

## WEDNESDAY, NOVEMBER 8

- 7:45 Registration and Continental Breakfast**
- 8:45 MRL Fall Conference Welcome**  
Dr. Mauro Sardela, UIUC  
Director, MRL Central Research Facilities
- 9:00 Surface Mechanics of Polyacrylamide Hydrogels Following Wear**  
Michael Atten (competitor)
- 9:20 Sequential Infiltration of Two-Photon Polymerized 3D Structures**  
Jacek Lechowicz (competitor)
- 9:40 A Facile Chemical Strategy to Hydrophobically Modify Solid Nanoparticles Using Inverted Micelles for Efficient Intracellular Delivery**  
Enrique Daza (competitor)
- 10:00 Poster Session 1 (Atten, Lechowicz, Daza) and Break**
- 10:30 The Role of Membrane Complexity in Cellular Delivery: A Materials Characterization and Processing Challenge**  
Dr. Cecilia Leal, UIUC  
Department of Materials Science and Engineering
- 11:15 Nanosalina: A Tale of Saline-Loving Algae from Lake's Agony to Cancer Therapy**  
Fatemeh Ostadhossein (competitor)
- 11:40 Poster Session 2 (Ostadhossein, Fathi) and Lunch**
- 1:00 Molecular Theranostics: An Important Application for Biological and Materials**  
Dr. King Li, UIUC  
Dean, Carle Illinois College of Medicine
- 1:45 Stain-Free Slide-Free Molecular Histopathology of Tissues Using Multimodal Nonlinear Optical Imaging**  
Dr. Stephen Boppart, UIUC  
Head, Beckman Institute Biophotonics Imaging Lab
- 2:30 Poster Session 3 (Malagari, Srivastava) and Break**
- 3:00 Personalized Absorbable Gastrointestinal Stents for Intestinal Fistulae and Perforations**  
Parinaz Fathi (competitor)
- 3:20 In Situ Time-Dependent and Progressive Oxidation of Reduced State Functionalities at the Nanoscale of Carbon Dots for Multiscale Near-Infrared Imaging**  
Indrajit Srivastava (competitor)
- 3:40 Mie Resonance Based All Dielectric Nanoresonators Fabricated Using Precision Silica Nanosphere Lithography**  
Shyamala Devi Malagari (competitor)
- 4:00 MRL Tours**

## THURSDAY, NOVEMBER 9

- 8:00 Continental Breakfast**
- 8:45 Introduction**  
Dr. Paul Braun, UIUC  
Director, Materials Research Laboratory
- 9:00 Engineering Novel Nanocrystals with Unconventional Properties Employing Cation Exchange**  
Progna Banerjee (competitor)
- 9:20 Microscale Probe for Intracellular Thermometry**  
Manjunath Rajagopal (competitor)
- 9:40 Ultra-Sensitive and Highly Specific Electrochemical Sensing of Prostate Specific Antigen in Human Saliva**  
Muhammad Khan (competitor)
- 10:00 Poster Session 4 (Banerjee, Khan, Rajagopal) and Break**
- 10:30 Soft Tissue Indentation: Tips and Tricks for Successful Experiments and Data Interpretation**  
Dr. Amy Wagoner Johnson, UIUC  
Beckman Institute
- 11:15 Local Activation of a Mechanophore Functionalized Solid Interface**  
Jaeuk Sung (competitor)
- 11:45 Poster Session 5 (Sung, Yao, Yoon) and Lunch**
- 1:00 Graphene Nanoelectronics**  
Dr. Nadya Mason, UIUC  
Department of Physics
- 1:45 Investigation of Stress and Structural Evolution in Electroplated Thick Ni Film**  
Yifan Yao (competitor)
- 2:05 Surface Oxidation of Metal Nanoparticles**  
Aram Yoon (competitor)
- 2:30 Break (Judges final conferring session)**
- 3:00 A Novel Hybrid Nanoindenter for the Facile and Precise Mechanical characterization of Soft Materials**  
Ryan J. Seelbach, IonOptix, LLC
- 3:50 IR Spectrometry**  
Jeremy Rowlette, DRS Daylight Solutions
- 4:40 Announcement of competition winners**
- Post-Conference Activities Friday, November 10**
- 10:00 Mid-IR QCL Spectral Microscopy: Bringing Label-Free, Video Rate Chemical Imaging Modalities to the Materials and Life Sciences (280 MRL)**  
Jeremy Rowlette, DRS Daylight Solutions
- 11:00 Demos in 133 MRL into the afternoon**