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 Open Discussion	**Vladimir Stojanović**
11:50 AM	***Lunch and Poster Session***	

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: Nanomagnetics**	
	Theme IV Overview & Progress on Ultrafast Magnetic Switching	**Jeffrey Bokor**
	Spin-Orbit Torque Switching Using Topological Effects	**Shan Wang**
	Topological Insulator Spintronics	**Niklas Roschewsky**
	Progress on Magnetic Tunnel Junction Switching	**Sakhrat Khizroev**
	Open Discussion	
4:00 PM	***Walk to Women's Faculty Club***	
4:30 PM	**Parallel Sessions in Women's Faculty Club:** • Faculty and Industry Partners: Feedback & Discussion Meeting (Boardroom) • Students and Postdocs: Professional Development Workshop (Lounge)	
5:30 PM	***Walk to Berkeley Faculty Club***	
5:45 PM	**Dinner and Recognitions**	
	Heyns Room (Faculty Club)	

AGENDA

Day 2 (Morning) – Friday, September 21, 2018

MLK Building, Tilden Room (5th floor)

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

LIST OF POSTERS

Theme 1: Nanoelectronics

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

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

Sri Krishna Vadlamani and Eli Yablonovitch, "Spectral Line Shapes that Control Tunnel Switching Steepness"

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

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

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

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

Theme 2: Nanomechanics

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

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

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

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

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

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

Theme 3: Nanophotonics

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

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

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

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

Theme 4: Nanoelectronics

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

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

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