

Device Research Conference 2026

University of Michigan, Ann Arbor – June 21-24, 2026

Full Program — Talk Titles, Presenters & Affiliations

Talk durations (incl. Q&A): Plenary [PL] 60 min | Keynote [KN] 40 min | Invited [INV] 30 min | Contributed 20 min | [STU] = student presenter | [LN] = Late News | [SC] = Short Course

Sunday, June 21

8:30 AM YP/WiED Forum: the Future of Semiconductors in the AI Era

Chairs: Yuxuan Cosmi Lin (Texas A&M University), Raisul Islam (Purdue University), Ying-Chen Daphne Chen (Arizona State University)

8:40 AM Ying-Chen Daphne Chen (Arizona State University)

9:05 AM Jiarui Gong (Texas A&M University)

9:30 AM Esmat Farzana (Iowa State University)

9:55 AM Raisul Islam (Purdue University)

10:15 AM Coffee Break

10:45–11:45 AM Panel: Moderator Raisul Islam | Panelists: Ying-Chen Daphne Chen, Jiarui Gong, Esmat Farzana, Austin Hickman (Soctera), Iuliana Radu (TSMC)

11:45 AM Lunch Break

Michigan League - Vandenberg, 2nd floor

10:00 AM Registration Opens

Michigan League - Concourse

Short Course: "Best Practices for Reporting on Electronic Devices" | Organizers: Theresia Knobloch, Michiel van Setten | Michigan League - Vandenberg, 2nd floor

Chair: Michiel van Setten

1:00 PM [SC] Aaron Franklin *Duke University*

Best Practices in Reporting and Benchmarking Performance of 2D Transistors: A Scaling and Contacts Story

1:50 PM [SC] Theresia Knobloch *TU Wien*

Reliability Issues in Devices Based on Emerging Materials

2:40 PM Coffee Break

Michigan League - Michigan Room, 2nd floor

Chair: Theresia Knobloch

3:00 PM [SC] Adrian Chasin *IMEC*

Reliability Benchmark of Semiconducting Oxides based Thin-Film Transistors: What to Measure and how to Determine Device Lifetime

3:50 PM [SC] Becky Peterson *University of Michigan*

So, you've made a working device...now what? How to characterize and explain transistor and diode performance

4:40 PM Coffee Break

Michigan League - Michigan Room, 2nd floor

5:30 PM Registration Closes

6:00 PM DRC Welcome Reception

Michigan League - Ballroom, 2nd floor

Monday, June 22

8:00 AM Registration Opens
Michigan League - Concourse

Opening

9:00 AM **[Opening] Tania Roy** *DRC General Chair*
Introduction and Conference Welcome
Lydia Mendelssohn Theatre, Michigan League, 2nd floor

Plenary 1

9:20 AM *Chair: Eilam Yalon*
[PL] Mark Lundstrom *Purdue University*
Lessons from 45 Years of Research Exploring Carrier Transport in Semiconductor Devices
Lydia Mendelssohn Theatre, Michigan League, 2nd floor

10:20 AM **Coffee Break**
Michigan League – Michigan Room, 2nd floor

Plenary 2

10:40 AM *Chair: Eilam Yalon*
[PL] Frank Koppens *ICFO*
Optoelectronic devices with 2D moiré materials
Lydia Mendelssohn Theatre, Michigan League, 2nd floor

11:40 AM **Lunch Break**

Luncheon Talk

12:00 PM **[Talk] Chris Olsen** *Applied Materials*
The Innovation Multiplier: Collaboration at the Intersections of Device, Process, and Hardware
Michigan League – Vandenberg, 2nd floor (overflow in Concourse area)

12:45 PM **Break**

Award Session 1

Michigan League - Hussey, 2nd floor
Chair: Rongming Chu

Award Session 2

Michigan League - Vandenberg, 2nd floor
Chair: Henryk Turski

Award Session 3

Michigan League - Koessler Room, 3rd floor
Chair: Michiel van Setten

1:00 PM
[STU] Yinxuan Zhu *Ohio State*
Design and Demonstration of Scaled Ultra-Wide Bandgap AlGa_N Polarization-graded FETs with Current Gain Cutoff Frequency (f_T) Above 85 GHz

1:00 PM
[STU] Jeongwoo Kim *Cornell*
10 W/mm X-band AlN XHEMTs with 17-nm GaN channel

1:00 PM
[STU] Pietro Rinaudo *imec & KU Leuven*
Impact of IGZO composition on sub-gap defects and hydrogen resiliency during PBTI in back-gated TFT

1:20 PM
[STU] Ruixin Bai *U Wisconsin-Madison*
Demonstration of record (for Ultra-Wide Band Gap) output power of 2.7 W/mm at 20 GHz with Al_{0.65}Ga_{0.35}N channel RF HEMTs

1:20 PM
[STU] Sumi Lee *Purdue*
Activation-Energy-Dependent 1/f Noise in Scaled ALD IGZO TFTs via Temperature-Dependent Dutta-Horn Analysis

1:20 PM
[STU] Rivka-Galya Nir-Harwood *Technion*
Exploring Non-Destructive Sub-Threshold Readout of Selector-Only Memory Devices

1:40 PM
[STU] Seungheon Shin *Ohio State*
High Breakdown Field Multi-kV UWBG AlGa_N Transistors for Power Switching and High-Voltage RF Applications

1:40 PM
[STU] Madhav Ramesh *Cornell*
Large barrier height ultrawide bandgap AlGa_N Schottky barrier diodes

1:40 PM
[STU] Shafin Bin Hamid *UT Austin*
Comparison of Ferrimagnetic and Antiferromagnetic Tunnel Junctions for High-Speed Random Bitstream Generation

2:00 PM
[STU] Hsin Wei (Sheena) Huang *Cornell*
Waveguide vs. Quantum Well Electroluminescence in High-Current-Density Deep-UV AlGa_N Heterostructure Diodes on Bulk AlN

2:00 PM
[STU] Khush Gohel *U Wisconsin-Madison*
3 kV Al-Rich AlGa_N HEMTs with >440 MW/cm² BFOM on Cost-Effective Sapphire Substrates

2:00 PM
[STU] Utkarsh Misra *UT Austin*
Calcium-Regulated Plasticity in Graphene Artificial Synapses for Biomimetic Neuromorphic Computing

2:20 PM
[STU] Seungyun Lee *Seoul National U*
Demonstration of UWBG beta-Ga₂O₃ FeFETs with Large Memory Window under Harsh Temperatures (-175 to 105 C) using Al₂O₃/HZO Gate Stack

2:20 PM
[STU] Ziyang Gong *HKUST*
Self-aligned InGaAs FinFETs on Insulator by Selective Lateral Epitaxy

2:40 PM Coffee Break <i>Michigan League – Michigan Room, 2nd floor</i>			
Wide Band Gap & Power Devices 1 <i>Michigan League - Hussey, 2nd floor</i> <i>Chair: Sriram Krishnamoorthy</i>	Focus Topic: 2D Materials 1 <i>Michigan League - Vandenberg, 2nd floor</i> <i>Chair: Theresia Knobloch</i>	Focus Topic: Integration, Scaled Interconnects & Topological Materials <i>Michigan League - Koessler Room, 3rd floor</i> <i>Chair: Mahesh Neupane</i>	Neuromorphic Computing & Memory Tech 1 <i>Michigan League - Kalamazoo, 2nd floor</i> <i>Chair: Xiaodong Yan</i>
3:00 PM [KN] Grace Xing <i>Cornell University</i> Introducing AlN XHEMT - a new kid on the block	3:00 PM [KN] Aaron Franklin <i>Duke University</i> Understanding Contacts to 2D Semiconductors Considering Fab-relevant Technology Targets	3:00 PM [INV] Judy Cha <i>Cornell University</i> 1D Topological Semimetals for Next-Generation Electronics	3:00 PM [INV] Jean Anne Incorvia <i>UT Austin</i> Wafer-Scale SOT-MRAM for Neural Network Computation
3:40 PM Saurav Roy <i>NC State</i> Multi-kV Vertical FinFETs with Edge Dielectrics and Split Gates	3:40 PM Anil Adhikari <i>Notre Dame</i> CVD WSe2 p-MOSFETs with Nb:WS2 Contacts Formed by Low-Damage Plasma-Enhanced Atomic Layer Deposition	3:30 PM [INV] Chris Hinkle <i>Notre Dame</i> Novel Materials for Scaled Interconnects	3:30 PM [STU] RAVISH KUMAR RAJ <i>University of Southern Denmark</i> Multistate weighted Vortex Nano Oscillator based Neuron Device for Neuromorphic Computing
4:00 PM [INV] Samuel Graham <i>University of Maryland</i> Thermal Design of Ultra Wide Bandgap Electronics	4:00 PM [INV] Saptarshi Das <i>Penn State University</i> Scaling 2D CMOS - from Transistor to 3D Integrated Systems	4:00 PM [INV] Ritam Sarkar <i>imec</i> From GAA Nanosheets to Beyond-Moore: Unlocking the Future of FET Scaling in the Angstrom Era	3:50 PM [INV] Manuel Le Gallo <i>IBM Research Zurich</i> Deep Neural Network Inference with Analog In-Memory Computing
4:30 PM Yihao Zhuang <i>NTU Singapore</i> High-Power AlN/GaN-on-Si HEMTs Enabled by Top-Graded AlGaIn Back Barrier with Reduced Trapping and Parasitic Channels	4:30 PM Krishnendu Mukhopadhyay <i>Penn State</i> Integration of high-kappa gate dielectrics with 2D semiconductors via self-oxidizing vdW metal seed-layers	4:30 PM [LN] Guy Cohen <i>IBM Research</i> Resistivity scaling of topological CoSi wires for scaling beyond Cu limits	4:20 PM Suman Gora <i>IIT Roorkee, India</i> Impact of Ge Incorporation in SnO2 Mem-transistors on Their Characteristics for Optical Reservoir Computing and Synaptic Readout
4:50 PM Break			
5:30 PM Poster Session with Bar and Light Snacks <i>Michigan League - Ballroom, 2nd floor</i>			

Tuesday, June 23

7:30 AM Registration Opens
Michigan League - Concourse

Plenary 3

8:30 AM Chair: Eilam Yalon
[PL] Iuliana Radu *TSMC*
From materials to system: the path to performance
Lydia Mendelssohn Theatre, Michigan League, 2nd floor

9:30 AM **Coffee Break**
Michigan League – Michigan Room, 2nd floor

Wide Band Gap 2

Michigan League - Hussey, 2nd floor
Chair: Man Hoi Wong

2D Materials and Devices 2

Michigan League - Vandenberg, 2nd floor
Chair: Morteza Kayyalha

Modeling and Simulations

Michigan League - Kalamazoo, 2nd floor
Chair: Mahesh Neupane

Focus Topic: Memory and Neuromorphic Lab2Fab

Michigan League - Koessler Room, 3rd floor
Chair: Alwin Daus

9:50 AM
[KN] Tomas Palacios
MIT
Lessons from a 20-Year Journey
Translating III-Nitride and 2D
Technologies from Lab to Fab (and
to the Market...)

9:50 AM
[INV] Gianluca Fiori
University of Pisa
2D materials for next-generation
devices and conformable electronics
applications

9:50 AM
[INV] Mathieu Luisier
ETH Zurich, Switzerland
Ab initio Modeling of 2D Materials
and Devices: Role of the
Surrounding Oxide Layers

9:50 AM
[KN] Sayeef Salahuddin
UC Berkeley
Ferroelectricity in ultrathin binary
oxides

10:30 AM
[INV] Maki Kushimoto
Nagoya University
Carrier Injection Challenges in
High-Al-Composition Deep-UV
Laser Diodes

10:20 AM
[INV] Ageeth Bol
University of Michigan
Towards low-resistance p-type
contacts to 2D TMDs using
plasma-enhanced ALD

10:20 AM
[INV] Rajib Rahman
UNSW Australia
Electrical control of single electron
and hole spin qubits in silicon

10:30 AM
[STU] Nishant Saini
imec & KU Leuven
On the Relation Between TDDB
Lifetimes & Time-Zero Defect Noise

11:00 AM
Hitoshi Takane
Toyota Central R&D;
Distinct interface states in
AlSiO/AlN/p-type GaN MOSFETs
with c- and m-plane channel
extracted by analytical drain current
models

10:50 AM
[STU] Quynh Phung
University of Stuttgart / University of Freiburg
Seed-Assisted Polarity Control of
Flexible WSe₂ Transistors and
Demonstration of CMOS Inverters

10:50 AM
[LN] Rakshith Saligram
University of Tennessee
Cryogenic Compact Modeling and
Benchmarking of Gate-All-Around
Nanosheet FETs

10:50 AM
[INV] Duk-Hyun Choe
Samsung Advanced Institute of Technology (SAIT)
Designing Oxide-Channel
Ferroelectric Transistors for DRAM
and NAND

11:10 AM
[STU] Jiwon Chang
Yonsei U
Vertically Stacked NMOS Inverter
Based on Multi-layer WS₂ Formed
via Multiple Wet-Transfers of
Monolayer WS₂

11:20 AM
Louisa Schneider
Microchip Technology
Optimized Weight Assignments for
In-Memory Computing e-Flash Cells
Achieving 128 Discrete Target
States with Elementary Charge
Precision

11:40 AM **Lunch Break**

Power Devices

Michigan League - Hussey, 2nd floor
Chair: Rongming Chu

Focus Topic: 2D Materials and Devices 3

Michigan League - Vandenberg, 2nd floor
Chair: Ying-chen (Daphne) Chen

Focus Topic: Photonics 1

Michigan League - Kalamazoo, 2nd floor
Chair: Greg Pitner

Ferroelectric Devices

Michigan League - Koessler Room, 3rd floor
Chair: Wriddhi Chakraborty

1:00 PM
[INV] Kohei Sasaki
Novel Crystal Technology
Recent Progress in Gallium Oxide
Power Devices

1:00 PM
[INV] Adrian Chasin
imec, Belgium
IGZO Thin-Film Transistor
Reliability: the Last Roadblock for
Memory Applications

1:00 PM
[INV] S. J. Ben Yoo
UC Davis
3D Photonic-Electronic Integrated
Devices and Circuits for Future
Computing Systems

1:00 PM
[INV] Kasidit Toprasertpong
University of Tokyo
Low-Voltage Ferroelectric Memory
Enabled by Ultra-thin Hf_{1-x}Zr_xO₂:
Scaling Benefits and Reliability
Trade-Offs

1:30 PM [STU] Aditya Varma MIT First Demonstration of UWBG Al0.65Ga0.35N Monolithic Bidirectional Switch with RonSP = 13 mOhm cm2 and > 2.5 kV Breakdown Voltage	1:30 PM [INV] Huan Zhao Oak Ridge National Laboratory Nanoscale Magnetic Order and Skyrmions in 2D Materials Revealed by NV Magnetometry	1:30 PM [STU] Eitan Kaminski Technion, Israel Electro-Optically Tunable Arrayed Waveguide Grating on a Hybrid LN/SiN Platform	1:30 PM [INV] Halid Mulaosmanovic GlobalFoundries HfO2-based Ferroelectric Devices: from Lab to Fab
1:50 PM [INV] Geok Ing Ng Nanyang Technological University Lab-to-Fab of RF GaN in Singapore	2:00 PM [LN] Pranavram Venkatram Penn State University Stacked two-dimensional complementary field effect transistors	1:50 PM [INV] Ilya Goykhman Hebrew University of Jerusalem Hybrid 2D photonic integration for light detection and manipulation on chip	2:00 PM [INV] John Heron University of Michigan Nanoscale Ferroelectric Transient Phenomena: From Models to Materials to Devices
2:20 PM [INV] Jerry Comanescu NIST Toward Consistent Measurement Procedures for the Output and Transfer Characteristics of GaN HEMTs		2:20 PM [STU] Shivali Agrawal Cornell University Monolithic integration of different wavelength LEDs using both sides of GaN substrates	2:30 PM Mor Mordechai Dahan Technion, Israel Self-Referenced Ultrafast Non-Destructive FeRAM Readout with Enhanced Memory Window via Bipolar Integrated Charge

2:50 PM Coffee Break Michigan League – Michigan Room, 2nd floor
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Wide Band Gap 3 Michigan League - Hussey, 2nd floor Chair: Gang Qiu	Focus Topic: BEOL FETs Lab2Fab Michigan League - Vandenberg, 2nd floor Chair: Yuxuan Cosmi Lin	Neuromorphic Devices 2 Michigan League - Koessler Room, 3rd floor Chair: Asir Khan
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3:00 PM [INV] Seth Bank UT Austin Digital Alloy Avalanche Photodiodes for Quantum Photonics	3:00 PM [KN] Peide D. Ye Purdue University Transport in Atomically Thin Amorphous Oxide Semiconductors	3:00 PM [INV] Susan Fullerton Shirey University of Pittsburgh Engineering electric double layers on two-dimensional crystal transistors
3:30 PM Mateusz Hajdel Institute of High Pressure Physics, Poland InGaN Inverted Laser Diodes operating in the Cryogenic Mg Freeze-Out Regime	3:40 PM [STU] Meera Nandakumaran University of Stuttgart, Germany Ultraviolet Ozone Treated Indium Gallium Zinc Oxide for Flexible Memristor Applications	3:30 PM [STU] Samriddha Ray Penn State University In-material meta-learning for event vision harnessing photo dynamics in LiInP2Se6
3:50 PM [INV] Darrell Schlom Cornell University Dawn of a Semiconductor with a 7 eV Bandgap: From Si-doped (AlxGa1-x)2O3 Films to initial Devices	4:00 PM [INV] Kenji Nomura UCSD Heterogeneous integrated 3D-FET for BEOL technology	3:50 PM [INV] Yiyang Li University of Michigan Thermodynamics of Phase Separation Enable Resistive Memory at Extreme Temperatures
4:20 PM [INV] Travis Anderson University of Florida GaN, AlN, and Ga2O3 Wafer Metrology and High Voltage Device Processing	4:30 PM [LN] Pratyush Buragohain Intel Corporation PPA Potential of TMD GAA Transistors and Evaluation of Gate-Oxide Quality via 1/f Noise	4:20 PM [INV] Veeresh Deshpande IIT Bombay BEOL compatible devices for neuromorphic computing: Integration to Circuit Design

4:50 PM Break
5:00 PM Industry Session Session Chairs: Sriram Krishnamoorthy, Greg Pitner Panelists: Gaurav Thareja (Applied Materials), Iuliana Radu (TSMC), John Barth (Synopsys), Guy Cohen (IBM), Wriddhi Chakraborty (Intel) Michigan League - Hussey, 2nd floor
5:30 PM Registration Closes
6:30 PM Conference Banquet Rogel Ballroom, Michigan Union
8:00 PM Award Ceremony & Valedictory Rogel Ballroom, Michigan Union
8:30 PM Rump Session - Everything Switches: Sorting Fact from Fiction in Future Devices Organizers: Alwin Daus, Henryk Turski Panelists: Thomas Mikolajick, Steven Koester, Debdeep Jena, Tomas Palacios Rogel Ballroom, Michigan Union Rogel Ballroom, Michigan Union

Wednesday, June 24

7:00 AM Registration Opens
Michigan League - Concourse

Joint EMC-DRC Plenary Session

8:20 AM **[PL] Rama Vasudevan** *Oak Ridge National Laboratory*
Nanomaterials synthesis and characterization advances enabled by AI-based operations: theory integration, data challenges and agentic futures
Lydia Mendelssohn Theater, Michigan League, 2nd floor

9:20 AM **Coffee Break**
Michigan League – Michigan Room, 2nd floor

Focus Topic: Wide Band Gap 4
Michigan League – Koessler Room, 3rd floor
Chair: Spyridon Pavlidis

Focus Topic: Photonics and Power Devices
Michigan League – Room 4, 1st floor
Chair: Ilya Goykhman

9:50 AM
[INV] Austin Hickman *Soctera*
11.7 W/mm Continuous Wave Output Power in X-Band AlN-Buffer HEMTs

9:50 AM
[INV] Stanley Cheung *NC State University*
Non-Volatility as a New Degree of Freedom in Hybrid III-V/Si Semiconductor Lasers

10:20 AM
[STU] Ruixin Bai *University of Wisconsin-Madison*
Demonstration of high output power (3.4 W/mm) with 29% PAE in Ga-Polar AlGaIn/GaN HEMTs on sapphire at 94 GHz

10:20 AM
Huabin Yu *University of Michigan*
Low Threshold Electrically Pumped AlGaIn-QW Edge-Emitting Laser Diodes Operating at 298.5 nm

10:40 AM
Makoto Kasu *Saga University, Japan*
High frequency small signal characteristics of modulation-doped diamond FETs with the 157-nm T-shaped submicron-gate

10:40 AM
[STU] [LN] Yizheng Liu *University of California, Santa Barbara*
>10 kV E-Beam/Sputtered Vertical NiOx/(011) β -Ga2O3 HJDs with PFOM >2.3 GW/cm²

11:00 AM
[STU] Aias Asteris *Cornell University*
AlScN/GaN Multiple-Channel Field Effect Transistors

11:00 AM
[LN] Ajay Visvkarma *University of Illinois Urbana-Champaign*
GaN HEMT Operation at 800 °C in Air Ambient

11:20 AM
[STU] Junghyun Koo *University of Minnesota*
ALD Dielectric Modulation Doping Enabled High-Performance Ultra-Wide Bandgap SrSnO₃ MOSFETs

11:40 AM **Lunch Break**

Wide Band Gap 5
Michigan League – Koessler Room, 3rd floor
Chair: Puneet Srivastava

2D and Memory
Michigan League – Room 4, 1st floor
Chair: Nathaniel Larm

1:00 PM
Hanqiao Zhang *Cornell University*
Silicon Nitride Passivated AlScN-Barrier High Electron Mobility Transistors Demonstrating Negligible Current Dispersion

1:00 PM
[INV] Moshe Ben Shalom *Tel Aviv University*
Sliding Ferroelectric Resonant Tunneling (SFeRT) Junctions: A New Paradigm for Slidetronic Computing

1:20 PM
Md Azizul Hasan *NC State University*
First Demonstration of Vertical GaN MPS Diodes Obtained via Mg Implantation and Ultra-High Pressure Annealing

1:30 PM
[INV] Kaustuv Banerjee *imec*
Bridging Lab Scale Understanding and 300 mm Integration for Emerging Device Platforms

1:40 PM
[STU] Nabasindhu Das *Arizona State University*
Sub-Micron Gate beta-Ga₂O₃ FinFETs with Current Density > 700 mA/mm and ON/OFF Ratio > 10⁸

2:00 PM
[INV] Patrick Xiao *Sandia National Laboratories*
Designing, scaling, and benchmarking resistive and electrochemical memories for accurate analog AI inference

2:00 PM
[STU] [LN] Fanming Liu *University of Illinois Urbana-Champaign*
3 kV Hard Switching of GaN Lateral Superjunction Transistor

2:30 PM End of DRC 2026

Poster Session — Monday, June 22, 5:30 PM | Michigan League — Ballroom, 2nd floor

★ Posters #1–10 are nominees for the Best Student Poster Award

#	Presenter / Affiliation	Title
★ 1	Kyung Min Lee <i>Seoul National University, Republic of Korea</i>	Investigating Intermediate-State-Induced Write Error Rate Degradation in Magnetic Tunnel Junctions via Domain-Level Electrical Analysis
★ 2	Shisong Luo <i>Rice University, United States</i>	GaN p-Channel MOSFET with ALD Ga ₂ O ₃ Gate Dielectric Featuring a High BFOM (0.43 MW/cm ²) and over 200 V Blocking Capability
★ 3	Ashutosh Krishna Amaram <i>University of Illinois Chicago, United States</i>	Atomistic Insights into the Switching Mechanism and the Origin of Device-to-Device Variability in Ta-HfO ₂ -Pt based Memristive Device
★ 4	Xucheng Yang <i>NC State University, United States</i>	Experimental Design Parameter Exploration of Ultra-Low Threshold III-V/Si Quantum Dot Microring Lasers
★ 5	Jianming Huang <i>Southern University of Science and Technology, China</i>	Confining mobile ions for 40x transient NDR in ITO/HfO ₂ FETs with incomplete top gate metal coverage
★ 6	Shubham Babbar <i>Ben-Gurion University of the Negev, Israel</i>	Multiple biomarkers detection under a single drop of physiological solution using a field-effect transistor
★ 7	Sanjeev Khare <i>Purdue University, United States</i>	Octupole Transfer Torque and Spin-Orbit Torque Driven Oscillations and Switching in Cubic Chiral All-AFM Devices
★ 8	Debaditya Bhattacharya <i>Cornell University, United States</i>	High-current ultrawide-bandgap AlGaN pin diodes with low on-resistance and UVC emission
★ 9	Alexander Karl <i>TU Wien, Austria</i>	Physics-Based Modeling of Reliability, Stability, and Leakage in 2D MOSFETs
★ 10	Akshey Dhar <i>Cornell University, United States</i>	Enhancement Mode Operation of AlN XHEMTs
11	Kyota Mikami <i>Kyoto University, Japan</i>	Mobility Improvement in SiC MOSFETS by Shallow Counter Doping
12	Krishna Rudrapal <i>University of Stuttgart, Germany</i>	Low-Voltage Forming-Free, Abrupt, and Gradual Resistive Switching in Surface-Modified IGZO Memristors
13	Myungsoo Kim <i>UNIST, Republic of Korea</i>	Low-Noise and Hysteresis-Free MoS ₂ Transistors Enabled by High-k Single-Crystalline Rare-Earth Oxychloride Dielectrics
14	Alireza Moazzeni <i>Wayne State University, United States</i>	Identification of Cycle-to-Cycle Switching Regimes in Filamentary TaO _x RRAM using Time Series Analysis
15	Soren Schafer <i>University of Stuttgart, Germany</i>	Aging of Unencapsulated Te Transistors in Ambient Air and Comparison of Annealing Conditions
16	Sara Ghazvini <i>University of Texas at Dallas, United States</i>	High-Speed, Low-Voltage Ge/Si APDs Optimized with Bayesian Optimization and TCAD for CMOS Integration
17	Haixin Zhao <i>University of Delaware, United States</i>	Phase Reconfigurability-enhanced Metasurface Image Compression with an Integrated Photonic Encoder
18	Showmik Singha <i>University of Missouri-Columbia, United States</i>	Machine Learning Enabled Parameter Extraction of beta-Ga ₂ O ₃ MOSFETs
19	VENKATESWARLU GADDAM <i>University of Florida, United States</i>	Hybrid Epitaxial/Textured AlN Seed Layer Impact on Ferroelectric Al _{0.7} Sc _{0.3} N Memory Devices
20	Xin Su <i>Penn State University, United States</i>	Noise and Drift Models for Electrochemical Memory (ECRAM)
21	Md Rahatul Islam Udoy <i>University of Tennessee Knoxville, United States</i>	High Temperature 1T1R Memory Using Ferroelectric Diode and GaN Transistor
22	Md Sazzadur Rahman <i>Duke University, United States</i>	Unconventional BTI in ITO FETs: Thickness-Tuned Temperature-Induced Polarity Reversal
23	Asmita Thool <i>IIT Madras, India</i>	Non-filamentary resistance switching in CVD-MoS ₂ memristive devices
24	Katherina Loske <i>University of Florida, United States</i>	13.5 kV NiO/beta-Ga ₂ O ₃ Heterojunction Rectifiers on 4-Inch Wafers with Dielectric-Assisted Field-Plate Edge Termination
25	Arka Chakraborty <i>IIT Kanpur, India</i>	Cryogenic Compatible Temperature Responsive Model of Vertical InAs/InGaAs GAA Nanowire Ferroelectric FET for Neuromorphic Applications
26	ARPAN GHOSH <i>Penn State University, United States</i>	Light-induced giant random telegraph noise in CuScP ₂ S ₆ /MoS ₂ heterostructures and their use in noise resilience image inference

#	Presenter / Affiliation	Title
27	Nihal Raut <i>IIT Bombay, India</i>	Self-Adaptive Hybrid CMOS-FeCAP Image Sensor for Dynamic Range Enhancement
28	Fevronia Andreou <i>Texas A&M; University, United States</i>	Performance and Energy Efficiency Enhancement in HfO ₂ -Based ReRAMs via Mo Doping
29	Jianan Song <i>Penn State University, United States</i>	Study of leakage current in GaN junction field-effect transistor under heavy ion radiation
30	Jianming Huang <i>Southern University of Science and Technology, China</i>	Mobile-ion-induced transient NDR in emerging FETs: Optimization insights and figures of merit via compact modeling
31	Shicheng Su <i>KAUST, Saudi Arabia</i>	In-sensor learning via microfluidic neuromorphic charge-trapping memory
32	Shayan Parhizkar <i>AMO GmbH / RWTH Aachen University, Germany</i>	Wafer-Scale Waveguide-Integrated Graphene-based Optoelectronic Mixers
33	Sooyeol Bae <i>KAIST, Republic of Korea</i>	A Physics-Based Analytical Threshold Voltage Model of Oxide Semiconductor Governed by Depletion Width
34	Mayuri Sritharan <i>University of Waterloo, Canada</i>	Emulating Neuron and Synaptic Functions through Antiferroelectric Tunnel Junctions: A Novel Dynamic Simulation Approach
35	MD YASIR BASHIR <i>IIT Kanpur, India</i>	Highly Scalable Multi-Bit Monolithic Stackable 3D Dynamic Random-Access Memory Cell
36	Nolan Hendricks <i>Air Force Research Laboratory, United States</i>	DC and RF Performance of GaN MISHEMTs with High-kappa AlTiO Nanolaminate Gate Dielectric
37	Cesely Smith <i>Carnegie Mellon University, United States</i>	Contact Engineering of Foundry n-Type CNFETs with Al Contacts
38	Parthiban Santhanam <i>UCLA, United States</i>	Chip-Scale Optoelectronic Voltage Boost Converters
39	Sung-Kun Park <i>SK hynix, Republic of Korea</i>	Evolution of single-poly embedded NVM for low-density code storage EEPROM
40	Md Arifuzzaman Faisal <i>University of Michigan, United States</i>	Exact field Solution of Contact Resistance in Anisotropic 2D Transistors with Experimental Benchmarking
41	Atul Sachan <i>IIT Bombay, India</i>	Field-Assisted Charge Trapping in ALPO-IGZTO TFTs Enabling High Endurance and Long-Term Retention Without Tunneling and Blocking Layer
42	Jiahui Yang <i>Duke University, United States</i>	Record Switching Speed of 100 ns in Interfacial Memristors with High Uniformity
43	Ram Munde <i>Purdue University, United States</i>	Nanoscale Thermal Resistance Mapping of Nanocrystalline Cu Thin Films Using Scanning Thermal Microscopy with Hertzian Contact Geometric Correction
44	Dawei Wang <i>Arizona State University, United States</i>	GaN Vertical Trench MOSFET Using Stepped Power Slanted RIE Polish
45	Michiel van Setten <i>imec, Belgium</i>	Atomistic modeling of fluorine doping in IGZO
46	Jeelka Solanki <i>University at Albany, United States</i>	In-Memory Image Processing Using 65nm CMOS-integrated 1T-1R RRAM Arrays
47	Abdul Momin Syed <i>KAUST, Saudi Arabia</i>	A Highly Stable Multimodal Perovskite Heterojunction Memristor Enabling In-Memory Perception
48	Xiaojun Zheng <i>Penn State University, United States</i>	High Temperature Switching in ALD-Grown Ferroelectric AlN Thin-Film Transistors with ZnO Channel
49	Riya Rajpurohit <i>University of Virginia, United States</i>	Atom to System Model for a Superconducting Non-volatile Memory Device
50	Rudraksh Sangore <i>IIT Bombay, India</i>	Solution-Processed Ti-Pt/NiO/Ag Non-Volatile Devices as Synapses and Neurons in Analog Spiking Neural Network Hardware
51	Sandeep Kumar <i>IIT Bhubaneswar, India</i>	A Novel Unified Charge-Based Source-Referenced Model for Complementary FET Capturing the Quasi-Fermi-Driven Intersheet Coupling