

Program for USC4SCE Workshop 2019

Please note...order of talks in blocks, is TBD. Late changes may still be possible.

Program/Session Chairs in BLUE have curated the talks in their respective sessions.

Break are not shown in the technical block, they are to be included into the schedule by the program chair midway during the program

*****ALL PROGRAMING IS IN THE EVERGREEN ROOM*****

SUNDAY OCTOBER 20TH 2019

SUNDAY (EVENING) 4:00PM-7:00PM	Registration Reception
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SUNDAY (NIGHT) 7:00PM-9:00PM	Reception Dinner Laurel Room
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SUNDAY (NIGHT) 9:00PM-10:00PM	KEYNOTE	QC	Quantum Computing
	Doug McClure	IBM	Superconducting Qubits: from Rabi Oscillations to Real-World Applications

MONDAY OCTOBER 21st 2019

MONDAY 7:15AM-8:45AM	Breakfast Windsor Room
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MONDAY (MORNING) 8:45AM-12:00PM	Gerald Gibson and Will Oliver	IBM/MIT-LL	Quantum Computing
	Eric Dauler	MIT-LL	Opportunities for Superconducting Materials to Advance Quantum Computing Research
	William Oliver	MIT	Quantum Engineering of Superconducting Qubits
	Pete Hopkins	NIST	Quantum-based RF Metrology for Quantum Computing
	Britton Plourde	Syracuse	Interfacing Superconducting Qubits with Cryogenic Digital Circuitry
	Kevin O'Brien	MIT	Parametric Amplifiers
	Joseph Glick	IBM	Cryogenic Memory for Quantum Computing

MONDAY 12:00 PM-1:30 PM	LUNCH Lakeview Dining Room
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MONDAY (AFTERNOON) 1:30PM-4:45PM	Elie Track	IEEE	Novel / Emerging Computing
	Erik DeBenedictis	IEEE	IEEE Rebooting Computing and Introduction to the Session
	Kevin Osborn	LPS	Reversible Fluxon Logic for the Future of Computing
	Michael Frank	Sandia	Implementing the Asynchronous Ballistic Reversible Computing Paradigm in Josephson Junction Circuits
	Erik DeBenedictis	IEEE	Hybrid cryogenic adiabatic transistor circuits and JJs
	Ken Segall	Colgate	Development of Spiking Neural Networks with Superconducting Electronics
	Michael Schneider	NIST	Neuromorphic computing with magnetic Josephson junctions
	Emily Toomey	MIT	Design of a Power Efficient Artificial Neuron Using Superconducting Nanowires
	Jeffery Shainline	NIST	Superconducting Neurons with Photonic Communication: A Partnership Unmatched in CMOS

MONDAY 6:00PM-8:00PM	DINNER Laurel Room
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MONDAY (NIGHT) 8:30PM-9:30PM	POSTER SESSION	Mini-Poster Session Due to limitations in hanging space we can only accommodate about 10-15 posters from participants, in case of a space crunch an additional session will be created
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TUESDAY OCTOBER 22nd 2019

TUESDAY 7:15AM- 8:45APM	Breakfast Windsor Room
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TUESDAY (MORNING) 8:45AM- 12:00PM	Deborah Van Vechten	ONR	Technology development in Interconnects for Large Scale Cryogenic Systems
	Deborah Van Vechten	ONR	Overview of Interconnects
	Deep Gupta	HYPRES	Electrical Links
	Jarek Wosik	Univ. of Houston	YBCO Flexible cable
	Robin Cantor	STARCryo	YBCO/MgB2 links
	Vladimir Marko Stojanovic	Berkeley	Supercables -CMOS based ring resonators
	Mo Soltani	Raytheon	Supercables-TBD
	Dennis Deppe	SDphotonics	Supercables -VCSEL's
	Hong Tang	Yale	Supercables-LiNbO3 traveling wave structures
	Michael Hamilton	Auburn	Niobium Flex
	Miguel Daal	UCSB	Niobium Titanium Flex
	Thomas Stevenson	NASA	Millikelvin links in Detector systems
	Paul Tschirhart	NGC	Interface bus backend for Digital Systems using RQL
	Deborah Van Vechten	ONR	Data Ingress

TUESDAY 12:00 PM-1:30 PM	LUNCH Lakeview Dining Room
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TUESDAY 1:30PM- 3:30PM	WORKING GROUPS		Interconnect Requirements for Large Scale Cryogenic Systems
	Saad Sarwana / Miguel Daal	HYPRES / UCSB	Interconnect I/O requirements for Different Large Scale Systems. Detectors / Digital / Quantum Computing.

TUESDAY 6:00PM- 8:00PM	DINNER Laurel Room
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TUESDAY 8:00PM- 9:15PM	ENTERTAINMENT		Technically Funny
			Don McMillan former VLSI Engineer turned Standup Comedian

WEDNESDAY OCTOBER 23rd 2019

WEDNESDAY 7:15AM- 8:45AM	Breakfast Windsor Room
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WEDNESDAY (MORNING) 8:45AM-11:25 AM	Norman Birge	MSU	Fabrication and Materials
	Brad Ferguson	Skywater Technologies	A commercial Niobium foundry for superconducting electronics
	David Olaya	NIST	Single-Flux-Quantum Circuits with Nb-doped Si barriers
	Anne-Marie Valente-Feliciano	Jefferson Lab	Superconducting materials beyond bulk Niobium
	Mike Cyberey	UVA	RBTIBD Growth of High Energy Gap Josephson Junctions
	Alex Wynn	MIT-LL	Overview of Superconducting Circuit Fab: C3 and beyond

LUNCH 12:00 PM- 1:30 PM	LUNCH Windsor Room
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WEDNESDAY (AFTERNOON) 11:25AM - 4:45PM <i>*Note: Session starts before Lunch</i>	John Sirevicius and TJ Mannos	IARPA / Sandia	Design Tools
	Mark/John	IARPA	SuperTools overview
	Massoud Pedram	USC	ColdFlux EDA tools
	Naveen Katam	USC	Device Modeling and Circuit Techniques
	Mark Law	UFL	ColdFlux TCAD
	Stephen Van Campen / Nisha Ram / Mike Lafferty	NGC / Cadence	EDA Tools at NGC
	Steve Whiteley	Synopsys	Synopsys simulation & modeling
	Ron Duncan	Synopsys	Synopsys SC EDA Tools

WEDNESDAY 6:00 PM-8:00 PM	DINNER Hemlock Room		
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WEDNESDAY (NIGHT) 8:30PM-10:00PM	Scott Holmes	DARPA	SCE Fabrication Roadmap Discussion
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THURSDAY OCTOBER 24th 2019

THURSDAY 7:15AM-8:45AM	Breakfast Windsor Room		
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THURSDAY (MORNING) 8:45AM-11:25AM	Sae-Woo Nam*	NIST	Detectors
	Doug Bennett	NIST	Transition-edge Sensors: Current Applications and Future Prospects
	Thomas R. Stevenson	NASA	X-ray microcalorimeter pixels to multiplexed readout SQUID amplifiers
	Prassana Ravindran	Umass @ Amherst	Active Quenching: A new approach for reading out superconducting nanowire single photon detectors
	Miguel Daal	UCSB	MKID-Based Integral Field Spectrograph Arrays for Astronomy
	Susan Berggren	NIWC	Modeling the DC Effects of Josephson Junction Opens and Shorts in large Two-Dimensional Superconducting Quantum Interference Device Array (SQA) Sensors

THURSDAY (MORNING) 11:25AM-12:15 PM	STUDENT / LATE BREAKING SESSION		
	Micah Stoutimore	NGC	Error rates of RQL circuits with very low critical currents
	Ashish Shukla	Columbia	Optimization of Drivers and Receivers in Passive Transmission Lines (PTL’s)
	Miranda Thompson	NIST	Study of the Current-Phase Relationship of Josephson Junctions for Applications in High Performance Computing

*Sae-Woo is not able to attend the workshop, the session will be moderated by Jeffery Shainline (NIST)

THURSDAY 12:15 PM-1:45 PM	LUNCH Windsor Room		
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APROXIMATE TIMES

AM break 15 minutes starting anytime between 10:10AM-10:25AM

PM break 15 minutes starting anytime between 2:50-3:05 PM

Side Meetings:

Deborah Van Vechten: SuperCables Monday 10/21 7:30PM

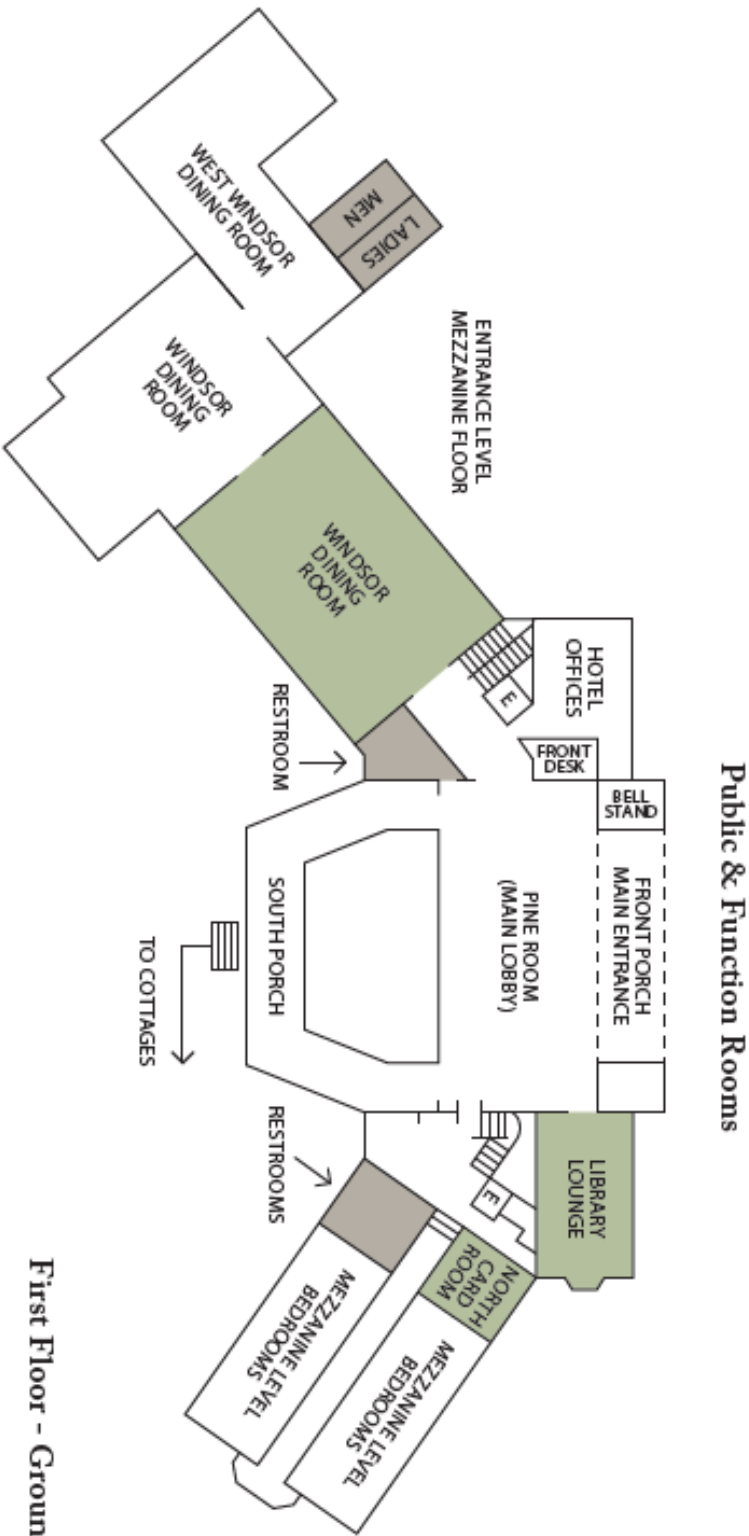
Board of Directors Meeting: Wednesday Dinner with others, but BoD are requested to move with their dessert to Tamarack Board Room (next to the Hemlock) for the board meeting from 7:00-8:00





Main Lodge

- Meeting Rooms & Spaces
- Food & Beverage Outlets
- Retail Shops
- Activity Areas
- Restrooms



First Floor - Ground Level

