CMRR

Center for Magnetic Recording Research

University of California – San Diego

La Jolla, California 92093-0401

Research Review and Advisory Council Meeting

May 22 & 23, 2014

Website: http://cmrr.ucsd.edu

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Research Review Schedule – Thursday, May 22, 2014		
8:30 AM -- *Continental Breakfast at CMRR*		
8:55 AM -- *Welcome and Introduction*		
9:00 AM – Tribology and Mechanics ***Professor Frank Talke***		
1	Investigation of Contact Sensor Dynamics During Head Disk Contacts	*Liane Matthes*
1	Nano-wear of TFC Sliders	*Andreas Hegetschweiler*
2	Simulation of Contact Sensors for TFC sliders	*Chuanwei Zhang*
3	Simulation of Lubricant Transfer at the Head Disk Interface Using Molecular Dynamics Studies	*Young Seo*
10:20 AM- 10 MINUTE BREAK		
4	An In Situ Test Rig for Studying Temperature and Surface Changes of the Head/Disk Interface in Heat Assisted Magnetic Recording	*Longqiu Li*
5	Simulation of Co-located Dual Stage Actuators Using FEA	*Karcher Morris*
5	Hardness Measurements for the Characterization of Fretting Wear at the Dimple Gimbal Interface	*Youyi Fu*
11:20 AM -- 10 MINUTE BREAK		
	11:30 AM –Head-Media Interface ***Associate Researcher Fred Spada***	
6	Corrosion Investigation of Disk Media Using Electrochemical Methods	*Fred Spada*
12:00 PM -- Lunch at CMRR		
1:00 PM – Special session **Olav Hellwig, HGST, a Western Digital Company**		
7	Future Trends in HDDs and Magnetic Recording Media	*Olav Hellwig*
2:00PM – Magnetic Materials and Devices ***Research Professor Ami Berkowitz***		

8	Spark-eroded MnBi for Rare-earth-free Permanent Magnets	*Phi Nguyen*
2:30 PM – Micromagnetic Modeling and Recording Physics ***Associate Professor Vitaliy Lomakin***		
9	Micromagnetics and Recording Physics at CMRR	*Vitaliy Lomakin*
9	FastMag: On the Way Towards Full GPU Implementation	*Sidi Fu*
10	Micromagnetic Modeling of Nano-granular Materials	*Simon Couture*
10	Optimization Methods for Electromagnetics Devices and Their Extension to Micromagnetic Applications	*Jin-Kyu-Byun*
3:35 – 10 MINUTE BREAK		
11	Efficient Static Micromagnetics	*Marco Escobar*
11	All Optical Switching Simulations of Ferromagnetic FePt Using the Voronoi Code	*Marco Menarini*
12	Dynamics and Stability of Domain Wall Structure in Antiferromagnetically Coupled Nanowires	*Marko Lubarda*
4:30 PM – Electronic, Thermal, Optical, and Magnetic Properties of Materials at the Nanoscale		
12	Applying the Principles of Nano-scale Heat Transfer for a Better Understanding of Thermally Assisted Magnetic Recording	*Prabhakar Bandaru*
5:10 PM – Poster Session/Schultz Prize Announcement		
5:30 PM -- Advisory Council Meeting		

Research Review Schedule --Friday, May 23, 2014		
8:20 AM -- *Continental Breakfast at CMRR*		
8:55 AM -- *Welcome and Introduction*		
9:00 AM – Signal & Coding ***Professor Paul H. Siegel***		
13	Two-Head/Two-Track Detection with ITI Estimation in Shingled Magnetic Recording	*Bing Fan*
14	Polar Codes for Magnetic Recording	*Aman Bhatia*
15	Design of Non-Precoded Protograph-based LDPC Codes	*Hironori Uchikawa*
16	Enhanced Belief-propagation Decoding of Polar Codes Through Concatenation	*Minghai Qin*
17	Endurance Codes for Flash Memory	*Dustin Hudson*
10:40 AM – 10 Minute Break		
10:50 AM—Non-volatile, Solid State Memory ***Associate Professor Steven Swanson***		
18	Reliable and Highly-Available Persistent Memory System	*Yiying Zhang*
11:10 AM- Magnetic Films and Nanostructures **Professor Eric Fullerton**		
19	High Efficiency Magnetic Tunnel Junction Ring Oscillators Using 40nm CMOS Logic Technology	*Richard Choi*
20	Ferromagnetic Alloys with Tailored Properties for RF Applications	*Sergio Montoya*
20	All Optical Control of Magnetic Thin Films and Nanostructures	*Raj Medapalli*
21	Characterization of Anisotropic Gold Nanostructures Obtained via Chemical Vapor Deposition	*Sohini Manna*
12:30 Lunch at CMRR		
1:15 PM – Dynamic Modeling and Servo Technology ***Professor Raymond De Callafon***		
22	Recursive Estimation for Adaptive Controller Tuning in Data Storage Devices	*Raymond de Callafon*
1:35 PM—Design & Fabrication of Nano Magnetic Materials **Professor Sungho Jin**		
23	Magnetic Nano and Micro Particles with Controlled Size, Microstructure and Magnetic Properties	*Isaac Chin-Hung Liu*
23	Functional Nanoparticles with Surface Passivated Core-Shell Structure for Improved Oxidation Resistance	*Justin Taekyoung Kim*
2:30 pm Adjournment- Thank you!		