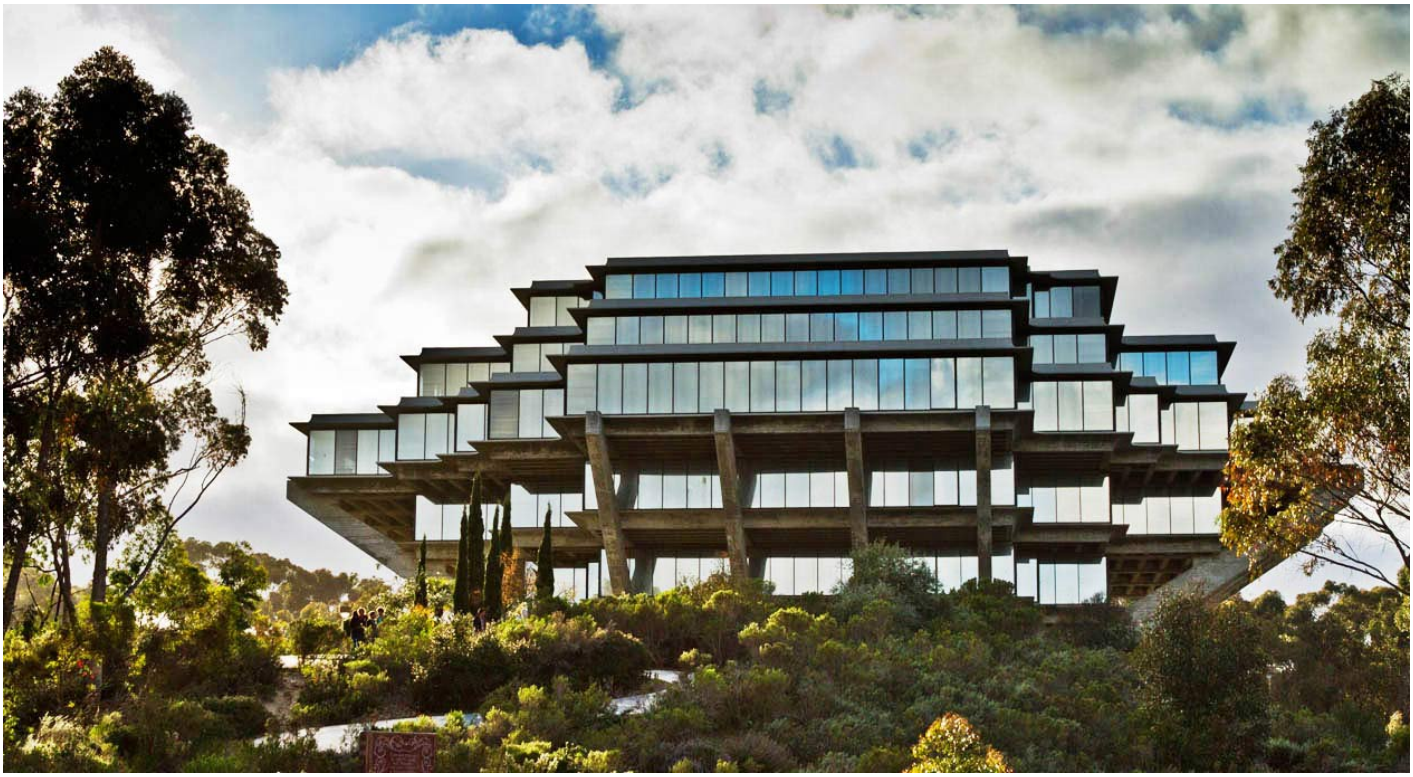
CMRR

Center for Memory and Recording Research

University of California – San Diego

La Jolla, California 92093-0401

Research Review & Advisory Council Meeting



May 18-19, 2017

Website: http://cmrr.ucsd.edu

Research Review Schedule

Thursday, May 18, 2017

8:30 AM - Continental Breakfast at CMRR		
8:55 AM - Welcome and Introduction		
9:00 AM – Tribology & Mechanics ***Professor Frank Talke***		
	Tip Enhanced Raman Spectroscopy Investigations at CMRR	*Benjamin Suen*
	Tip and Surface Enhanced Raman Spectroscopy Studies on Tailored Carbon Coatings	*Andreas Rosenkranz*
	Simulation of Laser Heating in HAMR Using Molecular Dynamics Simulations	*Young Seo*
	Tribo Chemistry and Voltage Biasing of the Head Disk Interface	*Tan Trinh*
10:00 AM - 10 Minute Break		
	Development of an Intraocular Pressure Measurement System	*Alex Phan*
	Design of an Interferometric Pressure Sensor for Keratoprosthesis and Intraocular Lens Implants	*Phuong Truong*
	3-D Printing of Disposable Endoscopes: The Esophageal Deflection Device	*Karcher Morris*
	3-D Printed Endoscopes with Elevator Design	*Lars Ringel*
	3D Printing Endoscopes: Shape Memory Alloy and Other Actuation	*Anay Pandit*
11:30 AM – Magnetic Films and Nanostructures ***Professor Eric E. Fullerton***		
	Observation of DMI and Skyrmions in Pt/Co/Os/Pt Thin Films	*Robert Tolley*
	Magnetic Phase Dependent Detection of Laser-Induces THz-emission in FeRH	*Raj Medapalli*
	Interplay of Ferromagnetism and Superconductivity in Ni Nanowires with Nb Leads	*Haowen Ren*

12:15 PM – Lunch – CMRR Lobby		
1:15 PM – Special Session ***Goran Mihajlovic. Western Digital***		
	Spin Orbit Torque Switching of CoFeB Magnetic Free Layer with Pt and Ta Heavy Metals	*Goran Mihajlovic*
2:00 PM – Non-Volatile Solid State Memory ***Professor Steven Swanson***		
	NOVA: A High-Performance, Hardened File System for Non-Volatile Main Memories	*Lu Zhang*
2:30 PM – Nanoscale Dynamics and Structure of Materials ***Professor Oleg Shpyrko***		
	Photo Induced Enhancement of the Change Density Wave Amplitude in Antiferromagnetic Chromium	*Andrej Singer*
3:00 PM - 10 Minute Break		
3:10 PM – Thermal Energy Transport ***Professor Renkun Chen***		
	Thermal Conductivity Reduction of Tungsten Plasma Facing Materials due to Helium Plasma and Cu2+ion Irradiation	*Shuang Cui*
	Magnetocaloric Materials	*Eunjeong Kim*
3:50 PM – Micromagnetic Modeling & Recording Physics ***Professor Vitaliy Lomakin***		
	Calculating Energy Barriers, Attempt Frequencies, and Current Dependence in MRAM	*Majd Kuteifan*
	Coupled Magnetoquasistatic Electromagnetic - Micromagnetic Solver for the Modeling of Eddy Current Effects	*Simon Couture*
	Integrating FastMag with NGSPICE Framework	*Iana Volvach*
	GPU Computing Applied to Computational X-Ray Imaging	*Xueyang Wang*
5:10 PM - Poster Session/Schultz Prize		
6:00 PM - Advisory Council Meeting		

Friday, May 19, 2017		
8:30 AM - Continental Breakfast at CMRR		
8:55 AM - Welcome and Introduction		
9:00 AM – Signal Processing & Coding ***Professor Paul H. Siegel***		
	Generalized Weighted Sum Subtract Joint Detection for 3H2T System	*Bing Fan*
	Generalized Partial Orders for Polar Code Bit-Channels	*Wei Wu*
	Permuted Successive Cancellation Decoding for Polar Codes	*Sarit Buzaglo*
	Syndrome-Coupled Design of Rate-Compatible Error Correcting Codes	*Pengfei Huang*
10:20 AM - 10 Minute Break		
	Optimal Distribution Matching Code Design	*Yi Liu*
	On the Mutual Information Rate and Capacity of Flash Memory Channels with Inter-Cell Interference	*Yonglong Li*
11:10 AM – Special session ***Jean Anne C. Incorvia, Stanford University***		
	Non Volatile Hybrid CMOS-MRAM Circuits Using Three-terminal Spin Orbit Torques Switches for Normally-Off Computing	*Jean Anne Incorvia*
11:50 AM – Magnetism & Spin-Transport in Nanostructured Materials ***Professor Kai Liu, UC Davis***		
	Magnetic Yoking and Tunable Interactions in FePt-Based Hard/Soft Bilayers	*Kai Liu*
12:30 PM – Lunch – CMRR Lobby		