

STEM Demos

Electrical vehicles and charging stations (SERC 3045)

Professor Mithat Kisacikoglu, Electrical and Computer Engineering

Demo Contact: Emin Ucer, eucer@crimson.ua.edu, Tel: 205-523-6494

Electric vehicles (EVs) are increasing in numbers in our lives. There are more than a million electric vehicles in the United States alone. Tesla is a frontier successful example of EVs. We research how safe we can connect EVs to the utility power grid so that it continues its operation without any disruption.

Underwater drones (SERC141)

Professor: Jonghun Kam, Civil, Construction, and Environmental Engineering

Demo Contact: Junho Song, Tel: 408-335-5741, jsong33@crimson.ua.edu

Sungyoon Kim, skim130@crimson.ua.edu

We will show how to navigate our underwater drone, named Tooah, in the water tank of SERC. We will explain how to use the functions of “auto-heading” and “auto-depth” during the underwater drone navigation. Also, we will demonstrate how to navigate and record a video via the 3D goggle.

Underwater autonomous vehicle (SERC141)

Professor: Aijun Song, Electrical and Computer Engineering

Demo Contact: Brandon Quinn, Tel: 412-913-3282

Software-defined radar (First-floor lobby area, SERC)

Professor: Sevgi Gurbuz, Electrical and Computer Engineering

Demo Contact: szgurbuz@eng.ua.edu

Astrobotics demonstration (First-floor lobby area, SERC)

Professor: Kenneth Ricks, Electrical and Computer Engineering

Demo Contact: Laura Malis <lemalis@crimson.ua.edu>

Bioinspired Terrestrial Soft Robots and Shape Morphing Tensegrity Mechanisms (First-floor lobby area, SERC)

Professor: Vishesh Vikas, Mechanical Engineering

Contacts: Michael Maynard, Tyler Rhodes

Virtual reality (First-floor lobby area, SERC)

Professor Chakareski, Jacob, Electrical and Computer Engineering

Demo Contact: Ridvan Aksu raksu@crimson.ua.edu Tel: 205-887-6464

Watch several 360° videos using Oculus Rift VR device.

UAV flight demonstration (Engineering Quad): **Weather Permitting**

Dr. O'Neill, Charles, Electrical and Computer Engineering

The Remote Sensing Center's Dr. Charles O'Neill and his students will be displaying and demonstrating the use of unmanned aerial vehicles (UAVs). The aircraft will include fixed-wing airplanes and multi-rotor “drones” used for engineering and science data collection. The discussions intends to highlight the intersection of mathematics, science, engineering, and systems integration on the design and operations of aerial vehicles.

Concrete demo (SERC 1009)

Armen Amirkhanian, Civil, Construction, and Environmental Engineering

Demo contact: Atolo Tuinukuafe, Tel: 206-823-9220

Description: Concrete is the most used man-made material in the world! There are many types of concrete used for sidewalks, roads, buildings, and airfields. Come learn about concrete and make your own concrete coaster out of a special concrete mixture that is used to rapidly patch civilian and military airfields! You'll be able to take the coaster home with you.