

- 10:00 AM** **Welcome, Dr. David Sanchez**
- 10:05 AM** **Reducing Emissions - Fuel Consumption Reduction Technologies for Pittsburgh Port Authority Buses**
Advisor: *Matthew Barry, mechanical engineering & materials science*
Student: *Kathryn Rossi, chemical & petroleum engineering (John C. Mascaro Scholar)*
- 10:15 AM** **Silk-based flexible/wearable electronics: towards sustainable fabrication and materials engineering**
Advisor: *Mostafa Bedewy, industrial engineering*
Student: *Rim Biaz, industrial engineering (John C. Mascaro Scholar)*
- 10:25 AM** **Validating citizen science tools used to identify lead water lines**
Advisor: *Mike Blackhurst, university center for urban and social research*
Student: *Arianna Heilbrunn, environmental studies (John C. Mascaro Scholar)*
- 10:35 AM** **Ni-Mn-Ga magnetic shape memory alloys for power generation applications**
Advisor: *Markus Chmielus, mechanical engineering & materials science*
Student: *Tyler Papham, mechanical engineering & materials science (John C. Mascaro Scholar)*
- 10:45 AM** **Chemical semantics and its implications on environmental transport, fate, and toxicity**
Advisors: *Leanne Gilbertson and Carla Ng, civil & environmental engineering*
Student: *Rachel Fay, civil & environmental engineering (John C. Mascaro Scholar)*
- 10:55 AM** **Durable Antireflective, Anti-Soiling and Self-Cleaning Solar Glass**
Advisor: *Paul Leu, industrial engineering*
Student: *Sooraj Sharma, mechanical engineering & materials science (John C. Mascaro Scholar)*
- 11:05 AM** **Structural Design with Bamboo**
Advisor: *Kent Harries, civil & environmental engineering*
Student: *Harisa Martinos, architectural studies (John C. Mascaro Scholar)*
- 11:15 – 11:30** **BREAK**
- 11:30 AM** **Capturing and storing energy from hurricane waves with a piezoelectric device**
Advisor: *Katherine Hornbostel, mechanical engineering & materials science*
Student: *Stephanie Litwack, mechanical engineering & materials science (John C. Mascaro Scholar)*
- 11:40 AM** **Capturing carbon dioxide from the ocean with a membrane device**
Advisor: *Katherine Hornbostel, mechanical engineering & materials science*
Student: *Christopher Snodgrass, bioengineering (John C. Mascaro Scholar)*
- 11:50 AM** **Reducing frictional energy losses in transportation and industry: Surface coatings and the effect of surface roughness on friction**
Advisor: *Tevis Jacobs, mechanical engineering & materials science*
Student: *Annie Shi, mechanical engineering & materials science (John C. Mascaro Scholar)*
- Noon** **Using acoustic sensors and machine learning to locate birds and bats in the field**
Advisor: *Justin Kitzes, biological sciences*
Student: *Jiade Song, industrial engineering (John C. Mascaro Scholar)*

- 12:10 PM** **Small & Mighty: Exploring nature to identify bacteria capable of degrading a new generation of environmental contaminants**
Advisor: *Sarah Haig, civil & environmental engineering*
Student: *Kareem Rabbat, civil & environmental engineering (Charles and Linda Sorber Scholar)*
- 12:20 PM** **Increasing the Structural Resilience of Reinforced Concrete through Bio-Remediation**
Advisor: *Sarah Haig, civil & environmental engineering*
Student: *Aamil Shah, bioengineering (John C. Mascaro Scholar)*
- 12:30 – 1:10** **LUNCH**
- 1:10 PM** **Smarter Riversheds – real-time sensor networks**
Advisor: *David Sanchez, civil & environmental engineering*
Student: *Carlie Johnson, civil & environmental engineering (John C. Mascaro Scholar)*
- 1:20 PM** **Recirculating Aquaculture – managing water quality in a closed system**
Advisor: *David Sanchez, civil & environmental engineering*
Student: *Mason Unger, civil & environmental engineering (John C. Mascaro Scholar)*
- 1:30 PM** **Campus-Wide Sustainability Dashboard**
Advisor: *Aurora Sharrard, Director, University Office of Sustainability*
Collaborators: *Melissa Bilec & Michael Blackhurst, plus interactions with Pitt Facilities Management*
Student: *Jonathan Coles, civil & environmental engineering (John C. Mascaro Scholar)*
- 1:40 PM** **Examination of Electrode Performance for Redox Flow Batteries**
Advisor: *James McKone, chemical & petroleum engineering*
Student: *Carissa Yim, chemical & petroleum engineering (Frank and Daphna Lederman Scholar)*
- 1:50 PM** **What the Frack: Designing nanocatalysts for responsible use of natural gas**
Advisor: *Goetz Vesper, chemical & petroleum engineering*
Student: *Albert Lopez-Martinez, chemical & petroleum engineering (John C. Mascaro Scholar)*
- 2:00 PM** **Post-processing design on superalloys by additive manufacturing for NASA space technology missions.**
Advisor: *Wei Xiong, mechanical engineering & materials science*
Student: *Yinxuan Li, mechanical engineering & materials science (John C. Mascaro Scholar)*
- 2:10 PM** **Graphene-based composite materials for high performance thermoelectric devices**
Advisor: *Minhee Yun, electrical and computer engineering*
Student: *Seth So, electrical and computer engineering (Douglas Condon Scholar)*
- 2:20 PM** **Developing a novel photopolymer based additive manufacturing machine (3D Printer) for high-resolution applications**
Advisor: *Xiayun Zhao, mechanical engineering & materials science*
Student: *Yue Zhang, mechanical engineering & materials science (John C. Mascaro Scholar)*