

AGENDA
2014 SRC ERC REVIEW MEETING
March 25-27, 2014
Marriott University Park Hotel, Tucson, AZ

Tuesday, March 25

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

Wednesday, March 26

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

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

8:00 – 8:05 AM Welcome: Jeff Goldberg, Dean of Engineering, University of Arizona [*Pima/Sabino*]

8:05 – 8:20 AM Introduction and Overview: Farhang Shadman

8:20 – 8:40 AM Preparation and Characterization of Model CMP Nano-Particles
(425.036) (20 min)
Reyes Sierra (University of Arizona)
Jim Field (University of Arizona)

8:40 – 9:05 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)

9:05 – 9:30 AM Non-PFC Plasma Chemistries for Patterning Complex Materials/Structures
(425.038 & 2390.001) (25 min)
Jane Chang (University of California/Los Angeles)

9:30 – 10:00 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)

10:00 – 10:15 AM Break [*Pima/Sabino Foyer*] (15 min)

10:15 – 10:45 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)

10:45 – 11:10 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)

- 11:10 – 11:40 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)
- 11:40 – 12:50 PM Lunch [**Canyon Rooms**]
- 12:50 – 1:15 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)
- 1:15 – 1:30 PM Computer-Aided Design of Nanomaterials with the Desired Bioactivity and Safety Profiles (425.044) (15 min)
Alexander Tropsha (University of North Carolina/Chapel Hill)
Denis Fourches (University of North Carolina/Chapel Hill)
- 1:30 – 1:45 PM Develop Externally Validated QNAR Models That Can be Reliably Used to Prioritize Nanomaterials for Experimental Testing (425.045) (15 min)
Alexander Tropsha (University of North Carolina/Chapel Hill)
Denis Fourches (University of North Carolina/Chapel Hill)
- 1:45 – 1:55 PM Summary of Interactions on Nano-Materials Projects (10 min)
Paul Westerhoff (Arizona State University)
- 1:55 – 2:55 PM Customized Projects (60 min)
- 1:55 -2:15 PM Alternative Etchants for Magnetic Materials (425.046) (20 min)
Jane Chang (University of California/Los Angeles)
- 2:15- 2:35 PM Detection of Radicals and Reactive Species Formed in Wafer Cleaning Solutions Irradiated with Megasonic Waves (2324.001) (20 min)
Manish Keswani (University of Arizona)
Srini Raghavan (University of Arizona)
- 2:35 – 2:55 PM Methods for Reducing UHP Gas Usage in Fabs (425.036) (20 min)
Farhang Shadman (University of Arizona)
- 2:55 – 3:05 PM General Discussion (10 min)
- 3:05 – 3:20 PM Simon Karecki Award Presentation (15 min)
- 3:20 – 3:35 PM Break [**Pima/Sabino Foyer**] (15 min)
- 3:35 – 6:00 PM Poster session [**Madera and Pima/Sabino Rooms**]
- 5:15 – 6:00 PM SRC Student/Industry Networking Event [**Madera and Pima/Sabino Rooms**]
Introduction: Mike Ryan, Intel Corporation

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| 4:30 – 6:00 PM | Hors d'oeuvres [Madera and Pima/Sabino Rooms] |
| 4:30 – 7:00 PM | Cash bar [Madera Room] |
| 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, March 27

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| 7:00 – 8:00 AM | Continental Breakfast [Pima/Sabino Foyer] |
| 8:00 – 9:50 AM | Presentations [Pima/Sabino Rooms] |
| 8:00 – 8:25 AM | N ₂ O Abatement: Reaction Mechanisms and Methods for Improving Destruction Efficiency: <i>Joint Project with ISMI</i> (2013-SE-2481) (25 min) Jost Wendt (University of Utah) |
| | <u>Invited Presentations</u> (85 min) |
| 8:25 – 8:55 AM | Solvent-Free Polymer Films: from Inception to Commercialization (30 min) Karen Gleason (MIT) |
| 8:55 – 9:20 AM | Advances in Water and Wastewater Metrology (25 min) Shane Snyder (University of Arizona) |
| 9:20 – 9:50 AM | Research Needs and Roadmap (30 min) David Speed (IBM), Mansour Moinpour (Intel), and Reed Content (GlobalFoundries) |
| 9:50 - 11:10 AM | IAB meeting [Pima/Sabino Rooms] |
| 9:50 - 11:10 AM | Meeting and planning session of ERC PIs [Ventana Room] |
| 11-10 - 11:45 AM | Feedback to PIs [Pima/Sabino Rooms] |
| 11:45 – 1:30 PM | Buffet Lunch [Canyon Rooms] |
| 12:00 – 2:00 PM | Executive Advisory Board Meeting [Executive Board Room] |
| 2:00 PM | <u>Program End</u> |