

AGENDA
2015 SRC ERC REVIEW MEETING
March 31- April 2, 2015
Marriott University Park Hotel, Tucson, AZ

Tuesday, March 31st

4:00 PM – Open Poster Set-Up Available [*Madera Room*]

Wednesday, April 1st

7:00 – 8:00 AM Continental Breakfast and Registration [*Pima/Sabino Foyer*]

7:30 – 8:00 AM TAB Caucus [*Ventana Room*]

8:00 – 8:20 AM Introduction and Overview: Farhang Shadman [*Pima/Sabino Rooms*]

Current Core Projects

8:20 – 8:50 AM 'Pad-in-a-Bottle': Planarization with Slurries Containing Suspended Polyurethane Beads (425.039) (30 min)
Ara Philipossian (University of Arizona)
Duane Boning (Mass. Institute of Technology)

8:50 – 9:25 AM Non-PFC Plasma Chemistries for Patterning Complex Materials/Structures (425.038 & 2390.001) (35 min)
Jane Chang (University of California/Los Angeles)

9:25 – 9:50 AM Cell-Based Toxicity Assay-on-Chip for the Next-Generation CMOS Technology (425.037) (25 min)
Shyam Aravamudhan (North Carolina A&T State University)
Ethan Taylor (University of North Carolina/Greensboro)
Marinella Sandros (University of North Carolina/Greensboro)
Shanthi Iyer (North Carolina A&T State University)

9:50 – 10:05 AM Break [*Pima/Sabino Foyer*] (15 min)

10:05 – 10:35 AM Detection of Engineered Nanomaterials: Semi-Conductor Facilities and Consumer Devices (425.040) (30 min)
Paul Westerhoff (Arizona State University)
Pierre Herckes (Arizona State University)
Chris Higgins (Colorado School of Mines)
Jonathan Posner (University of Washington)
James Ranville (Colorado School of Mines)

10:35 – 11:00 AM Interactions of Chemical Mechanical Planarization Nanoparticles with Model Cell Membranes: Implications for Nanoparticle Toxicity (425.041) (25 min)
Kai Loon Chen (Johns Hopkins University)

11:00 – 11:30 AM Dispersion, Bioaccumulation, and Mechanisms of Nanoparticle Toxicity (425.042) (30 min)
Steven Nielsen (University of Texas/Dallas)
Gregg Dieckmann (University of Texas/Dallas)
Rockford Draper (University of Texas/Dallas)
Inga Musselman (University of Texas/Dallas)
Paul Pantano (University of Texas/Dallas)

- 11:30 – 11:40 AM Summary and Highlights of Nano-Materials Projects (10 min)
Paul Westerhoff (Arizona State University)
- 11:40AM -12:40PM Lunch [**Canyon Rooms**]
- 12:40 –1:05 PM ESH-Friendly Cleaning and Rinsing of Multi-Material Surfaces and Structures
(425.043) (25 min)
Farhang Shadman (University of Arizona)
Manish Keswani (University of Arizona)
Srini Raghavan (University of Arizona)
- 1:05 – 1:25 PM Alternative Etchants for Magnetic Materials
(425.046) (20 min)
Jane Chang (University of California/Los Angeles)
- New Core Projects**
- 1:25 – 1:45 PM Introduction: Farhang Shadman [**Pima/Sabino Rooms**]
- 1:45 – 2:05 PM Bioaccumulation, Biopersistence, and Toxicity of CMP Nanoparticles in Mammalian and Aquatic Models
425.048 (20 min)
Rockford Draper (University of Texas/Dallas)
Paul Pantano (University of Texas/Dallas)
Ruhung Wang (University of Texas/Dallas)
- 2:05 – 2:25 PM Investigation of Speciation in III-V Wet Etching to Mitigate Hazardous Product Formation
425.049 (20 min)
Anthony Muscat (University of Arizona)
Srini Raghavan (University of Arizona)
- 2:25 – 2:40 PM Break [**Pima/Sabino Foyer**] (15 min)
- 2:40 – 3:00 PM Understanding the Sorption Characteristics of III-V Materials on CMP Nanoparticles and Evaluating their Environmental Impact using a Zebrafish Model
425.050 (20 min)
Andre Nel (University of California/Los Angeles)
Sijie Lin ((University of California/Los Angeles)
- 3:00 – 3:20 PM Understanding the Physicochemical Properties, Behavior and Toxicity Threshold Limit of Bound and Unbound Engineered Nanomaterials
425.051 (20 min)
Shyam Aravamudhan (North Carolina A&T State University)
James Ryan (North Carolina A&T State University)
- 3:20 – 3:50 PM Aquatic Fate and Toxicity of III/V Semiconductor Materials in the Presence of Chemical-Mechanical Planarization Nanoparticles
425.052
(and)
Seed Project: Initial Sorption and Toxicity Screening of III/V Ions
425.047 (30 min)
Reyes Sierra (University of Arizona)
Paul Westerhoff (Arizona State University)
- 3:50 – 4:05 PM Simon Karecki Award Presentation (15 min)
- 4:05 – 4:20 PM Break [**Pima/Sabino Foyer**] (15 min)

4:20 – 6:00 PM Poster session [***Madera and Pima/Sabino Rooms***]
 5:00 – 6:00 PM Networking/ Hors d'oeuvres/cash bar [***Madera and Pima/Sabino Rooms***]
 5:30 – 7:45 PM TAB Caucus w/ working dinner [***Ventana Room***]
 6:00 – Open Buffet Dinner [***Canyon Foyer & Canyon Rooms***]
 7:00 – Open Group Discussion and Planning Meetings [***Canyon Rooms***]

Thursday, April 2nd

7:00 – 7:45 AM Continental Breakfast [***Pima/Sabino Foyer***]
 7:45 – 8:30 AM Discussion Session: SC Industry ESH Needs and Priorities [***Pima/Sabino Rooms***]
 David Speed (IBM), Reed Content (GlobalFoundries), and Leo Kenny (Intel)
Customized and Seed Projects
 8:30 – 8:40 AM Introduction: Farhang Shadman [***Pima/Sabino Rooms***]
 8:40 – 8:55 AM Detection of Radicals and Reactive Species Formed in Wafer Cleaning Solutions
 Irradiated with Megasonic Waves
 (2324.001) (15 min)
 Srimi Raghavan (University of Arizona)
 8:55 – 9:10 AM Methods for Reducing UHP Gas Usage in Fabs
 (15 min)
 Farhang Shadman (University of Arizona)
 9:10 – 9:25 AM N₂O Abatement: Reaction Mechanisms and Methods for Improving Destruction
 Efficiency: *Joint Project with ISMI*
 (15 min)
 Jost Wendt (University of Utah)
 9:25 – 9:40 AM Contactless Metal Electrodeposition for 3D Packaging Applications
 (15 min)
 Manish Keswani (University of Arizona)
 9:40 – 9:50 AM Break [***Pima/Sabino Foyer***] (10 min)
 9:50 – 11:20 AM IAB Meeting [***Pima/Sabino Rooms***]
 9:50 - 11:20 AM Networking and Planning Sessions PIs [***Madera Room***]
 11:20 – 12:00 PM IAB Feedback and Recommendations to PIs [***Pima/Sabino Rooms***]
 12:00 PM Program
End
 12:00 – 2:00 PM Executive Advisory Board Meeting [***Executive Board Room***]