

Sun	Short Course (Michigan League - Vandenberg, 2nd Floor)				Sun
1:00 PM	Short Course: Fundamentals of device and circuit technology for mm-wave and 5G Organizers: Shinohara/Deshpande Speakers: Harish Krishnaswamy, Bror Peterson, Ickhyun Song, Mark Rodwell				1:00 PM
	Short Course End				
5:30 PM	Welcome Reception - VENUE (Michigan League - Ballroom, 2nd Floor)				5:30 PM
6:00 PM					6:00 PM
MONDAY					MONDAY
AM	Session I: Plenary (Rackham - Amphitheatre, 4th Floor)				AM
9:00 AM	Intro and Awards				9:00 AM
9:20 AM					9:20 AM
9:40 AM	Plenary: p-Bits for Probabilistic Computing - Supriyo Datta				9:40 AM
10:00 AM					10:00 AM
10:20 AM	Coffee Break				10:20 AM
10:40 AM					10:40 AM
11:00 AM	Plenary: Ga and N-Polar GaN HEMTs for High Power and High Frequency Applications - Umesh Mishra				11:00 AM
11:20 AM					11:20 AM
11:40 AM	Lunch				11:40 AM
PM	Session II-A: Wide Bandgap Devices I (Michigan League - Hussey, 2nd Floor)	Shinohara	Session II-B: Steep Threshold/Logic I (Michigan League - Vandenberg, 2nd Floor)	Peterson	PM
1:00 PM	(Invited) High-K Gate Dielectric GaN MOS-HEMTs with Regrown n+ InGaN Source/Drain	Han Wui Then	Process Dependent Switching Dynamics of Ferroelectric Hafnium Zirconate	Pandey	1:00 PM
1:20 PM			Demonstration and Endurance Improvement of p-channel Hafnia-based Ferroelectric Field Effect Transistors	Winkler	1:20 PM
1:40 PM	Integration of Self-Biased Circulators on GaN/SiC for Ka-band RF application	Cui	Steep Subthreshold Swing Originating from Gate Delay	Paletti	1:40 PM
2:00 PM	High Mobility and Drive Current ZnO Thin Film Transistors	Yoo	Highly-Doped Through-Contact Silicon Epi Design at 3 nm node	Mittal	2:00 PM
2:20 PM	Microtransfer-Printed InGaAs/InP HBTs Utilizing a Vertical Metal Sub-Collector Contact	Carter	(Invited) Ferroelectrics, Negative Capacitance and Depolarization Field: What Exactly is Negative Capacitance?	Asif I. Khan	2:20 PM
2:40 PM	Towards Vacuum-Less Operation of Nanoscale Vacuum Channel Transistors	Rughoobur			2:40 PM
3:00 PM	Coffee Break				3:00 PM
	Session III-A: 2D and Flexible Devices I (Michigan League - Hussey, 2nd Floor)	Deshpande	Session III-B: Optoelectronics (Michigan League - Vandenberg, 2nd Floor)	Singiseti	
3:20 PM	(Invited) 2D Materials in Resistive Memory and Neuromorphic Computing System Applications	Wei Lu	(Invited) III-V Lasers and Integrated Components Directly Grown on Silicon: Options for Integration	Kei May Lau	3:20 PM
3:40 PM					3:40 PM
4:00 PM	Printing h-BN Gate Dielectric for Flexible, Low-hysteresis Carbon Nanotube Thin-Film Transistors at Low Temperature	Lu	High Power Indium Phosphide Photonic Integrated Circuit Platform	Zhao	4:00 PM
4:20 PM	Gigahertz Zinc-Oxide TFT-Based Oscillators	Mehlman	Back-Gated Phototransistor Fabricated from Low Temperature InP Grown Directly on Amorphous Gate Oxide	Sarkar	4:20 PM
4:40 PM	Vertical Sidewall MoS2 Growth and Transistors	McClellan	Tunnel junctions for vertically integrated multiple nitrides laser diodes	Siekacz	4:40 PM
5:00 PM	(Invited) Emerging Low Dimensional Material Devices for Beyond von-Neumann Computing	Han Wang	(Invited) III-Nitride High-Speed Optoelectronics	Daniel Feezell	5:00 PM
5:20 PM					5:20 PM
5:40 PM	Coffee Break				5:40 PM
6:00 PM	Session IV: Poster Session (Michigan League - Ballroom, 2nd Floor)				6:00 PM
	Poster Session				
	Poster Session End				
9:00 PM					
TUESDAY					TUESDAY
AM	Session V: Plenary (Rackham - Amphitheatre, 4th Floor)				AM
8:40 AM					8:40 AM
9:00 AM	Plenary: Electronic Technologies for Enabling Artificial Intelligence at the Edge - Adrian Ionescu				9:00 AM
9:20 AM					9:20 AM
9:40 AM	Coffee Break				9:40 AM
	Session VI-A: Memory/Neuromorphic I (Michigan League - Hussey, 2nd Floor)	Deshpande	Session VI-B: Quantum Devices (Michigan League - Vandenberg, 2nd Floor)	Richter	
10:00 AM	Ferroelectric Tunneling Junctions for Neurosynaptic Computing	Ryu	(Invited) Si/SiGe Quantum Dot Spin Qubits	Mark Eriksson	10:00 AM
10:20 AM	Artificial Neuron using Ag2D-MoS2/Au Threshold Switching Memristor	Dev			10:20 AM
10:40 AM	Fundamental Limit on Network Size Scaling of Oscillatory Neural Networks due to PrMnO3 based Oscillator Phase Noise	Saraswat	Demonstration of FETs with 3D Dirac Semimetal, Cd3As2	Shoron	10:40 AM
11:00 AM	(Invited) Phase-change memory enables energy-efficient brain-inspired computing	Manuel Le Gallo	A Novel ESD Clamp Based on the VO2 Insulator-Metal Transition	Bohaichuk	11:00 AM
11:20 AM			Top-gated atomic precision phosphorous doped silicon single electron transistor with low thermal budget gate dielectric	Anderson	11:20 AM
11:40 AM	Lunch				11:40 AM
PM	Session VII-A: Memory/Neuromorphic II (Michigan League - Hussey, 2nd Floor)	Rajendran	Session VII-B: Wide Bandgap Devices II (Michigan League - Vandenberg, 2nd Floor)	Jessen	PM
1:00 PM	(Invited) Variants of Ferroelectric Hafnium Oxide based Nonvolatile Memories	Thomas Mikolajick	(Invited) GaN Integrated Circuits for Power Electronics	Nick Fichtenbaum	1:00 PM
1:20 PM					1:20 PM
1:40 PM	Sheet-rich Silk-base RRAM with Low Switching Voltages and Improved Reliabilities	Sharbati	Self-Aligned Gate Thin-Channel β -Ga2O3 MOSFETs	Liddy	1:40 PM
2:00 PM	WSe2 based Valley-Coupled-Spintronic Devices for Low Power Non-Volatile Memory	Thirumala	Polarization Recovery Behavior of Hf0.5Zr0.5O2 on Gallium Nitride HEMT Heterostructure	Wu	2:00 PM
2:20 PM	Dynamic (BiSb1-x)2Te3 Synaptic Devices with Programmable Spatio-Temporal Responses	Wan	Epitaxial passivation of delta doped β -Ga2O3 field effect transistors	Joishi	2:20 PM
2:40 PM	(Invited) In-memory solution of linear systems with crosspoint arrays without iterations	Daniele Ielmini	Late News: Enhancement-Mode Current Aperture Vertical Ga2O3 MOSFETs	Wong	2:40 PM
3:00 PM			Late News: Field-plated Ga2O3 Trench Schottky Barrier Diodes with a Record High Figure-of-merit of 0.78 GW/cm2	Li	3:00 PM
3:20 PM	Coffee Break				3:20 PM
	Session VIII-A: 2D and Flexible Devices II (Michigan League - Hussey, 2nd Floor)	Lodha	Session VIII-B: Wide Bandgap Devices III (Michigan League - Vandenberg, 2nd Floor)	Xing	
3:40 PM	New Observations in Contact Scaling for 2D FETs	Cheng	(Invited) Process Technologies for GaN High Voltage Devices	Tetsu Kachi	3:40 PM
4:00 PM	Flexible Top-Gated Monolayer MoS2 Transistors with High Mobility	Daus			4:00 PM
4:20 PM	Atomic Layer Etching (ALE) of WSe2 Yielding High Mobility p-FETs	Teherani	Impact of Gate Oxide Thickness on Electrical Characteristics of 1200 V 4H-SiC Planar-Gate Power MOSFETs	Agarwal	4:20 PM
4:40 PM	(Invited) Efficient Optoelectronics with 2D Materials	Max Lemme	Metal/BaTiO3/ β -Ga2O3 Dielectric Heterojunction Diode with 5.6 MV/cm Breakdown Field	Xia	4:40 PM
5:00 PM			Late News: Buried tunnel junction for p-down nitride laser diodes	Turski	5:00 PM
5:30 PM					5:30 PM
6:00 PM	Banquet: University of Michigan Museum of Art				6:00 PM
8:30 PM	Rump Session 1: 2D materials: What are they good for? Panelists: Winston Chern, Steve Koester, Han Wang, Eric Pop, Thomas Jackson (Michigan League - Hussey, 2nd Floor)	Moderators: Low, Teherani, Zhu	RUMP SESSION 2: Quantum Computation: What device platform will reign supreme? (Michigan League - Vandenberg, 2nd Floor)	Moderator: Richter	8:30 PM
10:00 PM	Rump Session End				10:00 PM
WEDNESDAY					WEDNESDAY
8:30 AM	Session IX: Joint DRC/EMC Plenary Session: Programmable Quantum Materials - Dmitri N. Basov (Mendelssohn Theatre)				8:30 AM
	Coffee Break				
10:00 AM	Session X: Steep Threshold/Logic II (Michigan League - Vandenberg, 2nd Floor)	Teherani	DRC PARTICIPANTS CAN ATTEND BOTH DRC AND EMC SESSIONS ON WEDNESDAY		10:00 AM
10:10 AM	Significance of Multi and Few Domain Ferroelectric Switching Dynamics for Steep-Slope Non-Hysteretic Ferroelectric Field Effect Transistor	Gomez			10:10 AM
10:30 AM	3D-stacked Strained SiGe/Ge Gate-All-Around (GAA) Structure Fabricated by 3D Ge Condensation	Suh			10:30 AM
10:50 AM	High Performance and Yield for Super Steep Retrograde Wells (SSRW) by Well Implant / Si-based Epitaxy on Advanced Technology FinFETs	Rana			10:50 AM
11:10 AM	Experimental calibration of the temperature dependence of the heterojunction bandgap in III-V tunneling devices	Bizindavyi			11:10 AM
11:30 AM	DRC PARTICIPANTS CAN ATTEND BOTH DRC AND EMC SESSIONS ON WEDNESDAY				11:30 AM