

## Research Review Schedule -- Wednesday, May 4, 2011

**8:00 AM -- Continental Breakfast at CMRR**

**8:25 AM -- Welcome and Introduction**

### 8:30 AM -- Tribology and Mechanics

*Professor Frank E. Talke*

A1	Off-Track and Vertical Positioning of the Read/Write Head in Hard Disk Drives Through Convex Optimization	<i>Uwe Boettcher</i>
A2	Time-Dependent Simulation of Active Flying Height Control of TFC Sliders and Quasi-Steady/Time-Dependent Reynolds Equation Solver	<i>Pablo Salas Mendez, PhD</i>
A3	Numerical Simulation of Thermal Flying Height Control Sliders in Heat-Assisted Magnetic Recording	<i>Hao Zheng</i>
A4	Experimental Investigation of Local Temperature Rise Upon Thermal Actuator Induced Head/Disk Contact in Hard Drives	<i>Liane Matthes</i>
A5	Contact Between a Thermal Asperity on a Disk and a Flying Height Control Slider	<i>Wenping Song</i>
A6	An Investigation of Suspension-based and Co-located Dual Stage Actuated Suspension Designs	<i>David Lengert</i>
A7	Thermal Stability of Modified PFPE as a HAMR Lubricant	<i>Ho-Jong Kang, PhD</i>

### 10:00 AM -- Dynamic Modeling and Servo Technology

*Associate Professor Raymond A. deCallafon*

B1	Uncertainty Modeling and Robust Control of Linear Tape-Open Drives	<i>Prof. Raymond deCallafon</i>
B2	Nonlinear System Identification of a Quantum LTO-3 Tape Drive from Closed-Loop Time Domain Data	<i>Younghee Han</i>
B3	Experimental Investigation of Cross-Track Vibrations Upon Thermal Actuator Induced Head/Disk Contact	<i>Uwe Boettcher</i>

**10:45 AM -- 15 MINUTE BREAK**

### 11:00 AM -- SPECIAL SESSION, I

C1	Advances and Prospects of Embedded STT-MRAM	<i>Ken Lee, Qualcomm</i>
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**12:00 PM -- Lunch at CMRR**

<b>1:00 PM -- Design and Fabrication of NanoMagnetic Materials</b>		
<i>Professor Sungho Jin</i>		
<b>D1</b>	Fabrication and Magnetic Properties of Nitrogen Ion Implanted Cp/Pd Bit Patterned Media	<i>Edward ( Chulmin ) Choi, PhD</i>
<b>D2</b>	Fabrication of Sub 15 Nm Si Patterned Islands with Sub 20 Nm Pitch for High-Density Bit Patterned Media	<i>Edward ( Chulmin ) Choi, PhD</i>
<b>D3</b>	Vertically Aligned Ni Magnetic Nanowires Fabricated by Di-Block Co-Polymer Directed, A1 Thin Film Anodization	<i>Kevin (Kunbae) Noh</i>
<b>1:45 PM -- Magnetic Films and Nanostructures</b>		
<i>Professor Eric E. Fullerton</i>		
<b>E1</b>	Spin-Transfer-Torque Reversal in Perpendicular Anisotropy Spin Valves with Composite Free Layers	<i>Ivan Yulaev</i>
<b>E2</b>	Ferromagnetic Resonance Studies of CoFeB-MgO Heterostructures	<i>Erik G. Shipton</i>
<b>E3</b>	Composite Structures for Bit Patterned Media	<i>Nasim Eibagi</i>
<b>E4</b>	Magnetization Dynamics in Magnetically Frustrated Nanoring Structures	<i>Marko V. Lubarda</i>
<b>2:45 -- 15 MINUTE BREAK</b>		
<b>3:00 PM -- Micromagnetic Modeling and Recording Physics</b>		
<i>Associate Professor Vitality Lomakin</i>		
<b>F1</b>	Micromagnetics and Recording Physics at CMRR	<i>Prof. Vitality Lomakin</i>
<b>F2</b>	Non-Uniform Fast Fourier Transform (NUFFT) Method for Micromagnetics	<i>Shaojing Li</i>
<b>F3</b>	Micromagnetic Modeling Based on Voronoi Discretization of Thin Film Media	<i>Marko V. Lubarda</i>
<b>F4</b>	Calculation of Energy Barriers on Complex Micromagnetic Systems	<i>Marco Escobar</i>
<b>F5</b>	Advancements in the Fast Micromagnetic Simulator (FastMag)	<i>Ruinan Chang</i>
<b>4:15 PM -- SCHULTZ PRIZE PRESENTATION</b>		
<b>4:45 PM -- Poster Session</b>		
<b>5:30 PM -- Advisory Council Meeting</b>		
<b>7:00 PM -- Advisory Council Dinner</b>		

## Research Review Schedule --Thursday, May 5, 2011

8:00AM -- *Continental Breakfast at CMRR*

8:40 AM -- *Welcome and Introduction*

### 8:45 AM -- Signal Processing and Coding

*Professors Paul Siegel and Jack Wolf*

G1	Synchronization Error Channels	<i>Aravind Iyengar</i>
G2	Adaptive Cut Generation for Improved Linear Programming Decoding of Binary Linear Codes	<i>Xiaojie (Eric) Zhang</i>
G3	Enhancing Binary Images of Non-Binary LDPC Codes	<i>Aman Bhatia</i>
G4	List Decoding of Polar Codes	<i>Ido Tal, PhD</i>
G5	Time-Space Constrained Codes for Phase-Change Memories	<i>Minghai Qin</i>

10:00 AM -- 15 Minute Break

### 10:15 AM -- Non-Volatile, Solid-State Memory

*Assistant Professor Steven Swanson and Prof. Paul Siegel*

H1	Utilizing Soft Information from Inter-Cell Interference in Flash Memory	<i>Scott Kayser</i>
H2	Error-Correcting Codes for TLC Flash	<i>Eitan Yaakobi</i>
H3	Onyx: A Prototype Phase Change Memory Storage Array	<i>Ameen Akel</i>
H4	Understanding the Impact of Power Loss on Flash Memory	<i>Hung-Wei Tseng</i>

### 11:15 AM -- Tape-Head Interface

*Associate Researcher Frederick Spada*

I1	Auger Analysis of Deposits Formed on Tape Head Surfaces Under Low Humidity Conditions	<i>Fred Spada, PhD</i>
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12:00 PM -- Lunch at CMRR

### 1:30 PM -- SPECIAL SESSION, II

J1	Large-Scale Data Systems Research at San Diego Supercomputer Center	<i>R.Hawkins, S. Krishnan, D. Nadeau, J. Short - SDSC</i>
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2:30 PM -- POSTER SESSION / LAB VISIT

Adjournment - Thank you!