

Sunday, April 26, 2009

6:30 Registration and Cocktai Reception in Madren Center - Martin Inn Hospitality Suite featuring hor-d'oeuvres music by "Six Chickens and a Beer" formally known as "Faculty Gone Ferrel"

Technical Sessions to be held in Madren Center Ampitheater

Monday, April 27, 2009

8:00 Breakfast

Session 0: Opening Remarks

8:30 Introduction to Symposium

Session 1: New areas of characterization of magnetic materials (Chair: Shiou Jyh Hwu)

9:00 **Cindi Dennis** **New innovations of particle characterization with high resolution TEM imaging and magnetometry**

9:35 **Sara Majetich** **Plasmonic Magnetic Nanoparticles for Biomedicine**

10:10 Break

Session 2: Synthesis of nanoscale magnetic materials (Chair: Mefford)

10:30 **Judy Riffle** **Core-Corona Magnetic Nanostructures and their Properties in Physiological Media**

11:05 Matoussevitch Metallic and bimetalic nanoparticles and Magnetic Fluids

11:25 Junwei Wang Nickel Phosphide Nanoparticles with Hollow, Solid, and Amorphous Structures

11:45 George Chumanov Synthesis and Characterization of Magnetic Plasmonic Nanoparticles

12:05 Thompson Mefford Controlled surface functionalization of iron oxide nanoparticles for field-responsive biomedical applications

12:25 Lunch + Poster Session

Session 3: Magnetic Mobility I (Chair: Zimmerman)

2:00 Randall M. Erb Magnetic Tweezer Sensor for Measuring Binding Strength of Nonmagnetic Particles

2:20 **Raoul Kopelman** **Asynchronous Rotation of Driven Magnetic Microspheres and Biomedical Applications**

2:55 **Daniel Reich** **New Probes of Sub-Cellular Force Transduction and Soft Matter using Magnetic Wires**

3:30 Break Magnetic Nanowires

Session 4a: Magnetic Mobility II (Chair: Reich)

3:50 **Ben Yellen** **Magnetic Assembly of Colloidal Superstructures with Multipole Symmetry**

4:25 Ben Shapiro A System to inject therapeutically-coated magnetic nano-particles into the inner ear

4:45 M. Ovsyanko Magnotech: Magnetic label biosensor for point of care diagnostics

5:05 Jeff Anker Magnetically Orienting Aspherical Chemical and Physical Sensors

Session 4b: Career Opportunities for Students

3:50 Earl Wagener

4:25 Julie Trenor

4:45 Gautam Bhattacharyya

5:05 Panel: Earl Wagner, Gautam Bhattacharyya, Cindi Dennis,

5:35 Informal grad student panel, + Hor d'oeuvres MRS students, Chem Students

6:00 First pontoon boat leaves

7:00 Dinner at the Pavillion

Tuesday, April 28, 2009

8:00 Breakfast

Session 5: Biomedical Imaging and Applications (Chair: Anker)

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| 8:30 | Pete Zimmerman | Paramagnetic detection of Malaria Gametocytes has significant implications for global eradications program |
| 9:05 | B. Berndl | Antibody Targeted Magnetic Nanoparticle Hyperthermia for Cancer Therapy |
| 9:25 | Carlos Rindaldi | Magnetic Nanoparticles as a Tool for Cancer Treatment |
| 9:45 | Vicki Colvin | Clean Water from Small Materials: Nanotechnology in the Environment |

10:15 Break

Session 6: Biomedical Imaging and Applications II (Chair: Raoul Kopelman)

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| 10:35 | Urs Hafeli | Title |
| 11:05 | Vincent Schaller | Monte Carlo simulations of magnetic multi-core nanoparticles |
| 11:25 | M. P. Nikitin | Detection of Magnetic Nanoparticles <i>in vivo</i> by New Room-Temperature Instruments |
| 11:55 | K. Kornev | Magnetic needles and fibers versus nanoparticles in bioimaging and applications |
| 12:15 | Mefford/Anker | Concluding Remarks |

Posters:

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| Randall M. Erb | Chain formation from Cells to Particles via Negative Magnetophoresis |
| Shiou-Jyh Hwu | ANa3M7 (PO4)6 (A = K, Rb, Cs; M = Mn, Fe, Co): New Magnetic Insulators Exhibiting Field-Dependent Magnetization |
| A. C. Johnston-Peck | Synthesis and Structural and Magnetic Characterization of Ni(core)/NiO(shell) Nanoparticles |
| Stephen Klaine | The Influence of Natural Organic Matter on the Fate and Effects of Carbon Nanomaterials |
| Crissy MacDonald | Oscillatory magnetic fields enhance transport of magnetic nanoparticles in viscous gel |
| Youngjun Yang | The structural Properties of Magnetite/porous silica nanocomposite and its application in cosmetics |