

## **Electrical & Computer Engineering**

### **POSTER SESSION, 8:30am to 1:00pm Alden Hall**

#### **Poster #1: Urban UAV Localization via Signals of Opportunity**

John Frahm, Carthene McTague, Ann Phan, Heath Sainio, John Song

Advisors: Alexander Wyglinski, Reinhold Ludwig

#### **Poster #2: High-Power DC/DC Converter with Integrated DC/AC Inverter for Fuel Cell Applications**

Costanza Di Fino, Ryan Hulme, Kane Kyer, Nicholas Silva

Advisor: Gregory Noetscher

#### **Poster #3: Sensor-Based Wind and Position Estimation for High-Precision Two-Stage Airdrop Systems**

Paige Rust

Advisor: Ziming Zhang, Raghvendra Cowlagi

#### **Poster #4: ECE 2049 Reimagined: Upgrading Embedded Systems Labs for Future Applications**

Shannon Miranda, Kyle Schmottlach

Advisors: Fatemeh Ganji, Bashima Islam, Shahin Tajik, Zane Weissman

#### **Poster #5: How the Human Brain Makes Sense of Natural Scenes**

Isaac Akande, Todeyon Somasse

Advisor: Ziming Zhang

#### **Poster #6: Wireless Wearable Pulse Oximeter and ECG Monitor**

Isaac Demartino, Jerson Suarez, Bryan Wheeler Edward A. Clancy

#### **Poster #7: Conversion and Regulation Integrated Management SolutiON (CRIMSON) Power Management IC**

Leo Borsari, Diego Canovas, Peter Danise, Dennis Garvey, Ilia Pavliqi, Luke Ramsay, Luca Tropea,

Cameron Wilding

Advisors: Suat Ay, Ibrahim Bozyel

#### **Poster #8: Crack the Code: Where AI Meets Cybersecurity**

Matthew Cloutier, Nathan Ewell, Cole Gilbert, Arman Gevorgyan

Advisors: Fatemah Ganji, Mohammad Nour

#### **Poster #9: Text-to-3D AI Modeling: Comparing Computer Analysis to Human Evaluation**

Cameron Cadman, Bryan Dionne, Jady Newman

Advisor: Ziming Zhang

#### **Poster #10: Autonomous Surface Vehicle for Shallow Water Bathymetry 2025-2026**

Nicole Duong, Will Gerlach, Benjamin Howes

Advisor: Rick Brown

#### **Poster #11: Grid Fault Identification with Machine Learning**

Kara Giordano, Sophia Gross, Alexandra Weiss

Advisors: Gregory Noetscher, Christo

Kurisummoottil Thomas

#### **Poster #12: Piezo IR Preamp**

Violet Cowell, Nikolai Tan, Nhan Tran

Advisor: Alexander Wyglinski

#### **Poster #13: Wireless Power System: Capacitor Charging and Impedance Matching Network Design**

Dariga Rakhat

Advisor: Ulkuhan Guler

#### **Poster #14: Layout of a Transcutaneous Oxygen Measurement System on a Chip (SoC) for Wearable Applications**

Evan Haas

Advisor: Ulkuhan Guler

#### **Poster #15: Cracking the Matrix: Extracting Bits through Photon Emission in an FPGA-based LLM Accelerator**

Lily Dukette, William Folan, Olivia Kochol

Advisors: Fatemeh Ganji, Shahin Tajik

#### **Poster #16: Drone-Assisted Signal Source Localization in Disasters**

Lane Araujo, Beth Irwin, Samin Khandaker, Gift

Kuepouo

Advisor: Koksai Mus

**Poster #17: Photoacoustic Sensor for Measuring Core Body Temperature**

Sofia Xie

Advisor: Ulkuhan Guler

**Poster #18: Design and Validation of a Dual-Pump Cardiovascular Simulator with Physiological Blood Pressure**

Fernando E. Chinchilla Mejía, Juan A. Sánchez

Advisor: Yihao Zheng

**Poster #19: Spiking Neural Network on FPGA**

Alex Berube, Colin Frazer, Anna Kelly, Evan Smith

Advisors: Fatemeh Ganji, Jacob Whitehill

**Poster #20: Testing Hall Thruster Power Processing Units for Busek**

Jaime Santoro

Advisor: Rick Brown

**Poster #21: Embedded Control and Power Systems for 3D Printed Humanoid Robots**

Rick Hughes, Samuel Kim, Bryan Tahje, Gabe Weaver

Advisor: Taylor Andrews, Pradeep Radhakrishnan

**Poster #22: Design and Implementation of a Quadcopter Control System**

Marcos Delgado Rosa

Advisor: Mostafa Asheghan