



2018 Physics Undergraduate Research Symposium  
Lewis Lab 316

Friday, July 27, 2018

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|---|---------------------|---|
| <b>Welcome and Opening Remarks</b>          | 9:20 am – 9:30 am   | Prof. McSwain   |
| <b>Session 1</b>                            | 9:30 am – 10:30 am  | Chair: Prof. Young  |
| 9:30 Dana O'Connor (Young)                  |                     | Using Transient Absorption Spectroscopy to Measure Kinetics in Antimony Sulfide-Based Solar Cells                             |
| 9:45 Amanda Kemmerer (Young)                |                     | Syntheses of Azo Dyes as Model Systems for Photo-Induced Proton-Coupled Electron Transfer                                     |
| 10:00 Samuel Cieszynski (Rangarajan)        |                     | Reaction of Ethane on the Edge of Molybdenum Disulfide  |
| 10:15 Evan Blanchard (Baltrusaitis)         |                     | Synthesis and Acidic/Basic Properties of Na/WO <sub>x</sub> /SiO <sub>2</sub> Surface Sites for Oxidative Coupling of Methane |
| <b>Break</b>                                | 10:30 am – 10:45 am |   |
| <b>Session 2</b>                            | 10:45 am – 11:45 am | Chair: Prof. Biaggio  |
| 10:45 Eric Wolf (Biaggio)                   |                     | Intermediate-Timescale Exciton Dynamics in Rubrene Single Crystals  |
| 11:00 Victoria Brunner (Biaggio)            |                     | Rubrene Crystal Growth and Characterization   |
| 11:15 Joseph Piet (Biaggio)                 |                     | Raman Spectroscopy of Rubrene Single Crystals   |
| 11:30 Anita Richardson (Biaggio)            |                     | Second harmonic generation in amorphous organic films with preferential orientational order                                   |
| <b>Group Photo of REU Students</b>          | 11:45 am – 12:00 pm |   |
| <b>Lunch Break</b> (lunch provided for all) | 12:00 pm – 1:30 pm  |   |

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| <b>Session 3</b>       |                 |                   | 1:30 pm – 2:30 pm | Chair: Prof. Dierolf  |
| 1:30                   | Khalil Tafiti   | (Dierolf)         |                   | Raman Characterization of Single Crystals in Sb <sub>2</sub> S <sub>3</sub> Glass             |
| 1:45                   | Lejla Hoxha     | (Dierolf)         |                   | Effects of polarization on crystal growth in lithium niobosilicate glass by femtosecond laser |
| 2:00                   | Andrew DiBiasio | (Toulouse)        |                   | Modeling relaxation and resonance in ferroelectric crystals                                   |
| 2:15                   | Mari McPheron   | (Sommer)          |                   | Hollow Beam Atom Trap   |
| <b>Break</b>           |                 |                   | 2:30 pm – 2:45 pm |   |
| <b>Session 4</b>       |                 |                   | 2:45 pm – 3:45 pm | Chair: Prof. Vavylonis  |
| 2:45                   | Michelle Ash    | (Ou-Yang)         |                   | Creating a Viscoelastic Spectrum of Aqueous Polyacrylamide Gel at Varying Concentrations      |
| 3:00                   | Connor Simpson  | (Honerkamp-Smith) |                   | Diffusion Experiments with Lipid Bilayers on Differently Prepared Glass Substrates            |
| 3:15                   | Hailey Lovelace | (Vavylonis)       |                   | Simulating Polarization and Oscillations of Cdc42 for Cell Growth                             |
| 3:30                   | Felix Quintana  | (Vavylonis)       |                   | Delivery Mechanism of Profilin-Actin Complex to Actin Filament Barbed End                     |
| <b>Break</b>           |                 |                   | 3:45 pm – 4:00 pm |   |
| <b>Session 5</b>       |                 |                   | 4:00 pm – 5:00 pm | Chair: Prof. Pepper   |
| 4:00                   | Jason Bennett   | (Cremonini)       |                   | Holographic Superconductors: using AdS/CFT to study unconventional metals                     |
| 4:15                   | Mario Olivares  | (Reed)            |                   | Dihadron correlations in simulated Au+Au collisions at $\sqrt{s_{NN}} = 200$ GeV              |
| 4:30                   | Cian Reeves     | (Reed)            |                   | Measuring the temperature of the QGP using data from Au-Au collisions at 27 GeV               |
| 4:45                   | Mallory Harris  | (Pepper)          |                   | Ephemeris degeneration in TESS targets  |
| <b>Closing Remarks</b> |                 |                   | 5:00 pm           | Prof. McSwain   |