

## 2016 Undergraduate Summer Research Program

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### *Preliminary Agenda*

**Tuesday, July 19, 2016**

**102 Benedum Hall**

**9:30 am – 2:00 pm**

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| <b>9:30 am</b>  | <b>Welcome</b>  |
| <b>9:35 am</b>  | <b>Use of Equilibrium Chemical Reactions to Enhance Desalination &amp; Heat Transfer Processes</b><br>Student: Emily Connor, chemical engineering ( <i>Mascaro Scholar</i> )<br>Advisor: Eric Beckman, chemical & petroleum engineering                         |
| <b>9:50 am</b>  | <b>Pittsburgh Water Microbiome Project</b><br>Student: Marissa Drobitch, civil & environmental engineering ( <i>Charles A. and Linda E. Sorber Scholar</i> )<br>Advisor: Kyle Bibby, civil & environmental engineering  |
| <b>10:05 am</b> | <b>Additive Manufacturing of Magnetocaloric Materials for High-efficiency Cooling</b><br>Student: Katerina Kimes, mechanical engineering & materials science ( <i>Mascaro Scholar</i> )<br>Advisor: Markus Chmielus, mechanical engineering & materials science |
| <b>10:20 am</b> | <b>Piezoelectric Foams for Energy Harvesting</b><br>Student: Noah Perryman, mechanical engineering & materials science ( <i>Mascaro Scholar</i> )<br>Advisor: William Clark, mechanical engineering & materials science   |
| <b>10:35 am</b> | <b>BREAK</b>  |
| <b>10:45 am</b> | <b>Development of Stable Nano-Emulsions as a Sustainable Alternative to Conventional Fertilization Practices</b><br>Student: Jasmine Toney, chemical engineering ( <i>Mascaro Scholar</i> )<br>Advisor: Leanne Gilbertson, civil & environmental engineering    |
| <b>11:00 am</b> | <b>Mechanical Test Methods for Full-Culm Bamboo</b><br>Student: Jelani Virgo, civil & environmental engineering ( <i>Mascaro Scholar</i> )<br>Advisor: Kent Harries, civil & environmental engineering  |
| <b>11:15 am</b> | <b>Black Silicon Solar Cells</b><br>Student: Bradley Pafchek, mechanical engineering & materials science ( <i>Mascaro Scholar</i> )<br>Advisor: Paul Leu, industrial engineering  |
| <b>11:30 am</b> | <b>Carbon Nanotube Based Fuel Cells</b><br>Student: Anthony Galante, industrial engineering ( <i>Mascaro Scholar</i> )<br>Advisor: Paul Leu, industrial engineering   |

<b>11:45 am</b>	<b>LUNCH</b>
<b>12:30 pm</b>	<b>Renewable Energy Integration on the Electric Power Grid</b> Student: Julia Cope, electrical & computer engineering ( <i>Douglas Condon Scholar</i> ) Advisor: Thomas McDermott, electrical & computer engineering
<b>12:45 pm</b>	<b>Sustainable Energy Generation Using Microbial Fuel Cells</b> Student: Emily Klonicki, civil & environmental engineering ( <i>Mascaro Scholar</i> ) Advisor: David Sanchez, civil & environmental engineering
<b>1:00 pm</b>	<b>Sustainable Design within Engineering Education</b> Student: Cameron Beichner, mechanical engineering & materials science ( <i>Mascaro Scholar</i> ) Advisor: David Sanchez, civil & environmental engineering
<b>1:15 pm</b>	<b>Design of Lightweight 3D Printed Lattice Structured Parts</b> Student: John Wallace, mechanical engineering & materials science ( <i>Mascaro Scholar</i> ) Advisor: Albert To, mechanical engineering & materials science
<b>1:30 pm</b>	<b>Dirt to Diamonds: CO<sub>2</sub> Conversion to Chemicals and Fuels</b> Students: Patrick Asinger, chemical engineering ( <i>Len Peters Scholar</i> ) Isaac Mastalski, chemical engineering ( <i>Frank and Daphna Lederman Scholar</i> ) Advisor: Goetz Veser, chemical & petroleum engineering