

RESEARCH REVIEW &
ADVISORY COUNCIL MEETING

20
18



THURSDAY & FRIDAY NOVEMBER 1-2, 2018
CMRR @ UC SAN DIEGO

cmrr.ucsd.edu

RESEARCH REVIEW PROGRAM

Thursday, November 1

8:30 AM	Continental breakfast at CMRR	
8:55 AM	Welcome and Introduction	
9:00 AM	Tribology, Mechanics and Medical Device Technology	Professor Frank Talke
	Investigation of Voltage Biasing and Relative Humidity on Tribochemistry of the Head-Disk Interface	Tan Trinh
	Life Time Studies of HAMR Technology	Tan Trinh
	Flutter and Non-repeatable Runout of Disks in Air, Vacuum, and Helium	Christoph Schade, Jason Zeng
	A Wireless Handheld Pressure Measurement System for in vivo Monitoring of Intraocular Pressure in Rabbits	Alex Phan
10:00 AM	10 MINUTE BREAK	
	Anchoring Methods for Implantable IOP sensors	Phuong Truong
	Esophageal Deflection Device	Karcher Morris
	Internet-Enabled Patient Point-of-Care Devices for Monitoring Eye Conditions	Buu Truong, Nick Williams
	Electricidal Urinary Catheter	Oren Gotlib
	Designing a Detachable Bronchoscope	Matthew Kohanfars
11:30 AM	Magnetic Films and Nanostructures	Professor Eric E. Fullerton
	Charge density wave dynamics in Cr following ultrafast photoexcitation	Sheena Patel
	Electronic Transport Properties of Au/Si Multilayers	Yuxuan Xiao
	Intermediate Temperature Thin Film Solid Oxide Fuel Cell (SOFC)	Haowen Ren
	New Opportunities for Ultrafast Spintronics	Prof. Eric Fullerton
12:35 PM	LUNCH - CMRR LOBBY	



RESEARCH REVIEW PROGRAM

Thursday, November 1

1:35 PM	Materials and Electronic Devices Oxide semiconductor for next generation electronics	Kenji Nomura
2:00 PM	Thermal Energy Transport Probing Thermal Transport mediated by Surface Phonon Polariton Managing Ultrahigh Heat Flux using Thin Film Boiling	Professor Renkun Chen Sunmi Shin Qingyang Wang
2:30 PM	Unconventional Computing with Memory MemComputing: a CMRR Success Story	Massimiliano (Max) Di Ventra
3:00 PM	10 MINUTE BREAK	
3:10 PM	Micromagnetic Modeling & Recording Physics Computing resonant modes and excitation states in micromagnetic systems with a finite-element based frequency domain solver Fast Landau-Lifshitz-Gilbert Equation- Valet Fert Equations Finite Element Method Solver Micromagnetic modeling of non-uniformities in magnetic tunnel junctions for MRAM Devices Simulation of Domain Wall Displacement Using the Landau Lifshitz Lambda Model Macromagnetic Simulation of THz signals in Antiferromagnetic FeRh	Professor Vitaliy Lomakin Zhuonan Lin Xueyang Wang Iana Volvach Marco Menarini Marco Menarini
5:10 PM	Poster Session	
5:30 PM	Reception	
6:00 PM	Advisory Council Meeting	



RESEARCH REVIEW PROGRAM

Friday, November 2

8:30 AM Continental breakfast at CMRR

8:55 AM Welcome and Introduction

9:00 AM **Signal Processing & Coding** Professor Paul Siegel

Flash Memory from a Broadcast-Channel Perspective Yonglong Li

Shaping Codes for Costly Channels with Memory:
Theory and Applications Yi Liu

ECC Layouts for Memory Systems with Variation Wei Wu

Experimental Soft Bit Read Applications Yi Liu

NAND Flash Channel Characterization Navya Sree Prem

10:30 AM **10 MINUTE BREAK**

10:40 AM **Non-Volatile Solid State Memory** Professor Steven Swanson

Finding and Fixing Performance Pathologies in
Persistent Memory Software Stacks Juno Kim

11:10 AM **Special Session: New DOE Center Award**

Ivan Schuller
Professor, Department of Physics

11:40 AM **Special Session : Seminar**

Jishen Zhao
Assistant Professor, Computer Science and Engineering Department

12:15 PM **LUNCH - CMRR LOBBY**

