

FRONTIERS IN BIOMAGNETIC PARTICLES

JUNE 2-5, 2013 TELLURIDE, CO USA

Sunday, June 2, 2013

18:00 Cash Bar Welcome Reception, New Sheridan Bar

20:00 231 W Colorado Ave, Telluride, CO

Technical Sessions and Breakfast to be held in main meeting room, Ah Haa School of the Arts

Monday, June 3, 2013

7:00 Breakfast at the Ah Haa School

Session 0: Opening Remarks (Jeff Anker and Thompson Mefford)

8:00 Thompson Mefford and Jeff Anker Introduction to Symposium

8:15 **Stephanie Morris** USA NCI Alliance for Nanotechnology in Cancer

Session 1: Synthesis of nanoscale magnetic materials (Chair: Thompson Mefford)

8:55 **Jennifer Andrew** USA **Bi-phasic Magnetic Materials**

9:15 Katherine Rice USA Modification of Structural and Dynamic Properties of Iron Oxide Nanoparticles by Terbium-Doping

9:35 Anca Meffre France Synthesis of Monodisperse Iron Carbide Nanoparticles

9:55 Dale Huber USA Pseudo-steady-state reactions to maximize size control and reproducibility in the synthesis of magnetic NPs

10:15 Panel Discussion with Speakers from Session 1

10:35 Coffee Break

Session 2: Characterization and Synthesis of nanoscale magnetic materials (Chair: Jennifer Andrew)

10:55 **Sara Majetich** USA **Guiding Magnetic Nanoparticles with Magnetic and Electric Fields**

11:35 Etelka Tombácz Hungary Colloidal stability of carboxylated magnetite nanoparticles for biomedical use

11:55 Judy Riffle USA MaGIC Manganese-Bisphosphonate Imaging Agents for MRI

12:30 Lunch at the Ah Haa School

14:00 Karen Livesey USA The magnetization of ferromagnetic nanoparticle colloids at finite temperatures

14:20 Cindi Dennis USA Determination of Magnetic Property Distributions through First Order Reversal Curves (FORC)

14:40 Panel Discussion with Speakers from Session 2

Session 3: Assembly and Manipulation of Particles (Chair: Tim St. Pierre)

- 15:00 **Randall Erb** **USA** **Manufacturing Ordered Composites with Weak Magnetic Fields**
- 15:40 Break (Please hang your poster during this time)
- 16:00 Sandip Kulkarni USA Characterizing the motion of magnetic nanoparticles through tissue
- 16:20 Ololade Oniku USA Magnetic Patterning of Hard Magnetic Films for Magnetic Trapping and Separation
- 16:40 Thomas Crawford USA Real time monitoring of magnetic nanoparticle self-assembly on surfaces of magnetic recording media
- 17:00 Panel Discussion with Speakers from Session 3
- 17:30 Poster Session at the Ah Haa School
- 19:30 Dinner in town with friends new and old

Tuesday, June 4, 2013

7:00 Breakfast at the Ah Haa School

Session 4: Career Panel (Chair: Cindi Dennis)

8:00 Career Panel at the Ah Haa School

Session 5: Drug Delivery (Chair: Urs Hafeli)

- 8:55 **Lucia Gutierrez** **Spain** Long-term biodistribution, transformations and toxicity of magnetic nanoparticles for drug delivery
- 9:35 Milota Kaluzova USA Targeted therapy of glioma stem cells and tumor non-stem cells using EGFR antibody-conjugated iron oxide NPs
- 9:55 Lesa Tran USA Magnetic Retention of Gadonanotube-labeled Stem Cells for Cellular Cardiomyoplasty
- 10:15 Ioana Slabu Germany Time behavior of ferrofluids under liquid stream conditions in magnetic drug targeting applications
- 10:35 Coffee Break
- 10:55 **Urs Hafeli** **Canada** **Bombesin---Directed Magnetic Polymersomes**
- 11:35 Onur Tasci USA Particle Based Model for a Cyclical Magnetic Field Flow Fraction System
- 11:55 Meghan Jebb USA Magnetic Nanoparticle-facilitated Isolation of Quiescent Breast Cancer Cells
- 12:15 Panel Discussion with Speakers from Session 5
- 12:35 Lunch (with new friends go explore Telluride)

14:00 **Explore The Telluride Surroundings (Sign up sheets)**

Session 6: Magnetically Modulated Energy Delivery (MagMED) (Chair: Carlos Rinaldi)

- 17:00 **Carlos Rinaldi** **USA** **Nanoscale Thermal Effects due to Magnetic Nanoparticles: Fact or Fiction?**
- 17:40 Simo Spassov Belgium Properties of magnetic nanoparticles for cancer treatment combining magnetic hyperthermia and radiotherapy
- 18:00 Lauren Rast USA Ferrofluid Hyperthermia for the Treatment of Brain Cancer
- 18:20 Thompson Mefford USA The Effect of Magnetically Induced Colloidal Arrangements on the Biomedical Applications of Magnetite
- 18:40 Panel Discussion with Speakers from Session 6
- 19:00 Telluride Picnic - TBA

Wednesday, June 5, 2013

7:30 Breakfast at the Ah Haa School

Session 7: Biosensing and Cellular Control (Chair: Lucia Gutierrez)

- 8:30 Lina González USA Sensing of Local, Highly Concentrated Magnetic Field Gradients in Magnetotactic Bacteria Induces Motility Reversal
- 8:50 Markus Gusenbauer Austria New promising technologies for the isolation of circulating tumor cells
- 9:10 Raoul Kopelman USA Metastatic Potential by Cell MagnetoRotation
- 9:30 Anirudh Sharma USA Internalization of barcode nanowires by Osteosarcoma cells
- 9:50 Brandon McNaughton USA Two-Bead Separation for Highly Specific, One-Step Isolation of Target Cells

10:10 Panel Discussion with Speakers from Session 7

10:30 Coffee Break

Session 8: Poster Session Winner (Chair: Tim St. Pierre, Jeff Anker, and Thompson Mefford)

10:50 Poster Session Winner

Session 9: Biosensing and Imaging (Chair: John Moreland)

- 11:10 John Moreland USA Novel methods for in-situ characterization of individual microscopic magnetic particles and complexes**
- 11:50 Tim St. Pierre Australia Magnetic Field Induced Chaining of Magnetic Nanoparticle Aggregates in a Fluid Suspension
- 12:10 Robert Usselman USA Nanolron Phantom for Quantitative MRI

12:30 Lunch at the Ah Haa School

- 14:00 **Steve Conolly USA Magnetic Particle Imaging: A Safe New Angiography Modality**
- 14:40 Jeff Anker USA Magnetically controlled luminescent probes for imaging through tissue
- 15:00 Gary Zabow USA Ellipsoidal cavity micromagnets for multispectral MRI
- 15:20 Richey Davis USA Structure-Relaxivity Relationships of Well-Defined Magnetite Clusters for Sensitive Magnetic Resonance Imaging
- 15:40 Panel Discussion with Speakers from Session 8

Session 10: Conference Closing (Chairs: Jeff Anker and Thompson Mefford)

16:00 Closing Remarks

Poster Session: Monday, June 3

18:00 Poster Session		Ah Haa Art School
<u>Poster #</u>	<u>Presenter</u>	<u>Country</u>
1	Ana C. Bohorquez	USA
2	Sudeshna Chandra	India
3	Yves Cordeau	USA
4	Katie Davis	USA
5	Ben Fellows	USA
6	Will Glasgow	USA
7	Dorota Kozłowska	Ireland
8	Bijoy K. Kuanr	USA
9	Chunzhao Liu	China
10	Lee Moore	USA
11	KhanhVan Nguyen	USA
12	Saumya Nigam	India
13	Chin Chun Ooi	USA
14	Lina Pradhan	India
15	Melissa M. Rogalski	USA
16	Stephen E. Russek	USA
17	Bogdan Tanygin	Ukraine
18	T. O. Tasci	USA
19	Grigory Tikhomirov -1	USA
20	Grigory Tikhomirov -2	USA
21	Erika Vreeland	USA

Studying nanoparticle-protein interactions in situ

Spectroelectrochemical, impedimetric and biomagnetic catechol sensor based on polyaniline-iron oxide magnetic nan

The Effect of the Colloidal Stability and Particle Size on the Directed Magnetic Assembly of Nanoparticle Patterns usi

Quantitative Measurement of Ligand Exchange via Radiolabeled $^{55}\text{Fe}_3\text{O}_4$ coated with ^{14}C oleic acid

Nonionic Surfactant Monolayers for Aqueous Dispersion of Magnetite Nanoparticles

Continuous process for the synthesis of magnetite (Fe_3O_4) nanoparticles via thermal decomposition

Targeted Contrast Liposomes For Human Multiple Myeloma

High frequency study of ZnO coated and uncoated CoFe_2O_4 nanoparticles

Functional Magnetic Nanoparticles for Microalgal Biomass Harvesting

Coupling of a planar Halbach array to a step-SPLITT channel for the continuous sorting of magnetic microspheres

Proteolysis Detection Using Magnetically Modulated Optical Nanoprobes (MagMOONs)

Therapeutic effect of curcumin loaded magnetic liposomes on cervical cancer

Microfabricated Magnetic Sifter for Cell Capture and Separation

Thin lipid layer coated mesoporous magnetic nanoassemblies: Dual therapy towards treatment of cancer

Magnetically Actuated Optical Strain Sensors

Broadband Magnetic Resonance of Magnetic Nanoagents

Long-range Ordering of Ferrofluid Aggregates and its Antiviral Applications

A Magnetic Particle Micromixer

In Cellula Assembly of Iron Oxide Nanoparticles Significantly Increases Their Accumulation and Enables Ultrasensitiv

Development of Novel Tumor-Targeted Theranostic Nanoparticles Activated by Membrane-Type Matrix Metalloprotein

Kinetically controlled, size-tunable iron oxide nanocrystal synthesis