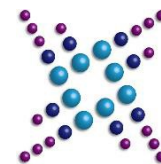


NU-MRSEC Research Experience for  
Undergraduates



***Closing Symposium***

Wednesday August 16 and Thursday August 17, 2017

Abbott Auditorium, Pancoe Hall

Wednesday August 16, 2017

- 12: 55 p.m. Opening Remarks, Kathleen Stair, REU Program Director
- 1:00 p.m. *“Aerosol Jet-Printing 2D Liquid-Phase Exfoliated Flakes”*  
Lidia Kuo, Materials Science & Nanoengineering, Rice University  
Prof. Mark Hersam, Supervising Faculty; Spencer Wells, Mentor
- 1:15 p.m. *“Substrate-influenced Nucleation of Tin(II) Sulfide on Graphene via Atomic Layer Deposition”*  
Jenna Doran, Microelectronic Engineering, Rochester Institute of Technology  
Prof. Lincoln Lauhon, Supervising Faculty; Michael Moody, Mentor
- 1:30 p.m. *“Controlled doping of Cs<sub>2</sub>SnI<sub>6</sub> for Planar Heterojunction Solar Cells”*  
Emily Greenstein, Materials Science and Engineering, Cornell University  
Prof. R.P.H. Change, Supervising Faculty; Anthony Krenselewski, Mentor
- 1:45 p.m. *“Phosphonate-capped Metal Chalcogenide Quantum Dots as a Transient optical pH Probe”*  
Sophie McClain, Chemistry, Indiana University  
Prof. Emily Weiss, Supervising Faculty, Jack Olding, Mentor
- 2:00 p.m. *“Photocatalytic Deprotection of Piperazine with Quantum Dots”*  
Sebastian Colmenares,<sup>1</sup> Materials Science and Engineering, University of Florida  
Prof. Emily Weiss, Supervising Faculty; Dmitriy Dolzhenkov Mentor
- 2:15 p.m. BREAK
- 2:30 p.m. *“Programming Plasmon Resonances in Nanoparticle Arrays”*  
Kyle Rocha, Physics, University of California, Santa Cruz  
Prof. George Schatz, Supervising Faculty, Marc Bourgeois, Mentor
- 2:45 p.m. *“Plasmon-Driven Chemistry in Gold Nanosphere Assemblies*  
Alanna Felts,<sup>3</sup> Chemistry, University of California, Irvine  
Prof. Richard P. Van Duyne, Supervising Faculty; Emily Sprague, Mentor
- 3:00 p.m. *“Effects of Lattice Angles on Surface Plasmon Polariton Modes”*  
Chavez Lawrence, Physics, University of Pennsylvania  
Prof. Teri Odom, Supervising Faculty; Michael Knudson, Mentor
- 3:15 p.m. *“Initiating Activity in Protein-core Spherical Nucleic Acids Through a Removable DNA Shell.”*  
Sean Hu, Chemistry, Northwestern University  
Prof. Chad Mirkin, Supervising Faculty; Kacper Skakuj, Mentor
- 3:30 p.m. *“Characterization of Grain Boundaries within Bicrystals of Yttria Stabilized Zirconia”*  
Arjun Zutshi, Chemical Engineering, California Institute of Technology  
Prof. Sossina Haile, Supervising Faculty; Connor Carr, Xin Xu, Mentors

Thursday August 17, 2017

- 1:00 p.m.      *“Examination of Cross-linking in Hydrogels via Graphene-enabled Electron Microscopy”*  
Kevin Qiu, Materials Science and Engineering, Northwestern University  
Prof. Vinayak Dravid, Supervising Faculty; Jingshan Du, Mentor
- 1:15 p.m.      *“Characterization of Inclusions in NiTi Shape Memory Alloys”*  
Margaret Fortman,<sup>1</sup> Physics and Mathematics, Lake Forest College  
Prof. L. Cate Brinson, Supervising Faculty; Partha Paul and Marc Palmeri, Mentors
- 1:30 p.m.      *“Adsorption of Colloids to Charged Surfaces”*  
Nisa Zaheer, Chemical Engineering, City Colleges of Chicago  
Prof. Michael Bedzyk, Supervising Faculty; Kurinjee Krishnamoorthy, Mentor
- 1:45 p.m.      *“Stress Measurements in thin films using the Picosecond Ultrasonic Method”*  
Chris Korabik, Physics, DePaul University  
Prof. O. Balogun, Supervising Faculty; Matt Ford, Mentor
- 2:00 p.m.      *“Characterizing Roman Red Glass Reproductions”*  
Angel Nunez, Chemistry and Physics, Oberlin College  
Dr. Marc Walton, Supervising Faculty; Amy Marquardt, Mentor
- 2:15p.m.      BREAK
- 2:30 p.m.      *“Fabrication and Analysis of All-Polymer Bulk Heterojunction Organic Photovoltaic Cells”*  
Tony Yang,<sup>2</sup> Chemical Engineering, College of DuPage  
Prof. Tobin Marks, Supervising Faculty; Ferdinand Melkonyan, Mentor
- 2:45 p.m.      *“Chromophore Amphiphile Assemblies for Hydrogen-Producing Photocathodes”*  
Isabel Albelo,<sup>1</sup> Chemical Engineering, University of California at Los Angeles  
Prof. Samuel Stupp, Supervising Faculty; Garrett Lau, Mentor
- 3:00 p.m.      *“Automated Identification of Carious Lesions in MICRO-CT Reconstruction of Rodent Molars”*  
Jack Wu,<sup>2</sup> Aerospace Engineering, College of DuPage  
Derk Joester, Supervising Faculty; Robert Free, Mentor
- 3:15 p.m.      *“Tuning the Solidity of Polymeric Materials Through Solvent Composition”*  
Lele Mathis,<sup>1</sup> Chemistry and Physics, Oberlin College  
Prof. Kenneth Shull, Supervising Faculty; Yaoyao Chen, Mentor
- 3:30 p.m.      *“Developing a Soft, Wearable Microfluidic Device for the Fluorescence-based Determination of Chloride Concentration in Sweat”*  
Kyle Thomas,<sup>1</sup> Biomedical Engineering and Systems Engineering, Washington University in Saint Louis  
Prof. John Rogers, Supervising Faculty; Amay Bandekar, Mentor
- 3:45 p.m.      Certificate presentation

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