.	Harshad Kadu	<i>Signal Processing</i>	Advanced Techniques for Human Motion Capture Data Classification
27.	Kuan-Hsien Liu	<i>Signal Processing</i>	Age Group Classification via Fusion

28.	Tsung-Jung Liu	<i>Signal Processing</i>	Video Quality Assessment based on Temporal Decomposition
29.	Nikolaos Malandrakis	<i>Signal Processing</i>	Continuous Models of Affect from Text using N-Grams
30.	Yanbo Wang	<i>Signal Processing</i>	Complex Independent Component Analysis with Real Mixing
31.	Zhaojun Yang	<i>Signal Processing</i>	Toward Body Language Generation in Dyadic Interaction Settings from Interlocutor Multimodal Cues
32.	Harsha Honnappa	<i>Networks</i>	Stochastic Network Model of Virtualized Distributed Storage

### 3:30pm Awards Ceremony & Reception (Courtyard)

*Award categories for Best Posters and Presentations*

#### Awards

Honorable Mention Best Poster Award from Poster 1

Honorable Mention Best Poster Award from Poster Session 2

Best Poster Award from Poster Session 1

Best Poster Award from Poster Session 2

Best Pitch Award

The Annual Electrical Engineering Research Festival is hosted by the Ming Hsieh Institute.

All presentations will be posted on the website – [mhi.usc.edu](http://mhi.usc.edu)

*The Ming Hsieh Institute is part of the Department of Electrical Engineering, which is the largest department in the USC Viterbi School of Engineering. The central goal of the institute is to position the Ming Hsieh Department at the forefront of the world in thought leadership in the broad area of electrical engineering, and specifically in the development of intelligent technologies to empower mankind.*