

2017 Undergraduate Summer Research Symposium

Wednesday, July 26

9:30 AM - 2:45 PM

102 Benedum Hall

- 9:30 am** **Welcome**
Dr. David Sanchez
- 9:35 am** **Water desalination through reactive extraction**
Madeleine Hamrick, Chemical & Petroleum Engineering (*Charles A. and Linda E. Sorber Scholar*)
Advisor: Eric Beckman, Chemical & Petroleum Engineering
- 9:50 am** **Pittsburgh Water Microbiome**
Austin Kuntz, Bioengineering (*Mascaro Scholar*)
Advisor: Kyle Bibby, Civil & Environmental Engineering
- 10:05 am** **The Effects of Carbon electrode morphology on Biofilm-electrode formation**
Kaleigh Smith, Mechanical Engineering & Materials Science (*Mascaro Scholar*)
Advisor: David Sanchez, Civil & Environmental Engineering
- 10:20 am** **Development of Next Generation Nano-Antimicrobials**
Cole D'Aurizio, Mechanical Engineering & Materials Science (*Mascaro Scholar*)
Advisor: Leanne Gilbertson, Civil & Environmental Engineering
- 10:35 am** **Fueling a Growing World: Nanoparticle Catalyzed Synthesis of Ethylene**
Kendra LaVallee, Chemical & Petroleum Engineering (*Mascaro Scholar*)
Advisor: Goetz Vesper, Chemical & Petroleum Engineering
- 10:50 am** **WO₃-Supported Noble Metal Catalysts for Hydrogen Evolution**
Dean Miller, Chemical & Petroleum Engineering (*Covestro Scholar*)
Advisor: James McKone, Chemical & Petroleum Engineering
- 11:05 am** **Break**
- 11:15 am** **Combining Metal Nanomeshes and Nanostructured Glass as an Alternative to Transparent Conductive Oxides**
Maxwell Lindsay, Mechanical Engineering & Materials Science (*Mascaro Scholar*)
Rafael Rodriguez, Mechanical Engineering & Materials Science (*Mascaro Scholar*)
Advisor: Paul Leu, Industrial Engineering
- 11:30 am** **Colloidal and Surface Properties of Carbon Particles for Electrochemical Energy Storage**
James Hughes, Chemical & Petroleum Engineering (*Mascaro Scholar*)
Advisor: James McKone, Chemical & Petroleum Engineering

- 11:45 am** ***Additive manufacturing of energy-saving and energy producing materials***
Colleen Hilla, Mechanical Engineering & Materials Science (*Mascaro Scholar*)
Advisor: Markus Chmielus, Mechanical Engineering & Materials Science
- Noon** ***Desalination using polymer crystallization***
Joseph Hamm, Chemical & Petroleum Engineering (*Mascaro Scholar*)
Advisor: Sachin Velankar, Chemical & Petroleum Engineering
- 12:15 pm** ***Feeding a Growing World: Towards a Novel Process for Ammonia Synthesis***
Eric McElhinny, Chemical & Petroleum Engineering (*Mascaro Scholar*)
Kendra LaVallee, Chemical & Petroleum Engineering (*Mascaro Scholar*)
Advisor: Goetz Vesper, Chemical & Petroleum Engineering
- 12:30 pm** ***Lunch***
- 1:15 pm** ***Automated growth of two-dimensional materials for green electronics***
Joji Bronner, Electrical and Computer Engineering (*Condon Scholar*)
Advisor: Feng Xiong, Electrical and Computer Engineering
- 1:30 pm** ***2-D and nanomaterials for Energy Applications***
Connor Herring, Chemical & Petroleum Engineering (*Mascaro Scholar*)
Advisor: Minhee Yun, Electrical and Computer Engineering
- 1:45 pm** ***Engineering Engagement Approaches: Game-Play and Design within the Classroom***
Abra Spisso, Civil and Environmental Engineering (*NSF Scholar*)
Advisor: Melissa Bilec, Civil and Environmental Engineering
- 2:00 pm** ***A Material, Energy, and Water Use Life Cycle Assessment of High Performance Buildings***
Julissa Garcia, Civil and Environmental Engineering (*NSF Scholar*)
Advisor: Melissa Bilec, Civil and Environmental Engineering
- 2:15 pm** ***Unlocking energetically efficient water oxidation for ozone disinfectants***
Angela Leo, Chemical & Petroleum Engineering (*Covestro Scholar*)
Advisor: John Keith, Chemical & Petroleum Engineering
- 2:30 pm** ***Machine Learning Blueprints for Green Chelating Agents***
Ethan Henderson, Chemical & Petroleum Engineering (*Frank and Daphna Lederman Scholar*)
Advisor: John Keith, Chemical & Petroleum Engineering

Thank you
to our faculty, graduate student mentors and our donors
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