

ADVANCE AGENDA

Day 1 (Morning) – Thursday, September 20, 2018

MLK Building, Tilden Room (5th floor)

Time	Activity / Topic	Speakers
7:30 AM	Breakfast & Check-In	
8:00 AM	Welcome & Introduction	
	Review of Agenda Goals for the Retreat Center Overview	Eli Yablonovitch
8:30 AM	Theme I: Nanoelectronics	
	Theme I Overview	Eli Yablonovitch
	Progress on Graphene Nanoribbon Project	Steven Louie
	Progress on III-V Nanowire Transistor Project	Jesús del Alamo
	Progress on 2D Chalcogenide Transistor Project	Ali Javey
	Open Discussion	
9:55 AM	Break & Poster Set-Up	
10:05 AM	Theme II: Nanomechanics	
	Theme II Overview	Tsu-Jae King Liu
	Progress on NEM Relay Project	Sara Fathipour
	Progress on Squitch Project	Jinchi Han
	Progress on Stritch Project	David Zubia, Aldo Vidana
	Open Discussion	
11:20 AM	System Integration	
	System Integration Overview	Vladimir Stojanović
	Open Discussion	
11:50 AM	Lunch and Poster Session	

ADVANCE AGENDA

Day 1 (Afternoon) – Thursday, September 20, 2018

MLK Building, Tilden Room (5th floor)

Time	Activity / Topic	Speakers
1:10 PM	Theme III: Nanophotonics	
	Theme III Overview	Ming Wu
	Progress on Antenna-Enhanced LEDs	Seth Fortuna
	Progress on New Antenna Coupling Structure	Sean Hooten
	Progress on III-V Epitaxy Heterostructures	Jeehwan Kim
	Open Discussion	
2:25 PM	Break	
2:45 PM	Theme IV: Nanomagnetism	
	Theme IV Overview & Progress on Ultrafast Magnetic Switching	Jeffrey Bokor
	Progress on Spin-Orbit Torque Switching	Sayeef Salahuddin
	Progress on MTJ Switching	Sakhrat Khizroev
	Progress on CMOS Integration Project	Shan Wang
	Open Discussion	
4:00 PM	Walk to <u>Women's Faculty Club</u>	
	Parallel Sessions in Women's Faculty Club:	
4:30 PM	<ul style="list-style-type: none">Faculty and Industry Partners: Feedback & Discussion Meeting (Boardroom)Students and Postdocs: Professional Development Workshop (Lounge)	
5:30 PM	Walk to <u>Berkeley Faculty Club</u>	
5:45 PM	Dinner and Recognitions	
	Heyns Room (Faculty Club)	

ADVANCE AGENDA

Day 2, Morning – Friday, September 21, 2018

MLK Building, Tilden Room (5th floor)

Time	Activity / Topic	Speaker / Facilitator
7:30 AM	<i>Breakfast</i>	
8:00 AM	Center Management Management, Metrics, Knowledge Transfer Open Discussion	Michael Bartl
8:30 AM	Education and Diversity Overview, Challenges, Legacy Update on E3S e-book Diversity Session Open Discussion	Kedrick Perry Farnaz Niroui Kedrick Perry
10:00 AM	<i>Break</i>	
10:15 AM	A Look Beyond 2020: Center Legacy Breakout Sessions Reporting from Breakout Sessions Open Discussion	Vladimir Bulović (Moderator)
11:55 AM	Closing Remarks	Eli Yablonovitch
12:00 PM	<i>Lunch (boxed)</i>	
12:30 – 2:00 PM	Executive Committee ONLY ExComm Meeting	

LIST OF POSTERS

Kevin Han, Seth Fortuna, Sujay Desai, Matin Amani, Ali Javey, Eli Yablonovitch, and Ming C. Wu, "TMDC Based nanoLEDs for High-Speed Energy-Efficient Optical Interconnects"

Sara Fathipour, Sergio Almeida Loya, Benjamin Osoba, Alice Ye, Farnaz Niroui, Tsu-Jae King Liu, and Junqiao Wu, "Surface Molecular Coating for Adhesion Minimization in NEM Switches"

Luis D. Hurtado, Ethan S. Lee, and Jesús A. del Alamo, "Frequency Dependence of AC On-State TDDB for GaN Metal-Insulator-Semiconductor High-Electron-Mobility Transistors"

Dennis Toledo, Mark Stone, Brayan Navarrete, Ping Wang, Kevin Luongo, Vladimir Safonov, Jeongmin Hong, Jeffrey Bokor, and Sakhrat Khizroev, "Quantum Size Effect in Sub-10-nm Co Cube: Illustration of the Surface and the Volume Effects"

Sergio Almeida, Robert Sifuentes, and Tsu-Jae King Liu, "Micro-Electro-Mechanical Relays for Low Power Electronics under Extreme Temperatures"

Xin Zhao, Christopher Heidelberger, Eugene A. Fitzgerald, Wenjie Lu, Alon Vardi, and Jesús A. del Alamo, "Sub-10 nm Diameter InGaAs Vertical Nanowire MOSFETs: Ni vs. Mo Contacts"

Nicolas M. Andrade, Sean Hooten, Krishna T. Settaluri, Seth Fortuna, Kevin Han, Eli Yablonovitch, Vladimir Stojanovic, and Ming C. Wu, "Inverse Design for Single-Mode Coupling of Electrically Injected Optical Antenna Based nanoLED"

Xiang (Shaun) Li, Chong Bi, and Shan X. Wang, "Harnessing Embedded Magnetic Memory and Logic for Artificial Intelligence Applications"

Jinchi Han, Farnaz Niroui, Timothy Swager, Jeffrey Lang, and Vladimir Bulović, "Tunneling NEM Switch Based On Compressible Molecules (Squitch)"

Zhixin Alice Ye, Sergio Almeida, Miles Rusch, Angelica Perlas, Wenyi Zhang, Urmita Sikder, Jaeseok Jeon, Vladimir Stojanović, and Tsu-Jae King Liu, "Demonstration of 50-mV Digital Integrated Circuits with Microelectromechanical Relays"

Pin-Chun Shen, Jiayuan Zhao, Yuxuan Cosmi Lin, Nannan Mao, Yunan Gao, William A. Tisdale, and Jing Kong, "Growth Condition Control Defines 2D Materials Geometry and Other Properties"

Seth A. Fortuna, Christopher Heidelberger, Nicolas Andrade, Kevin Han, Sean Hooten, Eli Yablonovitch, Eugene A. Fitzgerald, and Ming C. Wu, "Fast Spontaneous Emission in a III-V Antenna-LED"

Raquel Zubia, Mariana Martinez, Jose Mireles, Edgar Acosta, Aldo Vidana, Sergio Almeida, and David Zubia, "Design and Simulation of Scalable Electro-Mechanical Device for Information Processing"

Greg Veber, Raymond Blackwell, Dhariti Joshi, Rebecca Durr, Alin Kalinyan, Alexandra Berl, Wade Perkins, Cameron Rogers, Steven Louie, and Felix Fischer, "Synthesis and Applications of Graphene Nanoribbons"

Edgar Acosta, Marianna Martinez, Aldo Vidana, Sergio Almeida, Jose Mireles, and David Zubia, "SOI MEMS for Strain-Engineered 2D Materials"

T. Patrick Xiao and Eli Yablonovitch, "Artificial Intelligence by Analog Simulated Annealing"

Sean Hooten, Ming Wu, and Eli Yablonovitch, "Metal-Dielectric Structure for Spontaneous Emission Enhancement of Point Radiation Sources"

Akshay Patabi, Jon Gorchon, Yang Yang, Charles-Henri Lambert, Richard Wilson, Sayeef Salahuddin, and Jeffrey Bokor, "Ultrafast single-shot magnetization reversal in ferromagnetic Co/Pt multilayers"

Fangzhou Zhao, Ting Cao, Yea-Lee Lee, and Steven G. Louie, "Designing Graphene Nanoribbon Transistors for Future Electronics"