Theses Awarded

S.M.

- **Christian Allinson** (D. BONING / S. SPEAR)
  Enabling Proactive Quality in Commercial Airplanes using Natural Language Processing
- **Samuel Cruz** (J. KIM)
  Mechanism of Remote Epitaxy Using Two Dimensional Materials
- **Farri Gaba** (D. BONING / M. WINKENBACH)
  Solutions to the Generalized UAV Delivery Routing Problem for Last-Mile Delivery with Societal Constraints
- **Jack Gammack** (S.-G. KIM)
  Design Knowledge Base Using Natural Language Processing
- **Elizabeth Hau** (L. DANIEL)
  Digital Thread and Analytics Model to Improve Quality Controls in Surgical Stapler
- **Anjali Krishnamachar** (L. DANIEL)
  Fulfillment Simulation and Inventory Location Optimization
- **Hunjoo Kim** (J. LANG)
  Development of Industrial Internet of Things Architecture and Business Strategy for Digital Substation Asset Management
- **Christopher Lui** (D. BONING / R. WELSCH)
  An Investigation of Multivariate Process Control for Biomanufacturing
- **Colin Poler** (D. BONING / N. REPENNING)
  Improving Operational Efficiency of a Small Manufacturing Maintenance Organization
- **Tareq Saqr** (J. LANG)
  Deep Unsupervised Anomaly Detection Applied to Motor-Driven Blowers
- **Andrew Tindall** (D. BONING / R. WELSCH)
  Analytics to Make Hybrid Work, Work
- **John Zhang** (J. LANG)
  An Intracochlear Hydrophone and Amplifier

S.B.

- **Jaeyoung Jung** (A. CHANDRAKASAN)
  Low-Power Communication Circuits for Net-Zero-Energy IoT Nodes
- **Joshua J. Piel** (D. PERREAUT)
  Closed-Loop Control for a Piezoelectric-Resonator-Based DC-DC Power Converter
- **Tanya Smith** (D. BONING)
  Data Driven Surrogate Models for Faster SPICE Simulation of Power Supply Circuits
- **Fan-Keng Sun** (D. BONING)
  Adjusting for Autocorrelated Errors in Neural Networks for Time Series
- **Peter Tran** (D. BONING)
  Automated Visual Inspection of Lyophilized Products via Deep Learning and Autoencoders
- **Babu Wanyeki** (D. PERREAUT)
  A Two-Stage Piezoelectric Resonator and Switched-Capacitor DC-DC Converter
- **Ceylan Caylan** (S.-G. KIM)
  Application of Natural Language Processing to Unstructured Data: A Case Study of Climate Change

PH.D.

- **Haluk Akay** (S.-G. KIM)
  Representing Knowledge for Data-Driven Design
- **Marc-Joseph Antonini** (P. ANIKEEVA)
  Customizing Multifunctional Bidirectional Neural Interfaces Through Fiber Drawing
- **Ashley Beckwith** (L. VELASQUEZ-GARCIA)
  Rethinking Plant-Based Materials Production: Selective Growth of Tunable Materials Using Cell Culture Techniques
- **Chanyeol Choi** (J. KIM)
  Memristor-based AI Hardware for Reliable and Reconfigurable Neuromorphic Computing
- **Sally El-Henawy** (D. BONING)
  Statistical Modeling of the Effects of Process Variations on Silicon Photonics
- **Taylor Facen** (L. DANIEL)
  How Enhanced Data Availability Affects Multi-Channel Marketing Attribution
- **Henri-Louis Girard** (K. VARANASI)
  Interaction at Interfaces Across Scales: from Adsorption to Adhesion
- **Jiaobao Han** (L. LILU)
  Harnessing Magnetic Switching and Dynamics Using Electron and Magnon Spin Currents
- **Jinchi Han** (V. BULOVIC)
  Active Micro-/Nano-Structures for Electromechanical Actuation
- **Vishnu Jayaprakash** (K. VARANASI)
  Engineering Physico-chemical Interactions Across Drug Delivery, Agriculture and Carbon Capture
PH.D. (CONTINUED)

- **Yunjo Kim** (J. KIM)
  Interface Engineering for Exfoliation and Integration of Heteroepitaxial III-V Films

- **Yosef S. Kornbluth** (L. VELASQUEZ-GARCIA)
  Microplasma-Enabled Sputtering of Nanostructured Materials for the Agile Manufacture of Electronic Components

- **Madeleine Reynolds Laitz** (V. BULOVIC)
  Light-Matter Interactions in High-Efficiency Photovoltaics, Light-Emitting Devices, and Strongly Coupled Microcavities

- **Christopher Lang** (D. BONING)
  Applications of Probabilistic Machine Learning Models to Semiconductor Fabrication

- **Sangho Lee** (J. KIM)
  Nanoscale Engineering for Mixed-Dimensional Heterostructure Growth and Integration

- **Youngbin Lee** (P. ANKEEVA)
  Engineering Biomedical and Bioinspired Fiber Devices via Thermal Drawing

- **Xinhao Li** (N. FANG)
  Disordered Optics for Multidimensional Information Processing

- **Sajjad Mohammadiyangijeh** (J. LANG)
  Modeling, Design, Identification, Drive, and Control of a Rotary Actuator with Magnetic Restoration

- **Jimin Park** (P. ANKEEVA)
  Electrochemical and Magnetochemical Approaches for Neuronal Modulation

- **Melany Sponseller** (V. BULOVIC)
  Stability of PbS Quantum Dot Solar Cells

- **Richard Swartwout** (V. BULOVIC)
  Scalable Perovskite Thin-Film Photovoltaics

- **Georgios Varnavides** (P. ANKEEVA / P. NARANG)
  Electron Hydrodynamics in Crystalline Solids: Microscopic Origins, Mesoscopic Size Effects, and Macroscopic Observables