Theses Awarded

S.B.

- Mariah Hake (K.K. VARANASI)
  Experimental Design to Determine the Effect of Temperature and Mach Number on Entropy Noise
- Colleen Loynachan (P.O. ANIKEEVA)
  Targeted Magnetic Nanoparticles for Remote Manipulation of Protein Aggregation

M.ENG.

- Johanna Chong (J.R. RAM)
  Integrated Single and Multiwavelength Fiber Ring Laser with Non-integrated Gain
- Ragheb El Khaja (J. HAN)
  Electro-chemical Stimulation of Neuromuscular Systems Using Ion-Selective Membranes: Flexible Device Fabrication and Motor Unit Recruitment Order
- Itaru Hiromi (C.G. SODINI)
  Hybrid Intensity and Time-Off Flight Signal Processing Techniques for Intelligent Distance Sensors
- Yuxuan Lin (T. PALACIOS)
  Optical properties of 2-dimensional transition metal dichalcogenides
- Kevin Linke (C.G. SODINI)
  On-Chip Input for a High Voltage SAR ADC
- Anartya Mandal (J.A. DEL ALAMO)
  Modeling 0.18m BiCMOS (SiB) High Sheet Resistance (RPH) Polysilicon Resistor Lifetime Drift
- Alec Poitsch (C.G. SODINI)
  A High Voltage, High Current, Low Error Operational Amplifier with Novel Features
- Joohyun Seo (C.G. SODINI)
  Continuous and Non-Invasive Blood Pressure Monitoring Using Ultrasonic Methods
- Ky-Anh Tran (C.G. SODINI)
  A Spread-Spectrum Clock Generator Using Phase Interpolation for EMI Reduction
- Theresa Yeh (T. PALACIOS AND A.P. CHANDRAKASAN)
  Efficient Wireless Charging with Gallium Nitride FETs
- Xianzhen Zhu (C.G. SODINI)
  Build Blocks of a 250MHz bandwidth, 10-bit Continuous-time Delta-Sigma Analog to Digital Converter

S.M.

- Fahri Erinc Hizir (N.X. FANG)
  Experiments and Simulations on a Metamaterial Based Ultrasonic Scanner
- Rui Jin (A.P. CHANDRAKASAN)
  Circuits and Systems for Efficient Portable-to-Portable Wireless Charging
- Karim Khalil (K.K. VARANASI)
  Active Lubricant-Impregnated Surfaces
- Yoon Kyung Lee (N.X. FANG)
  Light Induced Torque at Multipolar Plasmon Resonance
- Wenjie Lu (J.A. DEL ALAMO)
  Nano-scale Ohmic Contacts for III-V MOSFETs
- Ian McKay (E.N. WANG)
  A Thermo-Adsorptive Battery
- Daniel Preston (E.N. WANG)
  Electrostatic Charging of Jumping Droplets on Superhydrophobic Nanostructured Surfaces: Fundamental Study and Applications
- Priyanka Raina (A.P. CHANDRAKASAN)
  Architectures for Computational Photography
- Yufei Wu (J.A. DEL ALAMO)
  Degradation of GaN High Electron Mobility Transistors under High-power and High-Temperature Stress
- Yang Xi (H.-S. LEE)
  Design of a Continuous-Time Bandpass Delta-Sigma Modulator
- Yujia Yang (K.K. BERGGREN)
  Development of Optical Field Emitter Arrays
- Tao Yu (J.L. HOYT)
  InGaAs/GaAsSb Type-II Heterojunction Vertical Tunnel-FETs
- Dongni Zhang (A.P. CHANDRAKASAN)
  Low-Energy Radix-2 Serial and Parallel FFT Designs

PH.D.

- Gleb Akselrod (V. BULOVIC)
  Exciton Transport and Coherence in Molecular and Nanostructured Materials
- Mohammad Araghchini (J.H. LANG)
  MEMS Toroidal Magnetics for Integrated Power Electronics
- Jay-Byum Chang (K.K. BERGGREN)
  Templated Self-Assembly for Complex Pattern Fabrication and Computation
PH.D. (continued)

- Albert Chang (D.S. Boning and H.-S. Lee)
  Low-Power High-Performance SAR ADC with Redundancy and Digital Background Calibration

- Kailiang Chen (C.G. Sodini and A.P. Chandrakasan)
  A Column-Row-Parallel ASIC Architecture for 3D Wearable / Portable Medical Ultrasonic Imaging

- Hyungryul Choi (N.X. Fang and G. Barbastathis)
  Nanostructured Multifunctional Surfaces

- Sungwon Chung (H.-S. Lee)
  Energy-Efficient Wireless Transmitter Architecture for Mobile Multimedia

- Isaac Ehrenberg (N.X. Fang and S. Sarma)
  Fully Conformal Metamaterials via Rapid 3D Prototyping

- Feng Gao, (T. Palacios)
  Impact of Electrochemical Process on the Degradation Mechanisms of AlGaN/GaN HEMTs

- Sushmit Goswami (H.-S. Lee)
  Monolithic RF Frontends for Ubiquitous Wireless Connectivity

- Stephen A. Guerrera (A.I. Akinwande)
  Individually Controlled Field Emission Arrays

- Amneet Gulati (S. Manalis)
  Mass-based assay for single-cell growth in budding yeast

- David He, (C.G. Sodini)
  Dynamic ON-Resistance in High-Voltage GaN Field-Effect-Transistors

- Eric V. Heubel (L.F. Velásquez-García)
  Enhancing RPA Energy Measurements with Micro-Aligned Electrodes

- Sha Huang (J. Han)
  The Relevance of Red Blood Cell Deformability in the Pathophysiology of Blood Disorders

- Thomas Humplik (E.N. Wang)
  Investigating Transport Through Sub-Nanometer Zeolites Pores

- Donghun Jin (J.A. Del Alamo)
  Dynamic ON-resistance in High-Voltage GaN Field-Effect Transistors

- Rohkyun Kwak (J. Han)
  Nonlinear Ion Concentration Polarization: Fundamentals and Applications

- Hyuk-Min Kwon (K.K. Varanasi)
  Tailoring Hydrodynamics of Non-wetting Droplets with Nano-engineered Surfaces

- Dong Seup Lee (T. Palacios)
  Deeply-Scaled GaN High Electron Mobility Transistors for RF Applications

- Sunghyuk Lee (H.-S. Lee)
  Techniques for Low-Power High-Performance ADCs

- Andrej Lenert (E.N. Wang)
  Tuning Energy Transport in Solar Thermal Systems using Nanostructured Materials

- Prayudi Lianto (C.V. Thompson)
  Mechanism of Catalyst Stability of Metal-Assisted Chemical Etching of Silicon

- Jill Macko (V. Bulovic)
  Nanostructural Engineering of Vapor-Processed Organic Photovoltaics for Efficient Solar Energy Conversion from Any Surface

- Mariana Markova, (H.-S. Lee)
  Precision Hybrid Pipeline ADC

- Nenad Mijkovic (E.N. Wang)
  Development and Characterization of Micro/ Nanostructured Surfaces for Enhanced Condensation

- Robert R. Mitchell III (C.V. Thompson)
  Investigation of Lithium-Air Battery Discharge Product Formed on Carbon Nanotube and Nanofiber Electrodes

- Adam Paxson (K.K. Varanasi)
  Advanced Materials for Enhanced Condensation Heat Transfer

- Rahul Rithe (A.P. Chandrakasan)
  Energy-Efficient Systems Design for Mobile Processing Platforms

- Parthibean Santhanam (R.J. Ram)
  Thermo-Electrically Pumped Semiconductor Light Emitting Diodes

- Yasuhiro Shirasaki (V. Bulovic)
  Efficiency loss mechanisms in colloidal quantum-dot light-emitting diodes

- Yildiz Sinangil (A.P. Chandrakasan)
  Energy-Aware System Design Using Circuit Reconfigurability with a Focus on Low-Power SRAMs

- Han Wang, (T. Palacios)
  Two-Dimensional Materials for Electronic Applications

- Eric Winokur, (C.G. Sodini)
  Single-Site, Noninvasive, Blood Pressure Measurements at the Ear Using Ballistocardiogram (BCG) and Photoplethysmogram (PPG) and a Low Power, Reflectance-Mode PPG SoC

- Liang Jie Wong (L.F. Velásquez-García)
  Compact Laser-Driven Electron Acceleration, bunch compression, and Coherent Nonlinear Thompson Scattering (main advisor was F. X. Kärtner)

- Marcus Yip (A.P. Chandrakasan)
  Ultra-low-power Circuits and Systems for Wearable and Implantable Medical Devices

- Hang Yu (C.V. Thompson)
  Mechanisms for Intrinsic Stress Evolution During and after Polycrystalline Film Growth