

Track 01_Materials

T01-M-S1-R5

Date: 2 March 2026, Monday

Venue: Function Room 5, Ground Mezzanine Floor

Session Chairs:

Yann-Wen Lan, National Taiwan Normal University

Yuanyuan Shi, University of Science and Technology of China

1:30 PM

T01-M-S1.1-R5 [INVITED]

EDTM26-000360

Direct Deposition of High-k van der Waals Dielectric for Top-Gated MoS₂ FETs Enabling Reconfigurable Logic and 2T0C DRAM toward BEOL-Compatible 3D Integration

Yann-Wen Lan

Presenter: Yann-Wen Lan, National Taiwan Normal University

1:55 PM

T01-M-S1.2-R5 [INVITED]

EDTM26-000404

Interface engineering of MoS₂ transistors via AlN buffer layer

Yufeng Min, Lizi Wei, Yu Ge, Haifeng Wu, Haoyu Pan, Qiuxia Lu, Gongpeng Lan, Renchen Yuan, Ke Wang, Yuanyuan Shi

Presenter: Yuanyuan Shi, University of Science and Technology of China

2:20 PM

T01-M-S1.3-R5

EDTM26-000013

A Novel Method for Planar Electron Tubes via Cathode Electron Density Modulation

Wenjing Ying, Ziyi Lai, Haitao Xu, Minglv Wang, Shunwei Zhu, Zebo Fang, Qiufeng Ye, Jingquan Liu, Yuelin Wang

Presenter: Qiufeng Ye, Shaoxing University

2:35 PM

T01-M-S1.4-R5

EDTM26-000101

Analysis of Atomic Structures in Ultrathin Crystalline/Amorphous Alumina Films Using STEM-EELS and Virtual Reference Spectra

Yusuke Yuzawa, Takanori Asano, Kenji Nakamura, Yuta Aiba, Daisuke Hagishima, Masumi Saitoh, Hiroki Tanaka

Presenter: Yusuke Yuzawa, KIOXIA Corporation

2:50 PM

T01-M-S1.5-R5

EDTM26-000411

Metal-Organic Chemical Vapor Deposition of Bilayer 2H-WSe₂ Assisted with Growth Promoter

Haomin Liu, Ni Yang, Lin-Yun Huang, Fangyuan Zheng, Qian-Yo Lee, Jing-Kai Huang, Yi Wan, Lain-Jong Li

Presenter: Haomin Liu, National University of Singapore

Track 02_Process, Tools, Yield and Manufacturing

T02-M-S1-R8

Date: 2 March 2026, Monday

Venue: Function Room 8, Ground Mezzanine Floor

Session Chairs:

Tomasz Brozek, PDF Solutions

Tanja Braun, Fraunhofer IZM

1:30 PM

T02-M-S1.1-R8 [INVITED]

EDTM26-000539

Digital Twin-Driven Yield Optimization for GAA Logic Processes

Joseph Ervin, Qingpeng Wang, Benjamin Vincent, Ivan Chakarov

Presenter: Joseph Ervin, Lam Research

1:55 PM

T02-M-S1.2-R8 [INVITED]

EDTM26-000544

Accelerating Semiconductor Process Development with AI: Real-World Case Studies from Cosmos Innovation

Joel Li, Vijay Chandrasekhar

Presenter: Joel Li, Cosmos Innovation

2:20 PM

T02-M-S1.3-R8

EDTM26-000262

Gaussian Process Regression Model for SiO₂ and Si₃N₄ Wet Etching Across Various Etchant Conditions

Yusuke Hirata, Naoko Misawa, Takashi Ota, Yuki Yoshinaga, Chihiro Matsui, Ken Takeuchi

Presenter: Yusuke Hirata, The University of Tokyo

2:35 PM

T02-M-S1.4-R8

EDTM26-000367

Optimizing Niobium-Oxide Film Deposition via Pulsed-DC Sputtering by Dual-Stage Deep Neural Network-Gaussian Process Regression Framework

Gaoqi Yang, Jiajun Tan, Qingyun Zhu, Ling Liang, Lin Bao, Zongwei Wang, Yimao Cai

Presenter: Gaoqi Yang, Peking University

2:50 PM

T02-M-S1.5-R8

EDTM26-000020

Simulation-Assisted Process Optimization for Residue Mitigation in Tungsten Etching

Wenda Jia, Lin Shao, Wei Chen, Feili Zhang, Pengfei Lyu, Jian Huang, Yushan Chi

Presenter: Wenda Jia, Lam Research Service Co. Ltd., Shanghai

Track 03_Advanced Semiconductor (Logic) Devices

T03-M-S1-R9

Date: 2 March 2026, Monday

Venue: Function Room 9, Ground Mezzanine Floor

Session Chairs:

Can Li, The University of Hong Kong
Zhe Cheng, Peking University

1:30 PM

T03-M-S1.1-R9 [INVITED]

EDTM26-000403

Thermal Conductivity Mapping of Interconnects and Active Layers of Logic Chips

Zhe Cheng, Yiyun He, Zifeng Huang, Ming Li, Runsheng Wang

Presenter: Zhe Cheng, Peking University

1:55 PM

T03-M-S1.2-R9 [INVITED]

EDTM26-000455

Sequential 3D Integration Featuring Low-Temperature Fabrication and High-Density Design

Ming Li, Xiangyu Cui, Hongxu Liao, Xuanyu Jia, Yang Mi

Presenter: Ming Li, Peking University

2:20 PM

T03-M-S1.3-R9

EDTM26-000018

DTCO-based Monolithic Vertical four-layer 6T Complementary FET SRAM Design

Yutian Zhang, Khawar Sarfraz, Mansun Chan

Presenter: Yutian Zhang, The Hong Kong University of Science and Technology

2:35 PM

T03-M-S1.4-R9

EDTM26-000040

Oxygen-Passivated (O-PAS) Interfacial Layer for Ultra-Scaled (CET 0.97 nm) High-k Gate Stacks

Yukinori Morita, Takamasa Kawanago, Takefumi Kamioka, Yuichiro Mitani, Toshihide Nabatame, Takashi Onaya, Naoki Fukata, Wipakorn Jevasuwan, Kazuhito Tukagoshi, Takuya Hoshii, Kasidit Toprasertpong, Koji Kita, Naoya Okada, Kenzo Manabe, Wataru Mizubayashi,

Presenter: Yukinori Morita, National Institute of Advanced Industrial Science and Technology (AIST)

2:50 PM

T03-M-S1.5-R9

EDTM26-000071

First Demonstration of (111) GeOI nMOSFETs utilizing Novel Ge-Bi-Te/Ge vdW S/D Contacts

Wen Hsin Chang, Shogo Hatayama, Fang Jui Chu, Naoya Okada, Toshifumi Irisawa, Yao Jen Lee, Yeong Her Wang, Tatsuro Maeda, Yuta Saito

Presenter: Wen Hsin Chang, National Institute of Advanced Industrial Science and Technology

Track 04_Memory Technologies

T04-M-S1-R10

Date: 2 March 2026, Monday

Venue: Function Room 10, Ground Mezzanine Floor

Session Chair:

Qianqian Huang, Peking University

1:30 PM **T04-M-S1.1-R10 [INVITED]** **EDTM26-000478**

Monolithically Stacked DRAM Based on Short-Channel Top-Gate MoS₂ Transistors

Xinliu He, Weijie Sun, Yang Liu, Yuxuan Zhu, Saifei Gou, Yin Wang, Haojie Chen, Yuchen Tian, Zhengjie Sun, Qihao Chen, Xinrong Shan, Zhejia Zhang, Yan Hu, Mingrui Ao, Sen Wang, Jiahao Wang, Zihan Xu, Xiangqi Dong, Dongdong Li, Wenzhong Bao

Presenter: Xinliu He, Fudan University

1:55 PM **T04-M-S1.2-R10 [INVITED]** **EDTM26-000507**

Modeling of Charge-Trapping Memories for Cryogenic Applications

Paolo La Torraca, Karim Cherkaoui, Paul Hurley

Presenter: Paolo La Torraca, Tyndall National Institute

2:20 PM **T04-M-S1.3-R10** **EDTM26-000006**

High Density Stacked Dual Channel IGZO FET 3D DRAM with Vertical BL: Process Integration, Simulation and Scalability

Tun Wang, Jing Liang, Xinhe Wang, Shunqiang Xu, Honglei Feng, Jingjing Duan, Zhao Liu, Yong Yu, Z Bai, Mingxu Liu, Xiangsheng Wang, Guilei Wang, Chao Zhao

Presenter: Tun Wang, Beijing Superstring Academy of Memory Technology

2:35 PM **T04-M-S1.4-R10** **EDTM26-000104**

Demonstration of Stacked Planar Channel-All-Around (P-CAA) IGZO FETs with Horizontal Word-Line for 3D DRAM and In-depth Analysis of Density Compared with Horizontal Bit-Line

Weiwei Li, Jianqi Chen, Guilie Wang

Presenter: Jianqi Chen, Beijing Superstring Academy of Memory Technology

2:50 PM **T04-M-S1.5-R10** **EDTM26-000254**

Stackable GAA IGZO Nanosheet FETs Fabricated via Channel-Replace Process for VBL 1T1C 3D DRAM with High Performance and Stability

Shipeg Wang

Presenter: Shipeng Wang, University of Chinese Academy of Sciences

Track 07_Modeling and Simulation

T07-M-S1-R7

Date: 2 March 2026, Monday

Venue: Function Room 7, Ground Mezzanine Floor

Session Chairs:

Mohd Khairuddin Md Arshad, Universiti Malaysia Perlis (UNIMAP)

Lay Kee Ang, Singapore University of Technology and Design

1:30 PM

T07-M-S1.1-R7 [INVITED]

EDTM26-000048

Cryogenic-Aware EDA-Compatible Design Libraries for FD-SOI Transistors

Phanish Chava, Heidrun Alius, Lasse Van Baal, Jonas Buehler, Thomas Gneiting, Thomas Heide, Peter Javorka, Matthias Kessler, Maximilian Lederer, Steffen Lehmann, Yannick Raffel, Meng Su, Georgios Tsirmpas, Patrick Vliex, Stefan Van Waasen, Christian Witt,

Presenter: Stefan Van Waasen, Forschungszentrum Juelich GmbH

1:55 PM

T07-M-S1.2-R7 [INVITED]

EDTM26-000390

Physical Model of Intrinsic Short-channel Effects for Oxide Thin-film Transistors

Haotong Zhu, Zheng Zhou, Jinfeng Kang, Xiaoyan Liu, Yuanzhao Hu

Presenter: Haotong Zhu, Peking University

2:20 PM

T07-M-S1.3-R7

EDTM26-000008

Power Law Yield Model for FinFET Technologies and Beyond

Runzi Chang, Nedeljko Varnica

Presenter: Runzi Chang, Marvell Semiconductor, Inc.

2:35 PM

T07-M-S1.4-R7

EDTM26-000257

Physics Informed Neural Network Modeling for Hole Transport Layer Design in Perovskite Solar Cells

Jiazheng Wang, Qing Han, Qiang Lou, Xinxin Xu, Hao Zhang, Haibiao Chen, Gehan Amaratunga, Yufeng Jin, Hang Zhou

Presenter: Jiazheng Wang, Peking university

2:50 PM

T07-M-S1.5-R7

EDTM26-000548

Implementation and Performance Evaluation of Charge Plasma-Induced Intrinsic Channel in SOI Trigate MOSFET

Nirmal D, Ashok Kumar Shanmugaraj, Logisvary V, Binola K Jebalin I V

Presenter: Logisvary V, Karunya Institute of Technology and Sciences

Track 08_Reliability and Testing

T08-M-S1-R6

Date: 2 March 2026, Monday

Venue: Function Room 6, Ground Mezzanine Floor

Session Chairs:

Cher Ming Tan, Chang Gung University, Taiwan

Ramya K, Birla Institute of Technology and Science, Pilani

1:30 PM

T08-M-S1.1-R6 [INVITED]

EDTM26-000484

A TCAD-Based Analysis of Gate Stack Process and Channel Material Dependence of NBTI in p-FinFETs for Memory Peripheral Applications

Arnav Shaurya Bisht, Aakashdeep Gupta, Raj Sambhav, Souvik Mahapatra

Presenter: Arnav Shaurya Bisht, Indian Institute of Technology Bombay (IIT Bombay)

1:55 PM

T08-M-S1.2-R6 [INVITED]

EDTM26-000542

Cyber Physical Hardening of BLE Microsensor Systems Through Systematic VAPT and IDS Based Mitigation

Ramya K

Presenter: Ramya K, Birla Institute of Technology and Science, Pilani

2:20 PM

T08-M-S1.3-R6

EDTM26-000038

DREAM: Drain Stress-Induced Reliability Enhancement Method for IGZO-FETs and Performance Improvement of IGZO-based M3D System from 77K to 373K

Zhidong Tang, Yanbo Su, Jianshi Tang, Kexin Wang, Zhixing Jiang, Yuyao Lu, Yijia Fan, Yibei Zhang, Yue Xi, Dong Wu, Bin Gao, He Qian, Huaqiang Wu

Presenter: Zhidong Tang, Tsinghua University

2:35 PM

T08-M-S1.4-R6

EDTM26-000215

Improved Reliability by Post-annealing of Top-gate ITO Transistors with Negligible NBTI and PBTI

Zhiyu Wang, Qianlan Hu, Tianyue Fu, Yanqing Wu

Presenter: Zhiyu Wang, Peking University

2:50 PM

T08-M-S1.5-R6

EDTM26-000336

Investigation of Coupled RRAM and MOSFET Degradation in 1T1R Memory Cell

Yuhang Yang, Yingchen Ji, Ruiqing Xie, Lin Bao, Zongwei Wang, Yimao Cai

Presenter: Yuhang Yang, Peking University

Track 10_Sensor, MEMS, Bio-electronics

T10-M-S1-R11

Date: 2 March 2026, Monday

Venue: Function Room 11, Ground Mezzanine Floor

Session Chairs:

Seena V, Indian Institute of Space Science and Technology

Jumril Yunas, Universiti Kebangsaan Malaysia

1:30 PM **T10-M-S1.1-R11 [INVITED]** **EDTM26-000519**

FET Integrated Polymer MEMS Sensors with Suspended Gate Architecture

Joel Zacharias, Pramod Martha, Seena V

Presenter: Seena V, Indian Institute of Space Science and Technology

1:55 PM **T10-M-S1.2-R11 [INVITED]** **EDTM26-000523**

Progress on the Development of Electromagnetic Micropump for Drug Delivery System

Jumril Yunas, Ayub Subandi

Presenter: Jumril Yunas, Universiti Kebangsaan Malaysia

2:20 PM **T10-M-S1.3-R11** **EDTM26-000024**

Polarization-Sensitive Photodetectors Based on 2D GeSe with Enhanced Low-Temperature Response

Kexin He, Yali Yu, Yue-Yang Liu, Liyuan Liu, Zhongming Wei, Shuangming Yu, Ziqi Zhou

Presenter: Kexin He, Institute of Semiconductors, Chinese Academy of Sciences

2:35 PM **T10-M-S1.4-R11** **EDTM26-000084**

Monolithic CMOS-MEMS Multi-Parameter Gas Detection SoC with Low Power and High Sensitivity

Xuanqing Hua, Fengyang Li, Dacheng Zhang

Presenter: Tianyue Fu, Peking University

2:50 PM **T10-M-S1.5-R11** **EDTM26-000141**

Tellurium Nanowire Transistors as Ion Sensors with Near-Nernstian Sensitivity

Heping Cui, Kai Zheng, Sven Ingebrandt

Presenter: Heping Cui, RWTH Aachen University

Track 11_Flexible and Wearable Electronics

T11-M-S1-R12

Date: 2 March 2026, Monday

Venue: Function Room 12, Ground Mezzanine Floor

Session Chair:

Praveen Kumar Sharma, Marwadi University

1:30 PM **T11-M-S1.1-R12 [INVITED]** **EDTM26-000494**

Flexible and Stretchable Synaptic Transistors for Bionics and Neuromorphic Computing

Min Zhang, Dexing Liu, Jiaqiao Liang, Zifan Wang, Daquan Zhang, Xinwei Wang, Shengdong Zhang

Presenter: Min Zhang, The Chinese University of Hong Kong, Shenzhen

1:55 PM **T11-M-S1.2-R12** **EDTM26-000003**

Bioinspired Fractal Nanoneedle Arrays for Flexible and Controlled Drug Delivery

Ananya Bhattacharjee, Ratul Kumar Baruah

Presenter: Ananya Bhattacharjee, Tezpur University

2:10 PM **T11-M-S1.3-R12** **EDTM26-000329**

Dynamic Response Characterisation of PDMS-MWCNTs Piezoresistive Sponge for Human Motion Monitoring

Abhinav Sharma, Shivanku Chauhan, Shubham Kumar Mishra, Sabyasachi Talukdar, Mohd. Zahid Ansari

Presenter: Abhinav Sharma, PDPM IIITDM JABALPUR

2:25 PM **T11-M-S1.4-R12** **EDTM26-000026**

CMOS Inverter on a Flexible Plastic Substrate Using Junctionless Double-Gate Poly-Ge Thin-Film Transistors

Akito Kurihara, Tetsuo Okuyama, Toshiyuki Tsuchiya, Akito Hara

Presenter: Akito Kurihara, Tohoku Gakuin University

2:40 PM **T11-M-S1.5-R12** **EDTM26-000314**

Flexible Organic Transistors with Biocompatible Polymer Gate Dielectric for Non-volatile Memory

Gargi Konwar, Somnath Bhattacharjee, Shree Prakash Tiwari

Presenter: Somnath Bhattacharjee, Indian Institute of Technology Jodhpur

2:55 PM **T11-M-S1.6-R12** **EDTM26-000310**

Modelling And Investigation of a Wearable Thermoelectric Generator And Its Mechanical Characteristics

Suhasini S, Nurul Asyikeen Binti Ab.Mutalib

Presenter: Suhasini Sathiyamoorthy, Vellore Institute of Technology (VIT), Chennai

Track 12_Nanotechnologies

T12-M-S1-R4

Date: 2 March 2026, Monday

Venue: Function Room 4, Lower Ground Floor

Session Chairs:

Saptarshi Das, Pennsylvania State University, USA

David Estrada, Boise State University

1:30 PM

T12-M-S1.1-R4 [INVITED]

EDTM26-000412

2-dimensional and Layered Materials for Applications in Energy, Water, and Healthcare

David Estrada

Presenter: David Estrada, Boise State University

1:55 PM

T12-M-S1.2-R4 [INVITED]

EDTM26-000424

Transmemristance in multiterminal memristive nanowire networks

Gianluca Milano, Alessandro Cultrera, Enrique Miranda, Carlo Ricciardi

Presenter: Carlo Ricciardi, Politecnico Di Torino

2:20 PM

T12-M-S1.3-R4

EDTM26-000132

Quasi-one-dimensional tellurium nanotube for polarization-sensitive broadband photodetector

Ruqi Wang, Pu Wang, Qingming Chen

Presenter: Ruqi Wang, Sun Yat-Sen University

2:35 PM

T12-M-S1.4-R4

EDTM26-000224

Monolithic Vertical MoS₂/WSe₂ CFETs for Binary-Ternary Reconfigurable CMOS Inverter and Logic Gates

Changwook Lee, Dongyoung Kim, Jiwon Chang, Kibum Kang, Eunyeong Yang, Jiwon Ma

Presenter: Changwook Lee, Yonsei University

2:50 PM

T12-M-S1.5-R4

EDTM26-000073

Self-Powered Broadband Photodetection in WSe₂/In₂Se₃ 2D Heterostructure Phototransistors

Ling Bai, Xi Gong, Xiaojie Tang, Zhongming Wei, Ziqi Zhou, Yali Yu, Ziting Yang, Yue-Yang Liu

Presenter: Hawaibam Thoithoi Singh, Chang Gung University

Track 13_Neuromorphic, Quantum and Disruptive Technologies

T13-M-S1-R3

Date: 2 March 2026, Monday

Venue: Function Room 3, Lower Ground Floor

Session Chairs:

Qiming Shao, Hong Kong University of Science and Technology

Jianshi Tang, Tsinghua University

1:30 PM

T13-M-S1.1-R3 [INVITED]

EDTM26-000506

Monolithic 3D Integration for Energy-Efficient Computing-in-Memory Systems

Jianshi Tang, Chengxiang Ma, Yibei Zhang, Jiaming Li, Yanbo Su

Presenter: Jianshi Tang, Tsinghua University

1:55 PM

T13-M-S1.2-R3

EDTM26-000131

Monolithic 3D Integrated Multi-Mode Spintronic Memristor for Neuromorphic Computing

Yuhan Li, Zihua Xiao, Yaoru Hou, Yuting Liu, Ching Ho Chan, Qiming Shao

Presenter: Yuhan Li, The Hong Kong University of Science and Technology

2:10 PM

T13-M-S1.3-R3

EDTM26-000371

Memristor-Accelerated Neural Network Architectures for Energy-Efficient Quantum State Tomography

Erbing Hua, King Yiu Yu, Rajendra Bishnoi, Heba Abunahla, Sebastian Feld, Salahuddin Nur, Ryoichi Ishihara

Presenter: Erbing Hua, Delft University of Technology

2:25 PM

T13-M-S1.4-R3

EDTM26-000235

Population-Coded Computing Based on Memristors for RBFNN-Based Embodied Artificial Intelligence

Yujie Chen, Linbo Shan, Lin Bao, Gaoqi Yang, Yuhang Yang, Zheng Zhou, Ling Liang, Zongwei Wang, Yimao Cai

Presenter: Yujie Chen, Peking University

2:40 PM

T13-M-S1.5-R3

EDTM26-000442

RRAM-Based Accelerator for HMM Forward Algorithm in a Hybrid CNN-HMM Framework

Han L, Dejiang Mu, Zifei Cai, Keqin Li, Xiangshui Miao, Xingsheng Wang

Presenter: Han Lu, Huazhong University of Science and Technology (HUST)

2:55 PM

T13-M-S1.6-R3

EDTM26-000432

Novel Gate-injected Ferroelectric FET-based Differential Fully-analog Computing-in-memory with In-situ Charge-domain Activation for Energy-efficient LLMs

Bingrui Song, Shaodi Xu, Runze Han, Jin Luo, Qianqian Huang, Ru Huang

Presenter: Bingrui Song, Peking University

Track 01_Materials

T01-T-S2-R5

Date: 3 March 2026, Tuesday

Venue: Function Room 5, Ground Mezzanine Floor

Session Chairs:

Amit Verma, Indian Institute of Technology Kanpur

Shuvam Pawar, National Institute of Technology Warangal

3:15 PM

T01-T-S2.1-R5 [INVITED]

EDTM26-000526

Emergent Conduction at an Insulator Interface

Yang Liu, Sean Li, Junjie Shi, Jie Wei, Zhewei Liu, Ji Zhang

Presenter: Sean Li, The University of New South Wales

3:40 PM

T01-T-S2.2-R5 [INVITED]

EDTM26-000437

Charge injection for 2D electrical contact and its contact resistance

Lay Kee Ang

Presenter: Lay Kee Ang, Singapore University of Technology and Design

4:05 PM

T01-T-S2.3-R5

EDTM26-000210

Electrically Tunable Strain Orientation in MoS₂ for Reconfigurable Logic Circuits

Xinchuan Du, Yang Wang, Yi Wan

Presenter: Yi Wan, National University of Singapore

4:20 PM

T01-T-S2.4-R5

EDTM26-000212

High- κ Al-doped HfO₂/ZrO₂ Superlattice with 6.6 Å EOT, Low Leakage Current and Enhanced Breakdown Field

Shiwei Yan, Min Zeng, Tianyue Fu, Honggang Liu, Wenjie Zhao, Qianlan Hu, Huajun Sun, Yanqing Wu

Presenter: Min Zeng, Peking University

Track 02_Process, Tools, Yield and Manufacturing

T02-T-S2-R8

Date: 3 March 2026, Tuesday

Venue: Function Room 8, Ground Mezzanine Floor

Session Chairs:

Nobutoshi Fujii, Sony Semiconductor Solutions Corporation

Heng Wu, Peking University

3:15 PM

T02-T-S2.1-R8 [INVITED]

EDTM26-000540

200-mm SiC Power Device Technology Platform enabled by Process and Integration Innovations

Umesh Chand, Yu-Chieh Chien, Shiv Kumar, Xuan Sang Nguyen, Abdul Yeo Hannan, Akhil Ranjan, Gongyue Tang, Runze Wang, Liyuan Liu, Voo Qin Gui Roth, Arvind Sundaram, Weijie Wang, Xinghua Wang, Lakshmi Kanta Bera, Xiao Gong, Navab Singh, Yee-Chia Yeo

*Presenter: Umesh Chand, IME, A*STAR, Singapore*

3:40 PM

T02-T-S2.2-R8 [INVITED]

EDTM26-000531

Threshold Voltage Control Techniques for Advanced Nodes

Yuxiang Wang, Yi Yuan, Yue Zhang, Wei Sun, Xin Sun, Hsien-Cheng Wang

Presenter: Yuxiang Wang, Beijing NAURA Microelectronics Equipment Co. Ltd,

4:05 PM

T02-T-S2.3-R8

EDTM26-000274

Investigation of Plasma Processing Conditions for Low-damage Multi-Vt Process

Hidefumi Hirabayashi, Satoshi Sakai, Kiyohiko Sato, Naoyuki Kofuji, Makoto Miura, Miyako Matsui, Taiga Kasai

Presenter: Hidefumi Hirabayashi, Hitachi High-Tech

4:20 PM

T02-T-S2.4-R8

EDTM26-000248

Direct Synthesis of Patterned MoS₂ on SiO₂ for Transfer-Free Device Fabrication

Songcen Xu, Haoxin Huang, Kwok Ho Wong, Zhirong Peng, Chaoliang Tan, Mansun Chan

Presenter: Songcen Xu, Hong Kong University of Science and Technology

4:35 PM

T02-T-S2.5-R8

EDTM26-000019

Improved Current Drivability in Normally-Off IGZO TFTs with Low-Level Nitrogen Doping

Toru Kanazawa, Masahisa Watanabe, Satoshi Kojima, Tetsuya Goto, Akira Shimizu

Presenter: Toru Kanazawa, Tokyo Electron Technology Solutions Ltd.

4:50 PM

T02-T-S2.6-R8

EDTM26-000182

A Back-End-of-Line Compatible CMOS Inverter Based on p-Type Ge/Al and n-Type ZnO Thin-Film Transistors

Chuanlin Sun, Lutong Wang, Junchen Dong, Dedong Han, Zheng Zhou, Yimao Cai, Tingchen Yi, Zongwei Wang

Presenter: Tingchen Yi, Peking University

Track 03_Advanced Semiconductor (Logic) Devices

T03-T-S2-R9

Date: 3 March 2026, Tuesday

Venue: Function Room 9, Ground Mezzanine Floor

Session Chairs:

Ang Yee Sin, Singapore University of Technology and Design

Masaharu Kobayashi, The University of Tokyo

3:15 PM

T03-T-S2.1-R9 [INVITED]

EDTM26-000466

Prospects and Challenges for Two-Dimensional Transition Metal Dichalcogenide Based Logic Devices

Wei-Yen Woon, Terry Y.T. Hung, Shu-Jui Chang, Yun-Yan Chung, Ang-Sheng Chou, Wei-Sheng Yun, Edward Chen, Chen-Feng Hsu, Ming-Yang Li, Chao-Ching Cheng, Iuliana P. Radu

Presenter: Wei Yen Woon, Taiwan Semiconductor Manufacturing Company

3:40 PM

T03-T-S2.2-R9 [INVITED]

EDTM26-000487

Gate-All-Around Nanosheet Oxide Semiconductor Transistor with Crystalline InGaOx

Masaharu Kobayashi, Anlan Chen, Ki-Woong Park, Sunbin Hwang, Xingyu Huang, Takuya Saraya, Toshiro Hiramoto, Takanori Takahashi, Mutsunori Uenuma, Yukiharu Uraoka

Presenter: Masaharu Kobayashi, The University of Tokyo

4:05 PM

T03-T-S2.3-R9

EDTM26-000110

High-Performance Nanoscale Self-Aligned Top-Gate Indium Oxide Thin-Film Transistors with Negligible Capacitive Coupling for Long-Retention 2T0C DRAM

Shengjie Yang, Zhendong Jiang, Xinwei Wang, Shengdong Zhang, Yan Yan, Chuan Liu, Zhihao Lv, Lei Lu

Presenter: Zhihao Lv, Peking University

4:20 PM

T03-T-S2.4-R9

EDTM26-000160

Analysis of Parasitic Series Resistance Effect in Gate-All-Around FETs by a Modified Alpha-Power Law Model

Kazuya Uejima, Atsushi Yagishita, Shutaro Asanuma, Toshihiro Kamei, Yuuki Ishida, Naoya Okada, Kenzo Manabe, Yuji Kasashima, Yukinori Morita, Wataru Mizubayashi, Fuminori Ito, Takashi Matsukawa, Chia-Tsong Chen, Hiroyuki Ota, Yoshihiro Hayashi, Toshifumi

Presenter: Kazuya Uejima, National Institute of Advanced Industrial Science and Technology (AIST)

4:35 PM

T03-T-S2.5-R9

EDTM26-000164

The Reduced Contact Resistivity through Interface Doping in CoSi₂/Si system: A First-principles Study

Miaojia Yuan, Maokun Wu, Haobo Lin, Feng Lu, Weihua Wang, Sheng Ye, Zhigang Ji

Presenter: Maokun Wu, Shanghai Jiao Tong University

Track 04_Memory Technologies

T04-T-S2-R10

Date: 3 March 2026, Tuesday

Venue: Function Room 10, Ground Mezzanine Floor

Session Chairs:

Stefan Van Waasen, Forschungszentrum Juelich GmbH

Zongwei Wang, Peking University

3:15 PM

T04-T-S2.1-R10 [INVITED]

EDTM26-000501

High Reliability HfO₂ Based FeFETs for Memory and Compute-in-memory Applications

Kechao Tang, Yuejia Zhou, Runteng Zhu, Zhiyuan Ning, Hanyong Shao, Ru Huang

Presenter: Kechao Tang, Peking University

3:40 PM

T04-T-S2.2-R10

EDTM26-000297

Mitigating V/2 Half-Select Stress in GeTe-Based OTS Selectors via Recovery-Pulse Engineering

Binhao Wang, Yike Zhang, Jinyu Wen, Zixuan Liu, Chuanqi Yi, Yaru Zhang, Yihao Li, Zixuan Zhang, Xiangshui Miao, Hao Tong

Presenter: Binhao Wang, Huazhong University of Science and Technology

3:55 PM

T04-T-S2.3-R10

EDTM26-000032

Highly-stable and Disturbing-tolerant Reconfigurable TCAM-SRAM fusion array for Bit-storage and TCAM Multiple-functionality in Computing-in-memory

K.H. Chang, P.H. Huang, E Ray Hsieh

Presenter: Pohsiung Huang, National Central University

4:10 PM

T04-T-S2.4-R10

EDTM26-000114

A Current-based Write Method for Multi-bit IGZO 2T0C DRAM

Naide Mao, Menggan Liu, Fuxi Liao, Kaifei Chen, Xuanming Zhang, Zihan Li, Congyan Lu, Jiebin Niu, Cheng Lu, Yu Liu, Shengjie Zhao, Nianduan Lu, Di Geng, Guanhua Yang, Ling Li

Presenter: Naide Mao, Institute of Microelectronics (IME), Chinese Academy of Sciences

4:25 PM

T04-T-S2.5-R10

EDTM26-000263

Novel Hafnia-based Ferroelectric Domain Wall Memory with Improved Memory Window and Non-destructive Read for High-Accuracy In-Memory Computing

Zebin Zhang, Shengjie Cao, Zhiyuan Fu, Qianqian Huang, Ru Huang

Presenter: Zebin Zhang, Peking University

4:40 PM

T04-T-S2.6-R10

EDTM26-000444

Low-Thermal-Budget (300°C) HZO Ferroelectrics with Improved Ferroelectricity and Endurance via Process-Material Co-optimization

Wei Qin Huang, Yuejia Zhou, Runteng Zhu, Ru Huang, Kechao Tang

Presenter: Wei Qin Huang, Peking University

Track 05_Photonics, Imaging & Display

T05-T-S2-R4

Date: 3 March 2026, Tuesday

Venue: Function Room 4, Lower Ground Floor

Session Chairs:

Weida Hu, State Key Laboratory of Infrared Physics, Shanghai Institute of Technical Physics
Hark Hoe Tan, The Australian National University

3:15 PM **T05-T-S2.1-R4 [INVITED]** **EDTM26-000340**

Energy Challenges from a materials perspective

Federico Rosei

Presenter: Federico Rosei, University of Trieste

3:40 PM **T05-T-S2.2-R4 [INVITED]** **EDTM26-000377**

Oxide Semiconductors for Ultralow-Power Sustainable Electronics

Juan Paolo Bermundo, Candell Grace Quino, Mutsumi Kimura, Radu Sporea, Yukiharu Uraoka

Presenter: Juan Paolo Bermundo, Nara Institute of Science and Technology

4:05 PM **T05-T-S2.3-R4** **EDTM26-000083**

4T-Pixel CMOS Image Sensors for enhanced UV sensing and lower readout noise

Hannes Schmidt, Mathieu Vandwalle, Xuezhou Cao, Vinoothini Ap Jeya Kumar, Yi Ling Ong, Lai Jee Chang

Presenter: Hannes Schmidt, X-FAB Global Services GmbH

4:20 PM **T05-T-S2.4-R4** **EDTM26-000499**

Impacts of Temperature on the Performance of Ge_(1-x)Sn_x-based Mid-infrared Light-Emitting Diodes on Si Substrate

Harshvardhan Kumar, Yash Bijawat, P Sushitha Menon N V Visvanathan

Presenter: Harshvardhan Kumar, The LNM Institute of Information Technology, Jaipur

4:35 PM **T05-T-S2.5-R4** **EDTM26-000456**

Multitask multiplexed infrared detection

Shikun Duan

Presenter: Shikun Duan, Shanghai Institute of Technical Physics, Chinese Academy of Sciences

Track 06_Wide-Bandgap Power and RF Devices/Circuits

T06-T-S2-R6

Date: 3 March 2026, Tuesday

Venue: Function Room 6, Ground Mezzanine Floor

Session Chairs:

Alberto Castellazzi, Kyoto University of Advanced Science

Yuhao Zhang, The University of Hong Kong

3:15 PM

T06-T-S2.1-R6 [INVITED]

EDTM26-000405

Switching cell architectures, modulation and integration solutions for full exploitation of WBG semiconductor device characteristics

Alberto Castellazzi, Maria Kazakova, Kulisa Nanayakkara, Vanesa Yarazet Vera Placido

Presenter: Alberto Castellazzi, Kyoto University of Advanced Science

3:40 PM

T06-T-S2.2-R6 [INVITED]

EDTM26-000427

Power Devices for Extreme Temperature Applications (Invited)

Zineng Yang, Xin Yang, Hehe Gong, Yuhao Zhang

Presenter: Yuhao Zhang, The University of Hong Kong

4:05 PM

T06-T-S2.3-R6

EDTM26-000191

Advances in Developing Metal Structures Suppressing Global Flying Crosstalk in CMOS

Albert Wang, Zijin Pan, Weiquan Hao, Xunyu Li, Runyu Miao, Zijian Yue

Presenter: Albert Wang, University of California

4:20 PM

T06-T-S2.4-R6

EDTM26-000124

High Performance Tri-gate Double Channel AlGa_N/Ga_N MOS-HEMT Using ZrO₂ as Gate Dielectric

Khanh Quoc Nguyen, Rahul Rai, Tran Duy-Hung, Chee How Lu, Viet Quoc Ho, Edward Yi Chang

Presenter: Khanh Quoc Nguyen, National Yang Ming Chiao Tung University

4:35 PM

T06-T-S2.5-R6

EDTM26-000270

A Large-Signal Characterization Method for Dynamic Gate Capacitances of p-GaN HEMTs

Seia Hirata, Hajime Takayama, Urmimala Chatterjee, Jun Furuta, Michihiro Shintani, Stefaan

Decoutere, Kazutoshi Kobayashi

Presenter: Hajime Takayama, Kyoto Institute of Technology

4:50 PM

T06-T-S2.6-R6

EDTM26-000470

In-Plane Anisotropy and Mode Selection in Thin-Film Lithium Niobate for Versatile Filters

Min Zeng, Tingting Yang, Jieyu Liu, Zekai Wang, Yao Cai, Chengliang Sun

Presenter: Tingting Yang, Wuhan University

Track 07_Modeling and Simulation

T07-T-S2-R7

Date: 3 March 2026, Tuesday

Venue: Function Room 7, Ground Mezzanine Floor

Session Chairs:

Xiangyu Cui, Peking University

Kumar Sheelvardhan, Indian Institute of Technology Roorkee

3:15 PM

T07-T-S2.1-R7 [INVITED]

EDTM26-000054

Direct Backside Contact Driven Source/Drain Engineering for Sub-1nm Technology

Xiangyu Cui, Hongxu Liao, Yang Mi, Xijun Zhou, Jia Xuanyu, Baokang Peng, Shunli Xu, Lining Zhang, Xiaoyan Xu, Xia An, Heng Wu, Ru Huang, Ming Li

Presenter: Xiangyu Cui, Peking University

3:40 PM

T07-T-S2.2-R7 [INVITED]

EDTM26-000391

Fast and Accurate Device Modeling: Extreme Learning Machine for Multi-Gate Transistors

Kumar Sheelvardhan, Dariskhem Pyngrope, Sourajeet Roy, Avirup Dasgupta

Presenter: Kumar Sheelvardhan, Indian Institute of Technology Roorkee

4:05 PM

T07-T-S2.3-R7

EDTM26-000021

A Novel Shallow-Trench Structure SiC power MOSFET for Trade-off Among Performance, Reliability and Process Complexity

Yanghao Wang, Zhen Wang, Jingjing Tan, Peng Liao, Jianbin Guo, Yafen Yang, Qingqing Sun, David Wei Zhang, Hang Xu

Presenter: Yanghao Wang, Fudan University

4:20 PM

T07-T-S2.4-R7

EDTM26-000268

Robust Dual-Domain ANN-Based Compact MOSFET Modeling Across Technology Nodes

Shreyan Ghosh, Abdullah Cachhi, Sidhant Vazarkar, Girish Pahwa

Presenter: Abdullah Cachhi, National Yang Ming Chiao Tung University

4:35 PM

T07-T-S2.5-R7

EDTM26-000434

An Artificial Neural Network-Assisted Charge-Based Compact Model for Advanced Multi-Gate FETs

Anamika Singh, Amit Kumar Behera, Avirup Dasgupta

Presenter: Anamika Singh, Indian Institute of Technology Roorkee

4:50 PM

T07-T-S2.6-R7

EDTM26-000278

Standard CMOS-Compatible Low-Power Ternary Logic with Drain Resistance

Minsu Lim, Jiwon Chang

Presenter: Minsu Lim, Yonsei University

Track 10_Sensor, MEMS, Bio-electronics

T10-T-S2-R11

Date: 3 March 2026, Tuesday

Venue: Function Room 11, Ground Mezzanine Floor

Session Chairs:

Rhonira Latif, Institute of Microengineering and Nanoelectronics (IMEN), UKM

Maizatul Zolkapli, Universiti Teknologi MARA

3:15 PM

T10-T-S2.1-R11 [INVITED]

EDTM26-000553

Quantum-Enabled Bio-Interface for Kretschmann-Based SPR: Plasma-Polymerized Platforms for High-Performance Kidney Biomarker Biosensing

P Suthitha Menon N V Visvanathan, Nur Akmar Jamil, Ilmi Munirah Karim, Siti Nasuha Mustaffa, Ahmad Ashrif A Bakar, Sahbudin Shaari, Burhanuddin Yeop Majlis

Presenter: Suthitha Menon, Institute of Microengineering and Nanoelectronics (IMEN)

3:40 PM

T10-T-S2.2-R11 [INVITED]

EDTM26-000546

Surface Plasmon Resonance Polymer Optical Fiber Sensor Facilitating Fluorescence-Based Oxygen Detection

Maizatul Zolkapli, Azween Hadiera Hishamuddin, Nur Hidayah Azeman, Ahmad Sabirin Zoolfakar, Rozina Abdul Rani, Mohd Norzaliman Mohd Zain, Mohd Hafiz Abu Bakar, Ahmad Ashrif A Bakar

Presenter: Maizatul Zolkapli, UNIVERSITI TEKNOLOGI MARA

4:05 PM

T10-T-S2.3-R11

EDTM26-000061

A-site modulated lead-free perovskite with ultra-low dark current noise for Visible and X-ray detection

Hexuan Wang, Guanhua Dun, Jiahe Zhang, Zi Wang, Yida Gao, Ruolong Zhou, Jiali Peng, Dan Xie, Yi Yang, Tianling Ren

Presenter: Hexuan Wang, Tsinghua University

4:20 PM

T10-T-S2.4-R11

EDTM26-000097

Sensitivity Modeling of Metal Oxide Gas Sensors for Surface Scattering Evaluation

Xuanqing Hua, Shiyang Yuan, Peng Liu, Fengyang Li, Zhongqiu Hua, Dacheng Zhang

Presenter: Yuejia Zhou, Peking University

4:35 PM

T10-T-S2.5-R11

EDTM26-000036

Under-FET Buried PN Junction T-Sensor for Thermal Management in 22nm FDSOI

Weiquan Hao, Xunyu Li, Zijin Pan, Runyu Miao, Zijian Yue, Zexiao Li, Albert Wang

Presenter: Zijian Yue, University of California

Track 11_Flexible and Wearable Electronics

T11-T-S2-R12

Date: 3 March 2026, Tuesday

Venue: Function Room 12, Ground Mezzanine Floor

Session Chairs:

Praveen Kumar Sharma, Marwadi University

Trupti Ranjan Lenka, National Institute of Technology Silchar

3:15 PM

T11-T-S2.1-R12 [INVITED]

EDTM26-000518

Position-Aware Beam Steering and Antenna Adaptation Using LiDAR Sensing for 6G Wireless Links

Praveen Kumar Sharma, Mitesh Bhai Solanki, Rashmi Jangid, Tapan Nahar, Chandrasinh Parmar

Presenter: Praveen Kumar Sharma, Marwadi University

3:40 PM

T11-T-S2.2-R12 [INVITED]

EDTM26-000002

Flexible electrochemical devices integrating zinc-manganese oxide battery with symmetric supercapacitor

Zanxiang Nie, Pritesh Hiralal, Gehan Amaratunga, Yue Liu, Shiwei Liu, Shiqiang Luo

Presenter: Shiqiang Luo, Zinergy Shenzhen Ltd.,

4:05 PM

T11-T-S2.3-R12

EDTM26-000306

Sustainable Flexible Organic Transistors on Paper Substrate: Performance and Long-Term Stability

Somnath Bhattacharjee, Anil Lodhi, Gargi Konwar, Shree Prakash Tiwari

Presenter: Somnath Bhattacharjee, Indian Institute of Technology Jodhpur

4:20 PM

T11-T-S2.4-R12

EDTM26-000319

Sustainable Multifunctional Tea Leaf Waste for Flexible Humidity Sensors and TENG Devices

Monika Gadhewal, Ritesh Kumar Singh, Shree Prakash Tiwari

Presenter: Monika Gadhewal, Indian Institute of Technology (IIT), Jodhpur

4:35 PM

T11-T-S2.5-R12

EDTM26-000347

Diverse Electrode Technology: A Capacitive Approach for Acquisition of ECG signal using PAN Nanofiber

Subashini J M, Anita Talwar, Baskaran K, Pandiyarasan Veluswamy

Presenter: Subashini J M, India

Track 13_Neuromorphic, Quantum and Disruptive Technologies T13-T-S2-R3

Date: 3 March 2026, Tuesday

Venue: Function Room 3, Lower Ground Floor

Session Chairs:

Akira Oiwa, The University of Osaka, Japan

Ryoichi Ishihara, Delft University of Technology

3:15 PM

T13-T-S2.1-R3 [INVITED]

EDTM26-000480

Development of Quantum Computers with Electron Spins in Silicon Quantum Dots

Takashi Nakajima

Presenter: Takashi Nakajima, RIKEN

3:40 PM

T13-T-S2.2-R3 [INVITED]

EDTM26-000467

Development of a Flip-Chip Bonding Process for Scalable Silicon-Based Quantum Processors

Vo Kim Hieu Van, Cedric Bohemier, Santiago Serrano, Ryan Wreyford, Ajit Dash, Alexandra Dickie, Steve Yianni, Fay Hudson, Wee Han Lim, Andrew Dzurak, Kok Wai Chan

Presenter: Vo Kim Hieu Van, University of New South Wales

4:05 PM

T13-T-S2.3-R3 [INVITED]

EDTM26-000549

Material Defined Germanium Quantum-dots for Quantum Electronics and Photonics

Pei-Wen Li

Presenter: Pei-Wen Li, National Yang Ming Chiao Tung University

4:30 PM

T13-T-S2.4-R3 [INVITED]

EDTM26-000561

Cryo-Memristors for Energy-Efficient Quantum Computing

Ryoichi Ishihara

Presenter: Ryoichi Ishihara, Delft University of Technology

Track 01_Materials

T01-T-S3-R5

Date: 3 March 2026, Tuesday

Venue: Function Room 5, Ground Mezzanine Floor

Session Chairs:

Azrul Azlan Hamzah, Universiti Kebangsaan Malaysia (UKM)

Fei Xue, Zhejiang University

5:10 PM

T01-T-S3.1-R5 [INVITED]

EDTM26-000448

Adjustable Accumulation Behavior in 2D Perovskite-Based Artificial Neuron Devices

Jiaqi Li, Qingxiu Li, Shirui Zhu, Yan-Bing Leng, Ye Zhou, Suting Han

Presenter: Jiaqi Li on behalf of Suting Han, The Hong Kong Polytechnic University

5:35 PM

T01-T-S3.2-R5 [INVITED]

EDTM26-000459

2D ferroelectric materials and memory devices

Fei Xue

Presenter: Fei Xue, Zhejiang University

6:00 PM

T01-T-S3.3-R5 [INVITED]

EDTM26-000462

Emerging 2D Memory Technologies based In-Memory Computing for Trustworthy Models and Transformer Acceleration

Can Li

Presenter: Can Li, The University of Hong Kong

6:25 PM

T01-T-S3.4-R5

EDTM26-000375

Angle-Dependent Conductivity in MoS₂ Field-Effect Transistors with Bi Contacts

Han-Chieh Lo, Tilo H. Yang, Ming-Hao Liu, Min-Hung Lee, Yann-Wen Lan

Presenter: Han-Chieh Lo, National Taiwan University

6:40 PM

T01-T-S3.5-R5

EDTM26-000387

Fe₃SiTe₂: A Promising Two Dimensional Ferromagnet with Enhanced Perpendicular Magnetic Anisotropy

Musaibh Farooq Dar, Prabhat Ranjan, Avirup Dasgupta

Presenter: Musaibh Farooq Dar, Indian Institute of Technology Roorkee

6:55 PM

T01-T-S3.6-R5

EDTM26-000400

ALD Grown Local Single-Crystal Ferroelectric Hf_{0.5}Zr_{0.5}O₂ for FeFET Gate Oxide

Runteng Zhu, Ru Huang, Liang Chen, Kechao Tang

Presenter: Runteng Zhu, Peking University

7:10 PM

T01-T-S3.7-R5

EDTM26-000409

A Nanometer-Thick Amorphous-Crystalline MoS₂-Heterostructured RRAM with Tunneling-Enabled High-Reliability Switching

Han Yan, Zichao Ma, Shidi Zhou

Presenter: Zichao Ma, South China University of Technology

Track 02_Process, Tools, Yield and Manufacturing

T02-T-S3-R8

Date: 3 March 2026, Tuesday

Venue: Function Room 8, Ground Mezzanine Floor

Session Chairs:

Bill Nehrer, AMAT (ret)

Rinus Lee, Tokyo Electron Limited

5:10 PM T02-T-S3.1-R8 [INVITED] EDTM26-000511

Three-Layer Stacking Technologies Using Cu-Cu Hybrid Bonding

Nobutoshi Fujii

Presenter: Nobutoshi Fujii, Sony Semiconductor Solutions Corporation

5:35 PM T02-T-S3.2-R8 [INVITED] EDTM26-000552

Holistic Chiplet Packaging Approach

Tanja Braun, Karl-Friedrich Becker, Michael Schiffer, Rolf Aschenbrenner, Martin Schneider-Ramelow

Presenter: Tanja Braun, Fraunhofer IZM

6:00 PM T02-T-S3.3-R8 EDTM26-000259

Understanding of Structural Variation in CFET: A Process Emulation Study

Jingru Jiang, Wanyue Peng, Yibo Zhang, Ming Li, Runsheng Wang, Xiaoyan Xu, Ru Huang, Heng Wu

Presenter: Jingru Jiang, Peking University

6:15 PM T02-T-S3.4-R8 EDTM26-000059

Highly selective radical etching of Si₃N₄ using NF₃/O₂/N₂/H₂ mixtures on 3D multilayer stack transistor integration

Xiao Shang, Tuo Xin, Zehuan Hei, Yang Liu, Xiaodong Li, Zhonghua Jin, Baodong Han, Hongbo Sun, Chao Zhao

Presenter: Xiao Shang, Beijing Superstring Academy of Memory Technology

6:30 PM T02-T-S3.5-R8 EDTM26-000093

Low-Temperature Ni-Silicide Initiated Lateral Epitaxial Crystallization with Orientation and Grain Boundary Control for Stackable Transistor Technologies

Mingmin Shi, Baotong Zhang, Jianhuan Wang, Jianjun Zhang, Ming Li

Presenter: Mingmin Shi, Peking University

6:45 PM T02-T-S3.6-R8 EDTM26-000157

Comparing Deep-Learning Pipelines for Automated GaN Etch-Profile Evaluation

Seiyo Nojima, Kazunori Iwamitsu, Zentaro Akase, Yuki Takahashi, Akihiko Kikuchi, Shigetaka Tomiya

Presenter: Seiyo Nojima, Metrology Informatics Laboratory (NAIST)

7:00 PM

T02-T-S3.7-R8

EDTM26-000005

Study of High Aspect Ratio SiN WG Etch in Silicon Photonics

Jiayu Sun, Kang Li, Caigan Chen, Chengdong Xu, Yanlong Guo, Quanbao Li, Pengfei Lyu, Yushan Chi

Presenter: Jiayu Sun, Lam Research Corp.

7:15 PM

T02-T-S3.8-R8

EDTM26-000085

Properties of p-type SnO Thin Films via Oxygen Flow Control during Sputtering Deposition

Tomoki Otani, Yuta Ito, Tappei Nishihara, Atsushi Ogura

Presenter: Atsushi Ogura, Meiji University

Track 03_Advanced Semiconductor (Logic) Devices

T03-T-S3-R9

Date: 3 March 2026, Tuesday

Venue: Function Room 9, Ground Mezzanine Floor

Session Chairs:

Xuanyao (Kelvin) Fong, National University of Singapore

Wei Yen Woon, Taiwan Semiconductor Manufacturing Company

5:10 PM

T03-T-S3.1-R9 [INVITED]

EDTM26-000488

Channel Length Scaling of Oxide Semiconductor Ferroelectric Thin Film Transistor

Wei Zhang, Chen Sun, Xiao Gong, Xuanyao Fong

Presenter: Xuanyao (Kelvin) Fong, National University of Singapore

5:35 PM

T03-T-S3.2-R9

EDTM26-000175

Monolithically 3D-Stacked CFETs Based on WSe₂/MoS₂ Heterostructures: High-Gain Inverters and Logic Gates

Jichao Li, Yan Hu, Weijie Sun, Shengduo Fan, Sen Wang, Yuchen Tian, Junlong Shi, Yuexi Wang, Yue Zhang, Xinliu He, Qicheng Sun, Yin Wang, Saifei Gou, Yin Xia, Zihan Xu, Yuxiang Li, Mengyang Liu, Jiawei Zhang, Wenzhong Bao

Presenter: Weijie Sun, Fudan University

5:50 PM

T03-T-S3.3-R9

EDTM26-000206

The Impact of Geometry Parameters on the Self-heating and Thermal Crosstalk Effects of Flip FET

Naiqi Liu, Taoyu Zhou, Yandong He, Gang Du

Presenter: Naiqi Liu, Peking University

6:05 PM

T03-T-S3.4-R9

EDTM26-000289

Emulation of Neuronal Behavior using Steep Subthreshold Slope GCCI SOI-Tr with High Impedance and Low Voltage Swing

Haruki Yonezaki, Takayuki Mori, Jiro Ida

Presenter: Haruki Yonezaki, Kanazawa Institute of Technology

6:20 PM

T03-T-S3.5-R9

EDTM26-000295

An End-Gated Design of Dual-sided VFET (DSVFET) for Continuous PPA Optimization

Siyuan Liu, Ziqiao Xu, Yu Liu, Yanbang Chu, Xinyue He, Runsheng Wang, Ming Li, Ru Huang, Heng Wu

Presenter: Siyuan Liu, Peking University

6:35 PM

T03-T-S3.6-R9 [INVITED]

EDTM26-000560

Simulation Driven Performance Evaluation of Classical and Quantum Anomaly Detection Models under Fixed False Positive Constraints

Nadwiyah Mohamed Ridza, Muhammad Hafiz Laili, Zulaikha Kadim, Mohamed Ridza Wahiddin, Nordin Ramli

Presenter: Nadwiyah Mohamed Ridza, MIMOS Berhad

Track 04_Memory Technologies

T04-T-S3-R10

Date: 3 March 2026, Tuesday

Venue: Function Room 10, Ground Mezzanine Floor

Session Chairs:

Min-Hung Lee, National Taiwan University

Prasanna Venkat Ravindran, Georgia Institute of Technology

5:10 PM

T04-T-S3.1-R10 [INVITED]

EDTM26-000503

Anti-ferroelectric HfO₂ Perspective Higher-K for Memory and Logic Applications

Min-Hung Lee, Zhao-Feng. Lou, Jia-Yang Lee, Cheng-Hong Liu, Fu-Shen Chang, Yii-Tay Chang, Che-Chi Cheng

Presenter: Min-Hung Lee, National Taiwan University

5:35 PM

T04-T-S3.2-R10 [INVITED]

EDTM26-000536

E4-CIM RRAM: An Evolvable Operator Framework from Linear to High-Order Compute-in-Memory via Monolithic 3D Integration

Zongwei Wang, Houcheng Liu, Lin Bao, Jingwei Sun, Yi Gao, Yimao Cai

Presenter: Zongwei Wang, Peking University

6:00 PM

T04-T-S3.3-R10

EDTM26-000044

High-Density Dual-Bit Charge Trapping Flash Memory: Design, Process Optimization, and Performance Evaluation

Zhexuan Li, Dianyu Qi, Xuan Li, Guangji Li, Yunhao Zhang, Kun Ren, Dawei Gao

Presenter: Zhexuan Li, Zhejiang University

6:15 PM

T04-T-S3.4-R10

EDTM26-000047

Multi-bit Programming Scheme of 2T Gain Cell with Near-Ideal Linearity

Yanbo Su, Yide Li, Jianshi Tang, Zhidong Tang, Kexin Wang, Yijia Fan, Yibei Zhang, Yue Xi, Bingjun Cao, Renrong Liang, Yirui Ma, Siyu Xu, Bin Gao, He Qian, Huaqiang Wu

Presenter: Yanbo Su, Tsinghua University

6:30 PM

T04-T-S3.5-R10

EDTM26-000190

Optoelectronic Memristor Based on SrTiO₃/HfO_x Heterostructure for Neuromorphic Visual Processing

Tseung-Yuen Tseng, Yu-Shan Lin

Presenter: Tseung-Yuen Tseng, National Yang Ming Chiao Tung University

6:45 PM

T04-T-S3.6-R10

EDTM26-000264

A Novel Dopant-Segregated Si FeFET with a Superlattice Gate Stack Featuring Low-Temperature Gate-First Compatibility and Enhanced Memory Window

Shaodi Xu, Yue Yu, Qianqian Huang, Ru Huang

Presenter: Yue Yu, Peking University

7:00 PM

T04-T-S3.7-R10

EDTM26-000348

Multi-Level-Cell-Based In-3D-NAND Computing for Edge Large Language Model Inference

Tianyang Luo, Zongwei Wang, Dongxue Zhao, Ling Liang, Lin Bao, Zheng Zhou, Lei Jin, Zhiliang Xia,
Zongliang Huo, Yimao Cai

Presenter: Tianyang Luo, Peking University

7:15 PM

T04-T-S3.8-R10

EDTM26-000243

Design and Simulation of Altermagnetic Spintronic Devices

Shibo Fang, Jianhua Wang, Xingyue Yang, Zongmeng Yang, Yee Sin Ang

Presenter: Yee Sin Ang, Singapore University of Technology and Design

Track 05_Photonics, Imaging & Display

T05-T-S3-R4

Date: 3 March 2026, Tuesday

Venue: Function Room 4, Lower Ground Floor

Session Chairs:

Niko Munzenrieder, Free University of Bozen-Bolzano

Guangwei Hu, Nanyang Technological University

5:10 PM

T05-T-S3.1-R4 [INVITED]

EDTM26-000102

A Versatile Modular CMOS Readout System with Switchable CDS and Column-Parallel SAR ADC for Pixel Arrays and Photodetectors

Yuxin Ye, Yuhao Sun, Yongyu Wu, Guanyu Liu, Dianyu Qi, Yang Xu

Presenter: Yuxin Ye, Zhejiang University

5:35 PM

T05-T-S3.2-R4 [INVITED]

EDTM26-000443

Oxide thin-film electronics on unconventional substrates

Niko Münzenrieder, Hafiza Faiqa Maqsood, Fahimeh Masoumi, Giuseppe Cantarella, Niloofar Saeedzadeh Khaanghah, Deepa Bhatt, Annelot Nijkoops, Riccardo Zamboni

Presenter: Niko Munzenrider, Free University of Bozen-Bolzano

6:00 PM

T05-T-S3.3-R4 [INVITED]

EDTM26-000476

Metasurface-enabled multi-functional optical devices for bio-imaging and thermal radiation management

Guangwei Hu

Presenter: Guangwei Hu, Nanyang Technological University

6:25 PM

T05-T-S3.4-R4

EDTM26-000043

Room-temperature, Broadband, and Integrable Graphene Terahertz Detectors enabling Wireless Communications for 6G

Zhuo Dong, Dong Wang, Kang Zhou, Boyu Dong, Liu Yang, Keqin Tang, Junwen Zhang, Hua Li, Kai Zhang

Presenter: Zhuo Dong, Suzhou Institute of NanoTech and Nano-Bionics (SINANO), Chinese Academy of Sciences

6:40 PM

T05-T-S3.5-R4

EDTM26-000388

Ultrafast Optical Linear and Nonlinear Response of Two-Dimensional CrOCl Materials and Applications

Xiaohan Meng, Mingjun Sun, Shengjie Lv, Ping Wang, Gaochen Yang, Lei Ye, Wei Ju, Lei Tong, Langlang Xu, Xinyu Huang, Zili Li, Xiao He, Wenhao Shi

Presenter: Gaochen Yang, Huazhong University of Science and Technology

6:55 PM

T05-T-S3.6-R4 [INVITED]

EDTM26-000428

Bionic Infrared Photodetector

Jinshui Miao

Presenter: Jinshui Miao, State Key Laboratory of Infrared Physics, Shanghai Institute of Technical Physics Chinese Academy of Sciences Shanghai, China

Track 07_Modeling and Simulation

T07-T-S3-R7

Date: 3 March 2026, Tuesday

Venue: Function Room 7, Ground Mezzanine Floor

Session Chair:

Qingyun Xie, IME, A*STAR

5:10 PM

T07-T-S3.1-R7 [INVITED]

EDTM26-000088

Simulation and measurement framework for bridging QE and PDP in UV-VIS FSI SPADs

Mathieu Vandwalle, Anton Greve, Daniel Gabler, Hannes Schmidt, Alexander Zimmer, Vinoothini Ap
Jeya Kumar, Yi Ling Ong, Mirjam Skadell

Presenter: Mathieu Vandwalle, X-FAB Global Services GmbH

5:35 PM

T07-T-S3.2-R7 [INVITED]

EDTM26-000112

Simulation study of IGZO (with CuOx)/Si Complementary Ferroelectric FET (CFeFET) for Multi-bit Content Addressable Memory

Guo Zhijian, Guanhua Yang, Yeliang Wang, Fei Mo

Presenter: Zhijian Guo, Beijing Institute of Technology

6:00 PM

T07-T-S3.3-R7 [INVITED]

EDTM26-000392

A Thickness-Dependent Analytical Framework and Variability Investigation for Negative Capacitance Forksheet FETs

Bayya Radhakumari, Shuvam Pawar, Satish Maheshwaram, Nitanshu Chauhan

Presenter: Shuvam Pawar, National Institute of Technology Warangal

6:25 PM

T07-T-S3.4-R7

EDTM26-000118

Exploring Compute-in-Memory Architecture with Various Peripheral Circuits and Neural Networks

Jonghyun Ko, Jiseong Im, Jong-Ho Lee

Presenter: Jonghyun Ko, Seoul National University

6:40 PM

T07-T-S3.5-R7

EDTM26-000146

Autonomous Optimization Method for Plasma Etching Physical Model Parameters based on Integrated Neural Network

Hongli Song, Yuxuan Zhai, Ziyi Hu, Rui Chen, Ling Li, Junjie Li

Presenter: Hongli Song, University of Chinese Academy of Sciences

6:55 PM

T07-T-S3.6-R7

EDTM26-000296

Depolarization Field Induced Threshold Voltage Variability in Junctionless Non-Volatile Memory Devices

Ruma S R, Manish Gupta

Presenter: Dhruv Ganesh, Birla Institute of Technology and Science Pilani Goa Campus

7:10 PM

T07-T-S3.7-R7

EDTM26-000300

Empirical Approach to Improve the BSIM4 Model for Bulk MOSFETs Scaled Down to Cryogenic Temperature

Parag Choudhury, Nihal Deshpande, Peter Schicketanz, Sanjay Mane, Valeriya Kilchytska, Amelie Hagelauer, Jean-Pierre Raskin

Presenter: Parag Choudhury, Infineon Technologies AG/UCLouvain

7:25 PM

T07-T-S3.8-R7

EDTM26-000322

Mitigation of Ferroelectric Parameter Variability in NCFETs via Underlap Design

Manish Gupta, Ruma S R, Pangoria Manashvi Rahul

Presenter: Pangoria Manashvi Rahul, BITS Pilani K. K. Birla Goa Campus

Track 08_Reliability and Testing

T08-T-S3-R6

Date: 3 March 2026, Tuesday

Venue: Function Room 6, Ground Mezzanine Floor

Session Chairs:

Yingxin Cui, Shandong University

Trupti Ranjan Lenka, National Institute of Technology Silchar

5:10 PM

T08-T-S3.1-R6 [INVITED]

EDTM26-000486

Degradation Evaluation of SiC MOSFETs in HTRB test with Various Gate Biases

Kuan Yew Cheong, Fanpeng Zeng, Lingling Lai, Shoulai Gong, Yingxin Cui, Jisheng Han

Presenter: Yingxin Cui, Shandong University

5:35 PM

T08-T-S3.2-R6 [INVITED]

EDTM26-000353

Systematic Methodology for Retaining a Reliable Gigabit Ethernet (GbE) Network

Nur Hidayah Sulaiman

Presenter: Nur Hidayah Sulaiman, Intel Microelectronics Sdn Bhd

6:00 PM

T08-T-S3.3-R6

EDTM26-000070

Evidence for Structure- and Electric-Field-Induced Mode Crossover in Multi-Filament Formation in HfO₂-Based Ferroelectric Capacitors by In-Situ Laser PEEM

Yuki Itoya, Hirokazu Fujiwara, Cedric Bareille, Toshiyuki Taniuchi, Masaharu Kobayashi

Presenter: Yuki Itoya, Institute of Industrial Science, The University of Tokyo

6:15 PM

T08-T-S3.4-R6

EDTM26-000107

Microscopic Mechanism of Imprint Suppression in Hf_{0.5}Zr_{0.5}O₂-based Memory Devices: The Role of AlO_x Interlayer and Wake-Up Schemes

Wen Sun, Bowen Shen, Yuyan Wang, Mingcheng Shi, Yi Ding, Benjamin Yang, Bin Gao, Jianshi Tang, He Qian, Huaqiang Wu

Presenter: Yi Ding, Tsinghua University

6:30 PM

T08-T-S3.5-R6

EDTM26-000237

Influence of COTS Power Diodes packaging on their resilience against gamma radiation

Hawaibam Singh, Cher Ming Tan, Debraj Banerjee, Vishal Srivaths

Presenter: Hawaibam Thoithoi Singh, Chang Gung University

6:45 PM

T08-T-S3.6-R6

EDTM26-000346

A Multi-Time Programmable Memory Chip Based on Pseudo-Formed RRAM for Embedded Applications

Chenghao Yu, Yujie Chen, Yuhang Yang, Zezhi Cheng, Ruiqing Xie, Jingwei Sun, Yingchen Ji, Lin Bao, Zheng Zhou, Ling Liang, Zongwei Wang, Yimao Cai

Presenter: Chenghao Yu, Peking University

7:00 PM

T08-T-S3.7-R6

EDTM26-000355

Influences of Voltage Cycling on Variations in HfO₂-based 3D Trench FeRAM

Wei Wen Pan, Fei Yu, Peiyuan Du, Wanmei Zhang, Yutai Man, Xingcheng Jin, Chongyong Guo, Hongbo Li, Huan Liu, Bing Chen, Ran Cheng, Yan Liu, Xiao Yu, Genquan Han

Presenter: Xiao Yu, Xidian University

7:15 PM

T12-T-S3.8-R6 [INVITED]

EDTM26-000562

Breaking the Memory Wall: Energy-Efficient Compute-in-Flash in Unmodified 3D NAND

Biswajit Ray

Presenter: Biswajit Ray, Colorado State University

Track 09_Packaging and Heterogenous Integration

T09-T-S3-R12

Date: 3 March 2026, Tuesday

Venue: Function Room 12, Ground Mezzanine Floor

Session Chairs:

Gauri Karve, IMEC, Belgium

Atiqah Mohd Afdzaluddin, Universiti Kebangsaan Malaysia

5:10 PM

T09-T-S3.1-R12 [INVITED]

EDTM26-000557

Advanced Packaging for AI Systems: Equipment and Process Innovation Enabling Heterogeneous Integration

Chin-Hock Toh

Presenter: Chin-Hock Dr Toh, Lam Research

5:35 PM

T09-T-S3.2-R12 [INVITED]

EDTM26-000469

Three-dimensional integrated oxide and hybrid complementary thin-film transistors for large-area electronics

Saravanan Yuvaraja, Xiaohang Li

Presenter: Saravanan Yuvaraja, King Abdullah University of Science and Technology

6:00 PM

T09-T-S3.3-R12 [INVITED]

EDTM26-000521

Heterogenous integration of III-V materials on Silicon

Gauri Karve

Presenter: Gauri Karve, IMEC

6:25 PM

T09-T-S3.4-R12 [INVITED]

EDTM26-000529

Polyimide-Based Cu Redistribution Layers for the Implementation of GaN Power Converters on Silicon Interposers

Chun Yin Au Yeung, Jingyuan Liang, Edward Huaping Xu, Yimin Zhou, Wai Tung Ng

Presenter: Chun Yin Au Yeung, University of Toronto

6:50 PM

T09-T-S3.5-R12

EDTM26-000133

5 um pitch chip-to-chip hybrid bonding at low temperature with protruding Cu pads

Qiyuan Qian, Yuan Fang, Yao Zheng, Yang Hu, Qian Wang, Jian Cai

Presenter: Qiyuan Qian, Tsinghua University

Track 10_Sensor, MEMS, Bio-electronics

T10-T-S3-R11

Date: 3 March 2026, Tuesday

Venue: Function Room 11, Ground Mezzanine Floor

Session Chairs:

Muhamad Ramdzan Buyong, Universiti Kebangsaan Malaysia (UKM)

Raihana Bahru, Universiti Kebangsaan Malaysia (UKM)

5:10 PM

T10-T-S3.1-R11 [INVITED]

EDTM26-000516

Beyond the Clausius-Mossotti Factor: Validating Bacterial Dielectric Properties through Experimental Velocity and Force Mapping

Muhamad Ramdzan Buyong, Muhammad Akmal Suhaimi, Arash Zulkarnain Ahmad Rohani

Presenter: Muhamad Ramdzan Buyong, Universiti Kebangsaan Malaysia (UKM)

5:35 PM

T10-T-S3.2-R11 [INVITED]

EDTM26-000558

24 GHz mmWave Radar System for Non-Intrusive Occupancy Detection in Industrial Weighbridge Applications

Bayhaqi Mohd Jailani, Muhammad Farhan Mustafa, Mohd Pazli Sulong, Zulaikha Kadim, Hasmarina Hassan

Presenter: Bayhaqi Mohd Jailani, MIMOS Berhad

6:00 PM

T10-T-S3.3-R11 [INVITED]

EDTM26-000563

DC bias-tuning strategy to optimize $Sc_{0.3}Al_{0.7}N$ cantilever-type MEMS Speakers performance and wafer-level uniformity

Prakasha Chigahalli Ramegowda, David Sze Wai Choong, Shyam Trivedi, Yul KOH

Presenter: Prakasha Chigahalli Ramegowda, Institute of Microelectronics (IME), Agency for Science, Technology and Research (A*STAR)

6:25 PM

T10-T-S3.4-R11

EDTM26-000184

Super-Nernstian WSe_2/MoS_2 Heterostructure DMFET for Scalable pH and Biomolecule Sensing

Nusaiba Binte Mamun, Adita Faruq, Mainul Hossain

Presenter: Mainul Hossain, University of Dhaka

6:40 PM

T10-T-S3.5-R11

EDTM26-000128

Visual Detection of Electrolyte Leakage from Lithium-Ion Batteries by Graphene Oxide/Polyethylene Composite Film

Weiyu Yan, Yixiong Feng, Junjie Song, Zhaoxi Hong, Jianrong Tan, Xiuju Song

Presenter: Weiyu Yan, Zhejiang University

6:55 PM

T10-T-S3.6-R11

EDTM26-000227

A Capacitor-Less 22nm FDSOI-Based Event-Driven Pixel Utilizing Tunable Photoresponse Speed

Nan Tang, Yi Xiao, Lianliang Wu, Jiaqi Li, Ao Shi, Zheng Zhou, Lifeng Liu, Xiaoyan Liu, Jinfeng Kang, Peng Huang

Presenter: Nan Tang, Peking University

7:10 PM

T10-T-S3.7-R11

EDTM26-000556

Zinc Oxide Thin Film Piezoelectric Devices on Silicon and PDMS Substrates: Structural and Electrical Characterisation

Syazwani Izrah Badrudin, Rhonira Latif, Jumril Yunas

Presenter: Syazwani Izrah Badrudin, IMEN, Universiti Kebangsaan Malaysia

Track 13_Neuromorphic, Quantum and Disruptive Technologies T13-T-S3-R3

Date: 3 March 2026, Tuesday

Venue: Function Room 3, Lower Ground Floor

Session Chairs:

Sayani Majundar, Tampere University, Finland

Takeaki Yajima, Kyushu University

5:10 PM

T13-T-S3.1-R3 [INVITED]

EDTM26-000429

In-memory computing with volatile proton devices

Takeaki Yajima

Presenter: Takeaki Yajima, Kyushu University

5:35 PM

T13-T-S3.2-R3 [INVITED]

EDTM26-000475

[Invited] Heterogeneous Integration of Molecular Memristors for Neuromorphic AI Accelerators

Navakanta Bhat, Sreetosh Goswami, Harivignesh S, Deepak Sharma, Lohit T, Jitthu Joseph

Presenter: NAVAKANTA BHAT, Indian Institute of Science

6:00 PM

T13-T-S3.3-R3

EDTM26-000161

First M3D Integration of RRAM-based CIM and SOT-MRAM-based TCAM for One-Shot Learning

Jian Yuan, Jingkai Xu, Aitian Chen, Yuyan Wang, Wensi Yue, Shixuan Liang, Ran An, Mingcheng Shi, Yanbo Su, Zhixing Jiang, You Wu, Yuankun Li, Bingjun Cao, Renrong Liang, Qingtian Zhang, Bin Gao, He Qian, Xixiang Zhang, Jianshi Tang, Huaqiang Wu

Presenter: Jian Yuan, Tsinghua University

6:15 PM

T13-T-S3.4-R3

EDTM26-000168

Co-Optimization of Programming and Mapping Schemes for High-Precision Analog RRAM

Zhixing Jiang, You Wu, Jianshi Tang, Han Zhao, Yuyao Lu, Yue Xi, Bin Gao, He Qian, Huaqiang Wu

Presenter: Zhixing Jiang, Tsinghua University

6:30 PM

T13-T-S3.5-R3

EDTM26-000463

Ultra-High-Rectification Self-Rectifying Volatile Memristor for Artificial Nociceptor Applications

Pengtao Li, Zhejia Zhang, Wenjue Zhou, Haoxiang Yu, Guobin Zhang, Zijian Wang, Xuemeng Fan, Yishu Zhang

Presenter: Pengtao Li, Zhejiang University

6:45 PM

T13-T-S3.6-R3

EDTM26-000196

Co-design of mixed-precision digital/analog memristor architecture for effective neural network computation

Zhuo Diao, Takaya Tsukamoto, Tetsuya Tohei, Akira Sakai

Presenter: Zhuo Diao, The University of Osaka

7:00 PM

T13-T-S3.7-R3

EDTM26-000004

A scalable neuromorphic platform with four neural motifs featuring <1 ms Per-Neuron Latency

Xiaolong Ma, Ziye Di, Jing Tian, Xianghong Zhang, Shuiyuan Wang, Peng Zhou

Presenter: Ziye Di, Fudan University

Focus Session: Bio-Hybrid Electronics

F-T-S3-R1

Date: 3 March 2026, Tuesday

Venue: Function Room 1, Lower Ground Floor

Session Chair:

Pei-Wen Li, NYCU, Taiwan

5:10 PM

F-T-S3.1-R1 [INVITED]

EDTM26-000464

Stretchable, Multimodal, E-skin Enabling Edge-AI for Muscle Proprioception

Ivo Pang, Wei Huang, Xinran Zhang, Xiaojuan Qi, Ning Xi, Shiming Zhang

Presenter: Ivo Pang, The University of Hong Kong

5:35 PM

F-T-S3.2-R1 [INVITED]

EDTM26-000500

Light-Responsive Materials for Dynamic Neurohybrid Interfaces

Francesca D'Elia, Isabela Berndt Paro, Martina Gini, Valeria Criscuolo, Francesca Santoro, Daniela Rana

Presenter: Francesca D'Elia, Forschungszentrum Jülich

6:00 PM

F-T-S3.3-R1 [INVITED]

EDTM26-000514

TFT-based Bioelectronics for Neurostimulation

Bowen Liu, Haobin Zhou, Taoming Guo, Yangkun Hou, Chen Jiang

Presenter: Haobin Zhou, Tsinghua University

6:25 PM

F-T-S3.4-R1 [INVITED]

EDTM26-000497

Hierarchical Multimodal Fusion for Robust Motion Intent Recognition in Assistive Technologies

Hongli Huang, Dani Assi, Vaithinathan Karthikeyan, Vellaisamy A. L. Roy

Presenter: Hongli Huang, Hong Kong Metropolitan University

6:50 PM

F-T-S3.5-R1 [INVITED]

EDTM26-000502

Quantum Topological Insulator-based Neuromorphic Modulators for Therapeutic Neural Applications

Dani Assi, Hongli Huang, Muhammad Rizwan, Roy Vellaisamy

Presenter: Dani Assi, Hong Kong Metropolitan University

Track 01_Materials

T01-W-S4-R5

Date: 4 March 2026, Wednesday

Venue: Function Room 5, Ground Mezzanine Floor

Session Chairs:

Jhuma Saha, Indian Institute of Technology Gandhinagar

Xinchuan Du, National University of Singapore

1:45 PM

T01-W-S4.1-R5 [INVITED]

EDTM26-000496

High Performance Fully Solid-State Electrochemically Exfoliated WS₂ transistor

Fatemeh Khorramshahi, Finn Huonder, Tian Carey, Jonathan Coleman, Tawfique Hasan

Presenter: Fatemeh Khorramshahi, University of Cambridge

2:10 PM

T01-W-S4.2-R5

EDTM26-000334

Power dependent Photoluminescence study of the deep-level acceptor in C-doped and Fe-doped AlGa_N/Ga_N heterostructures

Priyesh Kumar, Rk Kaneriya, Chiranjit Karmakar, Santanu Sinha, Jhuma Saha

Presenter: Priyesh Kumar, Indian Institute of Technology Gandhinagar

2:25 PM

T01-W-S4.3-R5 [INVITED]

EDTM26-000439

Strategies for Optimizing Electroplated Copper Microstructure and Prolonging Queue Time in Cu-Cu Bonding Applications

Osborn Yonghan Zhou, Kaiyu Mu, Gangqiang Peng, Chuan He, Zejia Zhao, Jinyang Li, Hung-Fei Kuo, Shien Ping Feng

Presenter: Yonghan Zhou, City University of Hong Kong

3:15 PM

T01-W-S4.4-R5 [INVITED]

EDTM26-000433

Direct Laser Writing of Reconfigurable VO₂ Electronic and Optical Devices

Amit Verma, Hemadri Bandhu

Presenter: Amit Verma, Indian Institute of Technology Kanpur

3:40 PM

T01-W-S4.5-R5

EDTM26-000292

Utilization of Palm Olein as Organic Binder for Conductive Carbon Paste

Farah Nabilah Shafiee, Mohd Nizar Hamidon, Mohd Haniff Wahid, Mehmet Ertugrul, Nor Hapishah Abdullah, Intan Helina Hasan

Presenter: Mohd Nizar Hamidon, Universiti Putra Malaysia

Track 02_Process, Tools, Yield and Manufacturing

T02-W-S4-R8

Date: 4 March 2026, Wednesday

Venue: Function Room 8, Ground Mezzanine Floor

Session Chairs:

Dina Triyoso, Tokyo Electron Limited

Tadashi Yamaguchi, Renesas Electronics Corp.

1:45 PM

T02-W-S4.1-R8 [INVITED]

EDTM26-000515

Innovations in Process Technology Enabling Next Generation Memory Solutions

Rinus Lee

Presenter: Rinus Lee, Tokyo Electron Limited

2:10 PM

T02-W-S4.2-R8 [INVITED]

EDTM26-000457

CMOS directly Bonded to Array (CBA) Architecture and Manufacturing Challenges of 3D Flash Memory

Masayoshi Tagami

Presenter: Masayoshi Tagami, KIOXIA Corporation

2:35 PM

T02-W-S4.3-R8

EDTM26-000106

A Commercial-Grade Reliable 40nm eRRAM Macro Featuring a Dual-Oxide Resistive Switching Layer

Kaimeng Liu, Huaqiang Wu, Xiangchao Ma, Xing Zhang, Zhenchao Sui, Chengxiang Ma, Jianshi Tang

Presenter: Chengxiang Ma, Tsinghua University

2:50 PM

T02-W-S4.4-R8

EDTM26-000152

Grain-Size-Driven Strain Engineering in All-ALD TiN/Hf_{0.5}Zr_{0.5}O₂ for Annealing-Free, Ultralow-Voltage, Fatigue-Free Ferroelectric Memories

Dapeng Huang, Xinru Li, Kuanmao Wang, Mingzhao Zhu, Ruiting Zhao, Jinguo Zheng, Houfang Liu, Yi Yang, Tian-Ling Ren

Presenter: Houfang Liu, Tsinghua University

3:05 PM

T02-W-S4.5-R8

EDTM26-000075

Process Challenges and Optimization of Selective Lateral Etching of Silicon Nitride in 3D Multi-Layer Stack Structures

Jiao Jin, Chaoyang Guan, Baodong Han, Jian Liu, Hongbo Sun, Chao Zhao

Presenter: Jiao Jin, Beijing Superstring Academy of Memory Technology

3:20 PM

T02-W-S4.6-R8 [INVITED]

EDTM26-000485

Innovative Technologies, Smart Manufacturing, and Machine Learning in Semiconductor Supply Chain

Paul Wen, Angelo Pinto, Adrian Crisan, Yuanbo Wang

Presenter: Paul Wen, Intel

3:45 PM

T02-W-S4.7-R8

EDTM26-000198

AI-Driven Low Yield Debug: Model Selection and Feature Analysis in Wafer Acceptance Testing

Helen Yu

Presenter: Haiying Yu (Helen) Yu, Renesas Electronics

4:00 PM

T02-W-S4.8-R8

EDTM26-000025

Early Warning System Modeling: Implementation on Foundry Device Performance Monitoring

Chi-Hsing Hsu, Jui-Yao Lai, Shun-Yu Liu, Yu-Tsung Kao, Chun-Hao Tseng, Tsung-Yao Wen, Angelo Pinto

Presenter: Chi-Hsing Hsu, Intel

Track 04_Memory Technologies

T04-W-S4-R10

Date: 4 March 2026, Wednesday

Venue: Function Room 10, Ground Mezzanine Floor

Session Chairs:

Kechao Tang, Peking University

1:45 PM **T04-W-S4.1-R10 [INVITED]** **EDTM26-000508**

AI-Accelerated Endurance Prediction Platform for Ferroelectric Capacitors

Prasanna Venkatesan Ravindran, Asif Khan

Presenter: Prasanna Venkatesan Ravindran, NVIDIA/Georgia Institute of Technology

2:10 PM **T04-W-S4.2-R10** **EDTM26-000064**

Vertical Dual-gate IGZO TFT under 100nm CD with Excellent Thermal Stability (87mV@2V, 85C, 3600s) and Record-high ION (50.3 μ A/ μ m@VTH+1V) Enabled by Novel In-situ ALD Oxidation Technique for 4F2 Multi-bit Dual-gate 2T0C DRAM Application

Fuxi Liao, Guanhua Yang, Ling Li, Zihan Li, Menggan Liu, Kaifei Chen, Wendong Lu

Presenter: Fuxi Liao, Institute of Microelectronics (IME), Chinese Academy of Sciences

2:25 PM **T04-W-S4.3-R10** **EDTM26-000193**

Demonstration of AND-Type 3-bit/cell 2T1C Memory Featuring 1.5 V Operation, Immediate Read-After-Write, 3.5 V Memory Window, 10¹⁰ Cycle Endurance, and Fast Neuro Learning

Wei-Cheng Meng, Ying-Tsang Tang, Chao-Cheng Lin, Huang Sheng Tsang, Mian-Hua Hsiung, Hao-Ming Chen, Chung-Hao Hsu

Presenter: Wei-Cheng Meng, National Central University

2:40 PM **T04-W-S4.4-R10** **EDTM26-000213**

Gate Stack Engineering of 3D Oxide Channel FeNOR Memory with High-Speed and Reliability

Yuejia Zhou, Ru Huang, Kechao Tang

Presenter: Yuejia Zhou, Peking University

2:55 PM **T04-W-S4.5-R10** **EDTM26-000343**

Compact and Efficient FeFET-Based Boolean Functions and Ripple Carry Adders for Fully Nonvolatile Logic-in-Memory

Haoran Wang, Zongwei Wang, Yuejia Zhou, Kechao Tang, Yimao Cai

Presenter: Haoran Wang, Peking University

3:10 PM **T04-W-S4.6-R10** **EDTM26-000384**

Finite Element Modeling and Correcting of Current Shunting Effect in SOT-MTJ for Edge AI

Cancheng Xiao, Dingsong Jiang, Tianle Sui, Fantao Gao, Bingqian Song, Ziwei Han, Maolin Sun, Tianxiang Nan

Presenter: Ziwei Han, Tsinghua University

3:25 PM

T04-W-S4.7-R10

EDTM26-000445

A Novel Ferroelectric-based SnO_x FET with Non-volatility and Symmetrical Ambipolarity for In-Memory-Searching toward Edge AI

Runze Han, Zening Gao, Weikai Xu, Bingrui Song, Jin Luo, Qianqian Huang, Qian Xin, Ru Huang

Presenter: Runze Han, Peking University

Track 05_Photonics, Imaging & Display

T05-W-S4-R4

Date: 4 March 2026, Wednesday

Venue: Function Room 4, Lower Ground Floor

Session Chairs:

Yue Liu, Xi'an Jiaotong Liverpool University

Mathieu Vandwalle, X-FAB Global Services GmbH

1:45 PM

T05-W-S4.1-R4 [INVITED]

EDTM26-000425

III-V Nanostructures for Lasers and Quantum Emitters

Hoe Tan

Presenter: Hark Hoe Tan, The Australian National University

2:10 PM

T05-W-S4.2-R4 [INVITED]

EDTM26-000533

Research on the Enhancement in the Fiber Coupling of LiNbO₃ Thin-Film Waveguides

Weihang Xie, Hao Sun, Yongkuan Jiang, Yue Liu

Presenter: Yue Liu, Xi'an Jiaotong Liverpool University

2:35 PM

T05-W-S4.3-R4

EDTM26-000209

Si₃N₄ waveguide coupled Ge-QD PIN photodiodes with raised P⁺ /N⁺ electrodes on recessed ultra-thin body SOI for near ultraviolet to near infrared bands

Shih-Hsiang Yang, Po-Yu Hong, Chi-Hao Wu, Horng-Chih Lin, Pei-Wen Li

Presenter: Shih-Hsiang Yang, National Yang Ming Chiao Tung University

2:50 PM

T05-W-S4.4-R4

EDTM26-000246

Analysing Electrically Active Defects in InGaP MOS Structures via Admittance Spectroscopy

Rajan Bharti, Muskan Jain, Paolo Latorraca, Pavel Kirilenko, Satish Bonam, Lida Ansari, Farzan Gity, Karim Cherkaoui, Alexander Tonkikh, Dmitry Sizov, Paul Gore, Michael Grundmann, Paul K. Hurley

Presenter: Rajan Bharti, Tyndall National Institute, University College Cork

3:05 PM

T05-W-S4.5-R4

EDTM26-000551

Phthalocyanine Based Photomultiplication Type Narrowband Organic Photodetector

Brijesh Kumar, Ajay Kumar Sahu

Presenter: Ajay Kumar Sahu, Indian Institute of Technology Roorkee

Track 06_Wide-Bandgap Power and RF Devices/Circuits T06-W-S4-R12

Date: 4 March 2026, Wednesday

Venue: Function Room 12, Ground Mezzanine Floor

Session Chairs:

Jagadheswaran Rajendran, Universiti Sains Malaysia (USM)

Umesh Chand, IME, A*STAR

1:45 PM **T06-W-S4.1-R12 [INVITED]** **EDTM26-000468**

Progress and challenge in ultrawide bandgap semiconductors (This is an invited paper)

Dao Hua Zhang

Presenter: Dao Hua Zhang, Shenzhen Pinghu lab

2:10 PM **T06-W-S4.2-R12** **EDTM26-000185**

Bias and Gate-Resistance Dependent Self-Sustained Oscillations in p-GaN Schottky HEMTs under Short Circuit

Kulisa Nanayakkara, Alberto Castellazzi

Presenter: Kulisa Nanayakkara, Kyoto University of Advanced Science

2:25 PM **T06-W-S4.3-R12** **EDTM26-000369**

A Novel 4H-SiC Edge Termination Structure Using Double-Implanted P-Well and N⁺

Jui-Chi Chu, Wei Xiang Wang, Kung-Yen Lee, Rwei Ci Wu, Wei-Tse Fu, Chun Wei Yeh

Presenter: Kung-Yen Lee, National Taiwan University

2:40 PM **T06-W-S4.4-R12 [INVITED]** **EDTM26-000489**

Processes Leading to Dynamic RON in AlGaN/GaN HEMTs and its Mitigation Through Surface Passivation Schemes

Dr. Sayak Dutta Gupta, Rajarshi Roy Chaudhuri, Vipin Joshi, Mohammad Ateeb Munshi, Mehak Ashraf Mir, Rasik Rashid Malik, Mayank Shrivastava

Presenter: Rasik Rashid Malik, Indian Institute of Science Bangalore

3:05 PM **T06-W-S4.5-R12 [INVITED]** **EDTM26-000554**

0.15- μm InAlN/GaN HEMTs on Si for Simultaneous High Power and Low Noise Application in mm-Wave

Geok Ing Ng, Yihao Zhuang, Qingyun Xie, Siyu Liu, Marianne Germain, Stefan Degroote

*Presenter: Geok Ing Ng, A*STAR-NSTIC(GaN)*

3:30 PM **T06-W-S4.6-R12 [INVITED]** **EDTM26-000559**

CMOS-Compatible 200 mm 0.25 μm GaN-on-Si HEMT Process for FR3 Application

Qingyun Xie, Yuan Gao, Hsien-Shun Wu, Yi Heng Leong, Hanlin Xie, Haorui Luo, Hui Teng Tan, Zhan Jiang Quek, Wee Leng Ong, Lakshmi Kanta Bera, Navab Singh, Geok Ing Ng

*Presenter: Qingyun Xie, Institute of Microelectronics, A*STAR*

3:55 PM

T06-W-S4.7-R12

EDTM26-000285

P-GaN-Gate GaN-on-Si HEMTs with BV>1200 V and Excellent Dynamic Performance Realized Through Low Power NH₃ Plasma Acceptor Re-Passivation

Zhaofeng Wang, Zhihong Liu, Weichuan Xing, Weihang Zhang, Shenglei Zhao, Xiangdong Li, Shuzhen You, Jincheng Zhang, Yue Hao

Presenter: Zhaofeng Wang, Xidian University

Track 07_Modeling and Simulation

T07-W-S4-R7

Date: 4 March 2026, Wednesday

Venue: Function Room 7, Ground Mezzanine Floor

Session Chairs:

Yee Sin Ang, Singapore University of Technology and Design

Mohit Shukla, Indian Institute of Technology (IIT), Roorkee

1:45 PM

T07-W-S4.1-R7 [INVITED]

EDTM26-000140

Extending the VTEAM Model for Improved I-V Characteristic Modeling and Inclusion of Cycle-to-Cycle Variability in Memristor Device

Shishir Deb Nath, Tanshia Tahreen Tanisha, Orchi Hassan, Pinok Chowdhury Manik

Presenter: Shishir Deb Nath, Bangladesh University of Engineering and Technology

2:10 PM

T07-W-S4.2-R7 [INVITED]

EDTM26-000293

Benchmarking Contact Doping Approaches in Ab Initio Simulation of 2D Transistors

Yee Sin Ang, Che Chen Tho

Presenter: Yee Sin Ang, Singapore University of Technology and Design

2:35 PM

T07-W-S4.3-R7 [INVITED]

EDTM26-000393

Modeling of small-signal source and drain charges in ASM-HEMT model

Shrayan Mukhopadhyay, Mohit Shukla, Amit Kumar Behera, Avirup Dasgupta

Presenter: Mohit Shukla, Indian Institute of Technology (IIT), Roorkee

3:00 PM

T07-W-S4.4-R7

EDTM26-000150

A Graph Transformation-Driven TCAD Method for Efficient Device Characteristic Prediction

Yuxuan Zhai, Ziyi Hu, Dashan Shang, Ling Li, Minrong Zhang, Rui Chen

Presenter: Minrong Zhang, Southern University of Science and Technology (SUSTech)

3:15 PM

T07-W-S4.5-R7

EDTM26-000199

Multi-Grain Phase Field Modeling of the Interaction Between Polar-Axis Orientation and FE Phase Probability in Ferroelectric Capacitors

Wei Zhang, Jianze Wang, Chen Sun, Xiao Gong, Xuanyao Fong

Presenter: Wei Zhang, National University of Singapore

3:30 PM

T07-W-S4.6-R7

EDTM26-000230

A Hybrid Machine-Learning-Based Framework for Geometry-Temperature-Aware General Compact Model Parameter Extraction

Wenrui Zhang, Shuhan Wang, Zheng Zhou, Fei Liu, Jinfeng Kang, Xiaoyan Liu

Presenter: Wenrui Zhang, Peking University

3:45 PM

T07-W-S4.7-R7

EDTM26-000317

Analysis of Dynamic Thermophysical Mechanisms in Advanced CMOS Technology During Circuit Operation

Sihao Chen, Yu Li, Jie Lin, Runsheng Wang, Lining Zhang

Presenter: Sihao Chen, Peking University

4:00 PM

T07-W-S4.8-R7

EDTM26-000406

Analytical Model of Subthreshold Swing for Cryogenic-CMOS Considering Temperature Dependent Slope Factor

Mohd Shakir, Navjeet Bagga, Yash Tiwari, Malvika Thakur, Prabhat Singh, Sunil Rathore, Shiv Ranjan, Sudeb Dasgupta

Presenter: Mohd Shakir, Indian Institute of Technology Roorkee

Track 07_Modeling and Simulation

T07-W-S4-R9

Date: 4 March 2026, Wednesday

Venue: Function Room 9, Ground Mezzanine Floor

Session Chairs:

Nurul Ezaila Alias, Universiti Teknologi Malaysia

Mochamad Januar, National Taiwan University

1:45 PM

T07-W-S4.1-R9 [INVITED]

EDTM26-000176

First-Principles DFT+U Study of Orthorhombic Rivalry in Ferroelectric Hafnia–Zirconia

Mochamad Januar, Min-Hung Lee

Presenter: Mochamad Januar, National Taiwan University

2:10 PM

T07-W-S4.2-R9 [INVITED]

EDTM26-000366

A Compact Model of Long-Channel Strained Junctionless Square Gate FET

Nurul Ezaila Alias, Syafizah Afidah Affandi, Muhammad Afiq Nurudin Hamzah, Michael Loong Peng Tan, Fatimah Khairiah Abdul Hamid

Presenter: Nurul Ezaila Alias, Universiti Teknologi Malaysia

2:35 PM

T07-W-S4.3-R9 [INVITED]

EDTM26-000413

Impact of Process Variation on Parametric Performance of FinFET Transistors – Stress-aware Variability Control

Tomasz Brozek, Angelo Rossoni, Zsolt Kovacs-Vajna

Presenter: Tomasz Brozek, PDF Solutions

3:00 PM

T07-W-S4.4-R9 [INVITED]

EDTM26-000416

Impact of Lateral and Vertical Carbon Diffusion on the Thermal Boundary Resistance of Diamond/GaN Heterostructures

Haolun Sun, Mei Wu, Shiming Li, Ling Yang, Xiaohua Ma, Yue Hao

Presenter: Haolun Sun, Xidian University

3:25 PM

T07-W-S4.5-R9 [INVITED]

EDTM26-000524

Nano-Scale Device Innovation: Hetero-Dielectric Gate Oxide Strategies for Enhanced Performance in 20-nm GAA Silicon Nanowire FETs

Deepkiran Tirkey, Sukeshni Tirkey

Presenter: Sukeshni Tirkey, National Institute of Technology Raipur

3:50 PM

T07-W-S4.6-R9

EDTM26-000394

Analytical Model of Resistivity Modulation and Assessing Temporal Dynamics of Complementary FET influenced by α -Particle Radiation

Sunil Rathore, Sandeep Kumar, Khushi Jain, Deven H Patil, Sudeb Dasgupta, Navjeet Bagga

Presenter: Navjeet Bagga, Indian institute of Technology Bhubaneswar

Track 08_Reliability and Testing

T08-W-S4-R6

Date: 4 March 2026, Wednesday

Venue: Function Room 6, Ground Mezzanine Floor

Session Chair:

1:45 PM **T08-W-S4.1-R6 [INVITED]** **EDTM26-000493**

Ultra-low-light Perceptual Synaptic Devices for the Dark Visual Nervous System

Chun Zhao, Zishen Zhao, Jiadong Shen, Ruicheng Li, Qing Liu

Presenter: Chun Zhao, Xi'an Jiaotong-Liverpool University

2:10 PM **T08-W-S4.2-R6 [INVITED]** **EDTM26-000495**

Materials Characterization and Reliability Assessment in Advanced Memory Packaging

Chong Leong Gan

Presenter: Chong Leong Gan, Micron Memory Taiwan, Co., Ltd.

2:35 PM **T08-W-S4.3-R6** **EDTM26-000183**

A Field Plate-Floating Ring Hybrid Edge Termination with Enhanced Blocking Capability for Advanced 1600V IGBTs

Zhi Lin Sim, Wei Mien Chin, David Goh, Voon Cheng Ngwan, Gianfranco Di-Stefano, Diing Shenp Ang

Presenter: Zhi Lin Sim, STMicroelectronics

2:50 PM **T08-W-S4.4-R6** **EDTM26-000307**

Fluorine Plasma Treatment of High- κ Dielectric Passivated Indium-Tin-Oxide Transistors Achieving Excellent Reliability Improvement

Tianqi Cheng, Min Zeng, Qianlan Hu, Yanqing Wu

Presenter: Tianqi Cheng, Peking University

3:05 PM **T08-W-S4.5-R6** **EDTM26-000350**

The First Dynamic Network using Type-C Subsystem (TCSS) Framework on Intel® Generation n and n+1

Nadia Muslim

Presenter: Nadia Muslim, Intel

3:20 PM **T08-W-S4.6-R6** **EDTM26-000370**

Column-Wise IR-Drop Calibration for RRAM-Based CIM: Validation Using a Hierarchical Verilog-A Modeling Framework

Omar Numan, Jelin Leslin, Gaurav Singh, Kazybek Adam, Martin Andraud, Kari Halonen

Presenter: Omar Numan, Aalto University

3:35 PM **T08-W-S4.7-R6** **EDTM26-000460**

Temperature-Adaptive Read Strategy for Reliable RRAM Operation Considering Read Disturb and Thermal Drift

Yingtong Ji, Ruiqing Xie, Zezhi Cheng, Gaoqi Yang, Lin Bao, Yimao Cai, Yingchen Ji, Zongwei Wang

Presenter: Yingchen Ji, Peking University

Track 12_Nanotechnologies

T12-W-S4-R11

Date: 4 March 2026, Wednesday

Venue: Function Room 11, Ground Mezzanine Floor

Session Chair:

Trupti Ranjan Lenka, National Institute of Technology Silchar

1:45 PM

T12-W-S4.1-R11 [INVITED]

EDTM26-000208

Ferroelectric phototransistors for in-sensor image processing toward all-day facial recognition

Dong-Ho Kang

Presenter: Dong-Ho Kang, Gwangju Institute of Science and Technology (GIST)

2:10 PM

T12-W-S4.2-R11 [INVITED]

EDTM26-000341

Redefining Integration: Nanoscale Platforms for 3D IC and Advanced Packaging

Kuan-Neng Chen

Presenter: Kuan-Neng Chen, National Yang Ming Chiao Tung University

2:35 PM

T12-W-S4.3-R11

EDTM26-000039

A BSIM4-based SPICE Model for MoS₂ Transistors Incorporating Trap Effects for Integrated Circuit Applications

Yue Zhang, Jiangchuan Tian, Yu Geng, Xiaoyu He, Kuanglei Chen, He Jiang, Zheng Zhang, Jiankun Xiao, Xiankun Zhang

Presenter: Jiangchuan Tian, University of Science and Technology Beijing

2:50 PM

T12-W-S4.4-R11

EDTM26-000170

Power Management Circuit Building Blocks Based on 2D Molybdenum Disulfide

Wenzhong Bao, Xinrong Shan, Jiyea Shang, Zhengjie Sun, Zhejia Zhang, Mingrui Ao, Xinliu He, Haojie Chen, Yuchen Tian, Yufei Song, Yuexi Wang, Yue Zhang, Zihan Xu, Xiangqi Dong, Jingde Xu, Weijie Sun

Presenter: Jingde Xu, Fudan University

3:05 PM

T12-W-S4.5-R11

EDTM26-000192

Contact Engineering in Novel Gr/h-BAs Heterostructure: For Semiconductor Devices

Sanjeev Kumar Manhas, Kunal Kunal, Amit Kumar Singh Chauhan, Vishvendra Singh Poonia

Presenter: Kunal Kunal, Indian Institute of Technology Roorkee

Track 13_Neuromorphic, Quantum and Disruptive Technologies T13-W-S4-R3

Date: 4 March 2026, Wednesday

Venue: Function Room 3, Lower Ground Floor

Session Chair:

Ryoichi Ishihara, Delft University of Technology

1:45 PM

T13-W-S4.1-R3 [INVITED]

EDTM26-000482

Cryogenic Memory and In-Memory Computing

Sayani Majumdar

Presenter: Sayani Majumdar, Tampere University

2:10 PM

T13-W-S4.2-R3

EDTM26-000372

Sub-100- μ V Cryogenic Biasing with Low-Noise Multilevel Memristors: Pt-interface Tuning for Scalable Qubit Control

Erbing Hua, Stijn Heemskerk, Ryoichi Ishihara

Presenter: Erbing Hua, Delft University of Technology

2:25 PM

T13-W-S4.3-R3 [INVITED]

EDTM26-000471

Chip-scale cooling of cryogenic microsystems

Mika Prunnila

Presenter: Mika Prunnila, VTT Technical Research Centre of Finland

2:50 PM

T13-W-S4.4-R3 [INVITED]

EDTM26-000483

Ultralow Temperature On-chip Magnetic Refrigeration

Jonathan Prance

Presenter: Jonathan Prance, Lancaster University

Poster Session 1

Venue: Grand Foyer, Lower Ground Floor

Date: 2 March 2026, Monday

Time: 12:30pm to 1:30pm

Track 01_Materials

EDTM26-000045

Highly Uniform and Stable Topological Phase-Transition Memristors with Engineered Superlattice Orientation for Edge Computing

Rui Su, Runqing Zhang, Dunbao Chen, Kai Huang, Weiming Cheng, Xiangshui Miao

Presenter: Rui Su, Wuhan University of Technology

EDTM26-000135

Investigation of Oxidative Doping in Multilayer WSe₂ FETs

Zeyang Ren, Weihang Zhang, Xianhe Liu, Hong Zhou, Zhihong Liu, Yue Hao, Jincheng Zhang, Suwen Song, Xin Feng

Presenter: Xin Feng, Xidian University

EDTM26-000171

A Controllable Selective-area N-doping Method for Monolayer MoS₂

Wenzhong Bao, Yuexi Wang, Zhengzong Sun, Lifeng Bian, Yin Xia, Yan Hu, Shicheng Zeng, Yue Zhang, Xinrong Shan, Zihan Xu, Jingjie Zhou, Yuchen Tian

Presenter: Yuexi Wang, Fudan University

EDTM26-000173

A Practical and Controllable P-type Doping Method for 2D Semiconductors

Wenzhong Bao, Yan Hu, Yue Zhang, Yuexi Wang, Shicheng Zeng, Chuming Sheng, Yuxuan Zhu, Xiangqi Dong, Zhejia Zhang, Jinshu Zhang, Yi Wang, Xu Wang, Saifei Gou, Zihan Xu, Yin Wang, Zhengzong Sun, Yin Xia

Presenter: Yue Zhang, Fudan University

EDTM26-000509

Plasmonic Enhancement of Perovskite Absorber Layers Using Stable Metal Nanoparticles

Alaa Elsafi, Mohammad Hossain, Puvaneswaran Chelvanathan, Brahim Aissa

Presenter: Alaa Elsafi, Hamad Bin Khalifa University (HBKU), Qatar & Solar Energy Research Institute (SERI), Universiti Kebangsaan Malaysia

Track 02_Process, Tools, Yield and Manufacturing

EDTM26-000014

Collaborative Semiconductor Production Economic: Mobile Demand Fulfillment via Leakage Predictive Model and Device Technology Optimization

Rami Salem, Songtao Wo, Ting Chen, Ahmed Mohamed, Huy Do, Anand Subramaniam, Tsung-Han Lee

Presenter: Rami Salem, Intel

EDTM26-000015

Physics-Informed Neural Network for Inverse Design of LDMOS Devices with Ultra-high FOM via Wafer-Level Validation

Yixian Song, Yan Pan, Qiao Teng, Xiaoyun Huang, Dawei Gao, Kai Xu

Presenter: Yixian Song, Zhejiang University

Poster Session 1

Venue: Grand Foyer, Lower Ground Floor

Date: 2 March 2026, Monday

Time: 12:30pm to 1:30pm

EDTM26-000029

Manufacturing-Oriented Dual Neural Surrogate for Trench MOSFET Fabrication Process and Device Optimization

Mingqiang Geng, Jianming Guo, Yuting Sun, Yixian Song, Dawei Gao, Dong Ni

Presenter: Mingqiang Geng, Zhejiang University College of Intergrated Circuits

EDTM26-000062

SDNet: Interpretable Transformer-Based Captioning for Yield-Aware Nanoscale Defect Diagnosis

Yuening Luo, Yibo Qiao, Ruyue Jing, Yining Chen

Presenter: Ruyue Jing, Zhejiang University

Track 03_Advanced Semiconductor (Logic) Devices

EDTM26-000007

Fundamental Physics Limits of MOSFET Operation at Milli-Kelvin Temperatures

Zhizhao Ma, Shilong Li, Yuhuan Lin, Haihan Wu, Hao Su, Yiyuan Cai, Yunfeng Xie, Yuxuan Zhou, Qishu Luo, Xu Si, Jiarui Ma, Shenghua Zhou, Longyang Lin, Yida Li, Quan Chen, Kai Chen

Presenter: Zhizhao Ma, Southern University of Science and Technology (SUSTech)

EDTM26-000010

High-Reliability Volatile Self-Rectifying Memristors for Reservoir Computing

Bingqi Cai, Chen Wang, Kun Chen, Qingqing Sun, David Wei Zhang, Lin Chen

Presenter: Bingqi Cai, Fudan University

EDTM26-000023

Impact of Substrate Temperature during Channel Sputtering on the Performance-Reliability Trade-Off in IGZO TFTs

Hongrui Liu, Kai Chen, Luyu Yang, Xiaonan Wu, Yu Yang, Anqi Hu, Yunlong Li

Presenter: Hongrui Liu, Zhejiang University

EDTM26-000050

Low Power Highly Dense 5 V GPIO in 1.8 V 22FDSOI CMOS Process

Navneet Jain, Dzung Tran, Asif Iqbal, Sanmitra Bharat Naik, Mahbub Rashed

Presenter: Navneet Jain, GlobalFoundries

EDTM26-000078

Low Resistance Ohmic Contacts on p-GaN/AlGaN/GaN Using Au-Free Mg/Pd Stacks

Wenchuan Tao, Honghao Lu, Xiaowei Ma, Peiran Wang, Hui Jiao, Ziyang Wang, Hongyu Yu, Qing Wang

Presenter: Wenchuan Tao, Southern University of Science and Technology

Poster Session 1

Venue: Grand Foyer, Lower Ground Floor

Date: 2 March 2026, Monday

Time: 12:30pm to 1:30pm

EDTM26-000100

Impact of Laser Annealing Temperature on Interfacial and Electrical Characteristics in HfO₂/SiO₂/p-Si Gate Stacks Structure

Lei Shen, Yu-Dong Lv, Cai-Yu Shi, Yu-Chun Li, Zhan-Yuan Huang, Zi-Ying Huang, Zhiming Wu, Jiabin Huang, Hong-Liang Lu

Presenter: Lei Shen, College of Integrated Circuits & Micro-Nano Electronics, Fudan University, Shanghai, China

EDTM26-000282

Orientation Dependent Global Stress Analysis for Nanosheet-based CMOS Device Technology

Sanjeev Kumar Manhas, Amit Kumar Singh Chauhan, Kunal Kunal, Pankaj Kumar, Harsh Raju

Presenter: Kunal Kunal, Indian Institute of Technology Roorkee

Track 04_Memory Technologies

EDTM26-000034

Reconfigurable Hf_{0.5}Zr_{0.5}O₂-based Memristor for Convolutional Spiking Neural Networks

Chen Lu, Jiaming Liu, Kangli Xu, Shaotian Zhang, Jieru Song, Jiajie Yu, Jialin Meng, Tianyu Wang, Hao Zhu, Qingqing Sun, David Wei Zhang, Lin Chen

Presenter: Chen Lu, Fudan University

EDTM26-000053

Performance Enhancement of Bilayer Threshold Switching Memristors by Modulating Conductive Filament Formation

Zhejia Zhang, Pengtao Li, Qi Luo, Xueming Fan, Guobin Zhang, Zijian Wang, Kun Ren, Yishu Zhang

Presenter: Zhejia Zhang, Zhejiang University

EDTM26-000068

Reliability Enhancement of 40nm RRAM Chip by Bottom Electrode Engineering

Chengxiang Ma, Wei Chang, Jinyi Liu, Ruofei Hu, Didi Zhu, Yue Xi, Dong Wu, Bin Gao, He Qian, Huaqiang Wu, Kaimeng Liu, Jianshi Tang

Presenter: Kaimeng Liu, Tsinghua University

EDTM26-000076

Impact of Post-Annealing on Electrical Characteristics of Vertical CAA FETs

Zewei Wang, Simin Chen, Ju Gijun, Han Jaehoon, Kim Younghyun

Presenter: Wang Zewei, Hanyang University

EDTM26-000077

First Demonstration of Computing-in-Memory cell based on 1T-1MFMS FeFET Featuring 2.3 V Large MW and Multi-bit Retention > 10 years

Simin Chen, Zewei Wang, Gijun Ju, Jaehoon Han, Younghyun Kim

Presenter: Simin Chen, Hanyang University

Poster Session 1

Venue: Grand Foyer, Lower Ground Floor

Date: 2 March 2026, Monday

Time: 12:30pm to 1:30pm

EDTM26-000080

Simple Binary InTe-Based Selector-Only Memory with a Large Memory Window and High Current ON/OFF Ratio

Yuhao Wang, Huan Wang, Hengyi Hu, Xiangshui Miao, Ming Xu

Presenter: Yuhao Wang, Huazhong University of Science and Technology

EDTM26-000087

First Design Proposal of Capacitor-less DRAM Array with Feedback-enhanced Self-refresh and Crosstalk Suppression

Anzhi Yan, Enyi Zhang, Jingkai Song, Houfang Liu, Yi Yang, Tian-Ling Ren

Presenter: Anzhi Yan, Tsinghua University

EDTM26-000092

CGP Scaled 3D 2T0C DRAM with Record Write Speed of 400 ps and High Temperature Stability

Tianyue Fu, Qianlan Hu, Xiong Xiong, Qijun Li, Wenjie Zhao, Shiyuan Liu, Yanqing Wu

Presenter: Tianyue Fu, Peking University

EDTM26-000123

Enhancing Ferroelectric Performance of Al_{0.7}Sc_{0.3}N Capacitors through Substrate Engineering

Yuan Fang, Haoji Qian, Xiaoxi Li, Jiawei Li, Cizhe Fang, Xiangyu Zeng, Tao Wu, Chengji Jin, Jiajia Chen, Yian Ding, Yan Liu, Genquan Han

Presenter: Jiajia Chen, Xidian University

EDTM26-000298

An Efficient DRAM RowHammer Defense Circuit Based on a Novel In-Situ Monitoring Method

Chao Wang, Lingyun Hu, Yulong Tan, Yuansheng Zhao, Zixuan Shen, Yanqing Wu

Presenter: Chao Wang, Huazhong University of Science and Technology

EDTM26-000305

Peak Transient RESET current exceeds DC current across compositions in Pr_{1-x}CaxMnO₃ RRAM

Debankita De, Jayatika Sakhuja, Pankaj Kumbhare, Abhishek Mallik, Manoj Yadav, Udayan Ganguly

Presenter: Debankita De, Indian Institute of Technology (IIT), Bombay

Track 05_Photonics, Imaging & Display

EDTM26-000022

Characterizing Trap Energy Levels of Single-Photon Avalanche Diodes using Machine Learning

Yinglong Zhu, Wei Jiang

Presenter: Wei Jiang, Microelectronics Thrust, The Hong Kong University of Science and Technology (Guangzhou)

Poster Session 1

Venue: Grand Foyer, Lower Ground Floor

Date: 2 March 2026, Monday

Time: 12:30pm to 1:30pm

EDTM26-000091

Miniaturized Perovskite/a-IGZO Phototransistors with 10 μm Channels for Visible Light Detection and Imaging

Maojun Sun, Rundong Hu, Jiaxin Yang, Hang Zhou, Xinxin Xu, Yufeng Jin

Presenter: Maojun Sun, Peking University

EDTM26-000247

Electro-Thermal Analysis of Quantum Dot Light-Emitting Diode as Pixel Areas Using Thermoreflectance Microscopy

Yongjin Shin, Min Seok Kim, Daehong Kim, Jaekyun Kim, Seong-Yong Cho, Sanghoon Shin, Younghyun Kim

Presenter: Yongjin Shin, Hanyang University

EDTM26-000260

Room-temperature low-threshold avalanche effect in stepwise van-der-Waals homojunction photodiodes

Hailu Wang, Yueyue Fang, Hui Xia

Presenter: Yueyue Fang, State Key Laboratory of Infrared Physics, Shanghai Institute of Technical Physics, Chinese Academy of Sciences Shanghai

EDTM26-000302

Graphene Inversion Layer for Enhanced Photoresponse in MXene-Si Schottky Photodiodes

Muhammad Malik, Srikrishna Chanakya Bodepudi, Yang Xu, Xuan Ye, Muhammad Abid Anwar, Yu Bin, Wenzhang Fang

Presenter: Srikrishna C Bodepudi, Zhejiang University

EDTM26-000325

In-Sensor Photoelectric Multiplication: A 2T1C Pixel Architecture for Megapixel Time-of-Flight Imaging

Mengyao Xiong, Yanran Chen, Yuhui He, Xiangshui Miao

Presenter: Mengyao Xiong, Huazhong University of Science and Technology

Track 06_Wide-Bandgap Power and RF Devices/Circuits

EDTM26-000037

Enhanced Performance of GaN MIS-FETs with LPCVD-SiNx/PEALD-AlN Stack Using N₂ RPP Treatment

Yu Li, Baoshun Zhang, Ang Li, Liying Ding, Yong Cai, Zhongming Zeng, Guohao Yu

Presenter: Yu Li, Suzhou Institute of Nano-Tech and Nano-Bionics, Chinese Academy of Sciences

EDTM26-000056

Experimental Study on Normally-off β -Ga₂O₃ FinFETs with Gate Reliability Analysis

Yuxi Wei, Kaiwei Dai, Jialei Tan, Chaoyu Gong, Xiangnan Li, Jizhong Liu, Heng Sun, Zejun Jiang, Jiayun Yang, Yan Wang, Jie Wei, Xiaorong Luo

Presenter: Yuxi Wei, University of Electronic Science and Technology of China

Poster Session 1

Venue: Grand Foyer, Lower Ground Floor

Date: 2 March 2026, Monday

Time: 12:30pm to 1:30pm

EDTM26-000099

Electrical characteristics of normally-off hydrogen-terminated diamond FETs with Al₂O₃ dielectric formed by electron beam evaporation

Xiao-Xu Li, Zi-Ying Huang, Hong-Liang Lu

Presenter: Xiao-Xu Li, Fudan University

EDTM26-000159

1532 V Vertical β -Ga₂O₃ UMOSFET with Buried Field Shield

Anjing Luo, Gaofu Guo, Zhucheng Li, Tiwei Chen, Zhili Zou, Li Zhang, Jiawei Ye, Shige Dai, Chunhong Zeng, Xiaodong Zhang, Zhongming Zeng, Baoshun Zhang

Presenter: Anjing Luo, University of Science and Technology of China

EDTM26-000205

5G mmWave CMOS LNA with improved linearity and noise figure

Sathya R, Pritesh Kumar Yadav, Sunanda Ambulker

Presenter: Sunanda Ambulker, National Institute of Technology Puducherry

EDTM26-000229

Comparative Degradation Analysis of Planar and Trench-Structured 1200 V SiC MOSFETs under Drain Avalanche Stress

Peng Liao, Jianbin Guo, Yanghao Wang, Qingqing Sun, David Wei Zhang, Hang Xu

Presenter: Peng Liao, Fudan University

EDTM26-000234

Analysis of Instability of Dynamic On-Resistance in p-GaN eHEMTs by Hot-Electron-Stress

Xiangyu Wang, Jun Wang, Bernard Stark, Renze Yu, Martin Kuball, Saeed Jahdi

Presenter: Saeed Jahdi, University of Bristol

EDTM26-000303

Improving Breakdown Voltage for AlGa_N/AlN/GaN HEMT by Optimizing Edge Passivation Layer

Madhava Rao Pabathula, Satish Maheshwaram, Shuvam Pawar

Presenter: Satish Maheshwaram, National Institute of Technology Warangal

Track 07_Modeling and Simulation

EDTM26-000016

Cell-Level Analysis of Erase-Suspend Operation in 3D NAND Flash and a Physical-Model-Based Over-Erase Suppression Scheme

Dongwoo Lim, Hyungcheol Shin

Presenter: Dongwoo Lim, Seoul National University

Poster Session 1

Venue: Grand Foyer, Lower Ground Floor

Date: 2 March 2026, Monday

Time: 12:30pm to 1:30pm

EDTM26-000035

Large-Signal Modeling of Highly Linear Polarization-Graded GaN HEMTs

Mir Mohammad Shayoub, Siddharth Thakur, Mohammad Sajid Nazir, Yogesh Singh Chauhan

Presenter: *Mir Mohammad Shayoub, IIT Kanpur*

EDTM26-000063

Low Reverse Conduction Loss Normally-off Lateral β -Ga₂O₃ MOSFET with Integrated Diode

Yuxi Wei, Yan Wang, Xinyu Ma, Zhijia Zhao, Heng Sun, Jiayun Yang, Jie Wei, Xiaorong Luo

Presenter: *Yan Wang, University of Electronic Science and Technology of China*

EDTM26-000120

TomatoCare: A Mobile Deep Learning System for Leaf Disease Detection

Saurabh Yadav, Brahmadutta Mahapatra, Lokesh Kumar Hindoliya, Aryan Halder, Swaathi B. Iyer, Shaibal Mukherjee

Presenter: *Saurabh Yadav, Indian Institute of Technology Indore*

EDTM26-000153

Study on the Fluid–Structure Interaction at Different Layout in Wafer Mold Encapsulation Process

Ainnur Hanim Othman, Mohammad Hafifi Hafiz Ishak, Mohd Sharizal Abdul Aziz, Muhammad Naqib Nashrudin, Muhammad Aqil Azman

Presenter: *Ainnur Hanim Othman, Universiti Sains Malaysia*

EDTM26-000163

A Hybrid Fin/Nanowire Gate LDMOS for Improved On-Resistance and Performance Trade-off

Dawei Gao, Chih-Sheng Keng, Ran Tao

Presenter: *Chih-Sheng Keng, Zhejiang University*

EDTM26-000354

Analyzing the Low-Capacitance ESD Diode for System-level ESD Protection of High-Speed Interfaces

G Yashan Kumar, Gosike Raviteja, Sachin Kumar, Sandip Lashkare

Presenter: *G Yashan Kumar, Indian Institute of Technology Gandhinagar*

EDTM26-000356

Design and Fabrication of a 0.95V Radiation-Tolerant Subthreshold CMOS Voltage Reference Achieving 37.7ppm/°C TC and 300 krad (Si) TID Tolerance

Ashutosh Yadav, Nilotpal Sarma, Anand Bulusu, Sudeb Dasgupta

Presenter: *Ashutosh Yadav, Indian Institute of Technology Roorkee*

Poster Session 1

Venue: Grand Foyer, Lower Ground Floor

Date: 2 March 2026, Monday

Time: 12:30pm to 1:30pm

EDTM26-000362

Unveiling Gate Leakage Dynamics in Nanosheet FETs at Cryogenic Temperature: A TCAD Study

Sandeep Kumar, Prabhat Singh, Malvika Thakur, Mohd. Shakir, Sunil Rathore, Navjeet Bagga, Sudeb Dasgupta

Presenter: Prabhat Singh, Indian Institute of Information Technology Senapati

Track 08_Reliability and Testing

EDTM26-000027

Comparative Analysis of Core and IO N-FinFET Devices Degradation under Hot Carrier Injection

Jianbin Guo, Yanghao Wang, Xinru Chen, Zhen Wang, Yafen Yang, David Wei Zhang, Hang Xu

Presenter: Hang Xu, Fudan University

EDTM26-000219

Fabrication and Temperature Behavior of Amorphous Indium Tungsten Oxide Thin Film Transistors

Chen Xia, Chunsheng Jiang, Ziyi Liu, Renrong Liang, Zhiqian Wei, Yalu Chen, Bingjun Cao, Jun Xu, Yiwei Du, Libin Liu

Presenter: Chen Xia, Guangxi Normal University

EDTM26-000241

Heavy-Ion Radiation-Induced Reliability Assessment of Junctionless Complementary FETs: Device and Circuit Perspective

Venkata Ramakrishna Kotha, Sresta Valasa, Shubhakar Kalya, Nagarajan Raghavan, Narendar Vadthiya

Presenter: Narendar Vadthiya, National Institute of Technology Warangal

EDTM26-000376

Statistical Analysis of Metal Grain Granularities Induced Variability in 4T Complementary FET SRAM Cell

Deven H Patil, Sandeep Kumar, Sunil Rathore, Sudeb Dasgupta, Navjeet Bagga

Presenter: Sudeb Dasgupta, Indian Institute of Technology Roorkee

EDTM26-000382

Employing Low-cost Single board computers, as an IP based Keyboard Video, Mouse & Remote Automation solution for Customer System Debug

Manickavasagan Kannappan

Presenter: Manickavasagan Kannappan, Intel

Track 09_Packaging and Heterogenous Integration

EDTM26-000103

Pre-bond Surface Treatment of Titanium for Direct Cu-Cu Bonding Applications

Han Jiang, Xianlong Wang, Jinzhu Li, Qicun Lou, Nanjiang Yuan, Ziyu Liu

Presenter: Han Jiang, Fudan University

Poster Session 1

Venue: Grand Foyer, Lower Ground Floor

Date: 2 March 2026, Monday

Time: 12:30pm to 1:30pm

EDTM26-000380

Backside Deep Trench Capacitors Integrated in Wafer-to-Wafer Hybrid Bonded 3D Stacks for PDN Impedance Suppression

Sheng Hu, Huajun Sun, Jun Zhou, Qiong Zhan, Peng Sun, Beibei Sheng, Peng Zhu, Junming Zhang, Changtian Cao, Daohong Yang, Xiangshui Miao

Presenter: Junming Zhang, Huazhong University of Science and Technology

Track 10_Sensor, MEMS, Bio-electronics

EDTM26-000117

In-pixel Capacitive Droplet Sensing Circuit with Dual-electrode Design for Active-matrix Digital Microfluidics

Shengzhe Jiang, Dongping Wang, Arokia Nathan, Jun Yu

Presenter: Shengzhe Jiang, Shandong University

EDTM26-000142

2D-ISFET pH sensor enabled Hardware Security of 2D-material based ICs

Sarath S, Chandan Yadav, Sheikh Aamir Ahsan, Gopi Krishna Saramekala

Presenter: Sarath S, National Institute of Technology Calicut

EDTM26-000364

MEMS Load Cell Based on the Nanomechanical Membrane-Flexure (NMF) Sensor for Sub-Micronewton Thrust Measurement

Haneen Shameem, Amba Agnes. R. P, Seena V

Presenter: Haneen Shameem, Indian Institute of Space Science and Technology, Thiruvananthapuram

EDTM26-000451

Thermally-Assisted Carboxyl Enrichment of Ag-GO Nanocomposite with Enhanced Conductivity for Vitamin D Sensor Interface

Kiki Chan, Nur Azura Mohd Said, Mohd Farhanulhakim Mohd Razip Wee, Akabori Masashi, P Susthitha Menon N V Visvanathan, Suzana Makpol, Amaramalar Selvi Naicker, Chin Siok Fong

Presenter: Susthitha Menon, Institute of Microengineering and Nanoelectronics (IMEN)

EDTM26-000453

Effect of Additive Chemistry and Growth Duration on Morphology and Photoresponse

Pritika Singh, Tejendra Dixit, Vipul Singh

Presenter: Pritika Singh, Indian Institute of Technology Indore

EDTM26-000454

Optimized Molecular Surface Imprinting for Rapid Creatinine Sensing: Advances in Electropolymerized Control

Tengku Hasnan Tengku Abdul Aziz, Rusli Daik, Lydia Kamaruzaman

Presenter: Tengku Hasnan Tengku Abdul Aziz, Universiti Kebangsaan Malaysia

Poster Session 1

Venue: Grand Foyer, Lower Ground Floor

Date: 2 March 2026, Monday

Time: 12:30pm to 1:30pm

Track 13_Neuromorphic, Quantum and Disruptive Technologies

EDTM26-000067

Implementing linearly inseparable XOR in a single step using a memristor circuit

Zheng Miao, Yongxiang Li, Shiqing Wang, Pushen Zuo, Yubiao Luo, Saitao Zhang, Zhong Sun

Presenter: Zheng Miao, Peking University

EDTM26-000089

Device-Informed Neuroevolution Potential in Carbon-Doped Ge₁Sb₄Te₇ Phase-Change Synapses

Hengyi Hu, Siqi Tang, Xiangshui Miu, Ming Xu

Presenter: Siqi Tang, Huazhong University of Science and Technology

EDTM26-000446

A Novel Ferroelectric Non-volatile Ambipolar FET Based In-memory-searching for High-Speed End-to-End Corner Feature Matching in Embodied AI

Runze Han, Weikai Xu, Bingrui Song, Jin Luo, Qianqian Huang, Ru Huang

Presenter: Runze Han, Peking University

Poster Session 2

Venue: Grand Foyer, Lower Ground Floor

Date: 3 March 2026, Tuesday

Time: 12:15pm to 1:15pm

Track 01_Materials

EDTM26-000074

Investigation of Exfoliation Efficiency of 4H-SiC Co-Implanted with He⁺ and H⁺ Ions

Liyang Lin, Xu Wang, Zhichao Zhou, Pau Yee Lim, Daniel Shi, Yuqing Zhang

Presenter: Liyang Lin, Hong Kong Applied Science and Technology Research Institute Company Limited (ASTRI)

EDTM26-000203

Sliding-Induced Vertical Ferroelectricity in ZrS₂-PtSe₂ Heterobilayers

Jainandan Kumar Modi, Ateeb Naseer, Shivanand Yadav, Somnath Bhowmick, Amit Agarwal, Yogesh Singh Chauhan

Presenter: Jainandan Kumar Modi, IIT Kanpur

EDTM26-000279

High-Quality PVD-WS₂ Thin Films via H₂S Annealing Enabling Suppression of S-S Bonds

Soma Ito, Naoki Matsunaga, Taiga Fuse, Jaehyo Jang, Kaede Teraoka, Shunsuke Nozawa, Iriya Muneta, Takuya Hosii, Kuniyuki Kakushima, Hitoshi Wakabayashi

Presenter: Soma Ito, Institute of Science Tokyo

EDTM26-000304

Reconfigurable Logic and DRAM toward BEOL via Direct Deposition of High-k vdW Dielectric for 2D FETs

You-Jia Huang, Hung-Wei Yen, Bor-Wei Liang, Min-Hung Lee, Ching-Yuan Su, Yann-Wen Lan, Hui-Chun Huang

Presenter: You-Jia Huang, National Taiwan Normal University

EDTM26-000311

Influence of Oxidation Temperature on the Electrical and Structural Properties of ZrO₂ film on 4H-SiC: An SEM, EDX, CV and IV Investigation

Nurliyana Abu Hasan Sazalli, Yew Hoong Wong, Roslina Ahmad

Presenter: Nurliyana Abu Hasan Sazalli, Universiti Malaya

Track 02_Process, Tools, Yield and Manufacturing

EDTM26-000041

WGB-VM: Uncertainty-Aware Virtual Metrology Framework for Semiconductor Manufacturing

Weiping Xie, Zixuan Huang, Yining Chen

Presenter: Weiping Xie, Zhejiang University

EDTM26-000049

A High-Accuracy DEVICE AI Model for 17 N/P-Channel Transistor Families Across LV, SRAM, MV, and HV at 40 nm Node

Peter Liu, Yi-Chuen Eng, Daiki Qin, Le Li, Carl Ma, Rr Zhu, Wenhao Wu, Yuri Ma, Rumeng Qiu, Cloud Wang, Chia-Yen Li

Presenter: Yi Chuen Eng, Nexchip Semiconductor Corporation

Poster Session 2

Venue: Grand Foyer, Lower Ground Floor

Date: 3 March 2026, Tuesday

Time: 12:15pm to 1:15pm

EDTM26-000051

Predicting BEoL Metal Sheet Resistance at the 40 nm Node Using an AI Model

Peter Liu, Daiki Qin, Kyle Xu, Leo Kuai, Yi-Chuen Eng, Carl Ma, Levi Chen, Wenhao Wu, Piaopiao Han, Cloud Wang, Chia-Yen Li

Presenter: Xuwei Qin, Nexchip Semiconductor Corporation

EDTM26-000055

Annealing Activation Effect of Pt Electrodes on SAW Devices with Langasite Substrate and the Mechanism Analysis

Runli Liu, Yang Li, Xudong Cai, Zhen Li, Jun Fu, Tianling Ren

Presenter: Runli Liu, Tsinghua University

Track 03_Advanced Semiconductor (Logic) Devices

EDTM26-000079

Interfacial Properties and Electrical Characteristics of Direct High-k Deposition on Si for CET Scaling

Takamasa Kawanago, Takefumi Kamioka, Yukinori Morita, Naoya Okada, Kenzo Manabe, Wataru Mizubayashi, Hiroyuki Ota, Takashi Matsukawa, Shinji Migita

Presenter: Takamasa Kawanago, National Institute of Advanced Industrial Science and Technology

EDTM26-000081

Crystallization of HfO₂-ZrO₂-HfO₂ Gate Stacks for Ultrahigh Dielectric Constant in MOS Structures

Takefumi Kamioka, Takamasa Kawanago, Yukinori Morita, Naoya Okada, Kenzo Manabe, Wataru Mizubayashi, Hiroyuki Ota, Takashi Matsukawa, Shinji Migita

Presenter: Takefumi Kamioka, Advanced Industrial Science and Technology

EDTM26-000108

Introducing SheetOpt™: Adding Design Flexibility to Nanosheet Based Devices with Area Benefits

Krishna Bhuwalka, Dmitry Yakimets, Gerhard Rzepa, Xaver Klemenschits, Wei Li, Lei Hou, Markus Karner, Zheng Yu

Presenter: Krishna Bhuwalka, Huawei Technologies R&D Belgium

EDTM26-000122

Hybrid Memristor-Based Logic Gates (HMBLG) for Energy-Efficient and High-Speed Digital Circuits with Practical Implementation NOT and OR

Lokesh Kumar Hindoliya, Mayank Dubey, Saurabh Yadav, Animesh Paul, Mohit Yadav, Shaibal Mukherjee

Presenter: Lokesh Kumar Hindoliya, Indian Institute of Technology Indore

EDTM26-000167

High-Performance Oxide-Semiconductor MESFET with Ultrathin HfO₂ Interface

Chenyang Huang, Zhiwei Zheng, Yuyang Cai, Yufeng Jin, Yucheng Cao, Lei Lu

Presenter: Yucheng Cao, Peking University

Poster Session 2

Venue: Grand Foyer, Lower Ground Floor

Date: 3 March 2026, Tuesday

Time: 12:15pm to 1:15pm

EDTM26-000202

Statistical Cryogenic Characterization of Commercial 14nm FinFETs for Analog Applications

Le Minh Long Nguyen, Vikram Magendar, Wesley Xi, Hiu Yung Wong

Presenter: Hiu Yung Wong, United States

EDTM26-000244

Atomistic Insights into Charge Transport Across 4|4E and 4|4P Grain Boundaries in MoTe₂ FETs

Saurabh Kharwar, Farzan Gity, Lida Ansari, Paul Hurley

Presenter: Farzan Gity, Tyndall National Institute, University College Cork

Track 04_Memory Technologies

EDTM26-000127

Comprehensive Study on Interfacial Layer and Oxygen Vacancy Suppression via Scavenging Electrodes in Ferroelectric MFS Capacitors

Boyao Cui, Jinhao Liu, Chenyang Zhang, Maokun Wu, Sheng Ye, Xuepei Wang, Yishan Wu, Miaoqia Yuan, Yichen Wen, Hong-Liang Lu, David Wei Zhang, Runsheng Wang, Zhigang Ji

Presenter: Sheng Ye, Shanghai Jiao Tong University

EDTM26-000136

A Novel Low-Cost 3D-Stackable 2T0C DRAM Cell with Vertical-Double-Gate and Lateral-C-shape-Channel InGaZnO Transistors

Ziyi Liu, Yiwei Du, Liyang Pan, Renrong Liang, Ting Liu, Qi Hu, Zhigang Zhang, Zhaoyan Gao, Jianshi Tang, Bin Gao, Jun Xu, He Qian, Yuegang Zhang, Huaqiang Wu

Presenter: Ziyi Liu, Tsinghua University

EDTM26-000137

New Insights into the Transient Behavior of IGZO 2T0C DRAM: Capacitive Coupling, Carrier Injection and De-trapping

Yecheng Yang, Qianlan Hu, Yuzhe Zhu, Honggang Liu, Shiwei Yan, Ranhui Liu, Wenjie Zhao, Yanqing Wu

Presenter: Wenjie Zhao, Huazhong University of Science and Technology

EDTM26-000155

10³× Improvement in Read Disturbance by Inserting Oxide Barrier Layer for 40nm RRAM Chip

Ruofei Hu, Siyu Chen, Jianshi Tang, Chengxiang Ma, Kaimeng Liu, Jinyi Liu, Jiale Cao, Didi Zhu, Yue Xi, Bin Gao, He Qian, Huaqiang Wu

Presenter: Ruofei Hu, Tsinghua University

EDTM26-000165

Co-Design of 3D Vertical Phase-Change Memory Crossbars and Mixer Architecture for Analog In-Memory Computing

Sejeung Choi, Jinha Choi, Sangbum Kim

Presenter: Sejeung Choi, Seoul National University

Poster Session 2

Venue: Grand Foyer, Lower Ground Floor

Date: 3 March 2026, Tuesday

Time: 12:15pm to 1:15pm

EDTM26-000179

Interfacial oxygen vacancy engineering-induced multi-level polarization state control and reliability improvement for neural network computing in Hf_{0.5}Zr_{0.5}O₂-based devices

Jinna Zhang, Jiajie Yu, Jialin Meng, Xiaojian Zhu, Hao Zhu, Qingqing Sun, David Wei Zhang, Lin Chen

Presenter: Jinna Zhang, Fudan University

EDTM26-000189

Ultra-low leakage edge contact MoS₂ FETs enabling a ks-Retention 2T0C DRAM at Zero Vhold

Saifei Gou, Yuxuan Zhu, Zhejia Zhang, Jinshu Zhang, Xiangqi Dong, Menglin Huang, Shiyong Chen, Yin Wang, Chixiao Chen, Wenzhong Bao

Presenter: Saifei Gou, Fudan University

EDTM26-000226

Using Thermally Oxide Electrode MoO₂ to Reduce Read/Write Delay and Enhance Hamming Distance of FeCAM at 85 °C

Chunghao Hsu, Wei-Cheng Meng, Hua Yang, Miao Hua Hsiung, Ying Tsang Tang, Hao Ming Chen, Huang Sheng Tsang, Rui Yi Chen, Chao Cheng Lin

Presenter: Ying-Tsan Tang, National Yang Ming Chiao Tung University

EDTM26-000252

A Scheme for Field-free p-SOT-MTJ by Utilizing Oersted Field from Metal Interconnects

Dingsong Jiang, Cancheng Xiao, Enlong Liu, Wenlong Yang, Witold Skowroński, Shikun He, Tianxiang Nan

Presenter: Dingsong Jiang, Tsinghua University

EDTM26-000266

Ferroelectric HZO Capacitor on CoSi₂ Electrode: Exploring CMOS-Compatible Alternative to TiN and W

Selma Franca, Kerstin Bernert, Justine Barbot, Markus Peller, Eng Gek Hee, Wilson Entalai, Hannes Maehne, David Lehninger, Alison Viegas, Konrad Seidel

Presenter: Justine Barbot, X-FAB Global Services GmbH

EDTM26-000280

Double morphotropic phase boundary (MPB) Ferroelectric Stack with TiN Interlayer for Low Coercive Field and High polarization for FeRAM Applications

Jia-Yang Lee, Heng Liu, Cheng-Hong Liu, Zhao-Feng. Lou, Min-Hung Lee

Presenter: Jia-Yang Lee, National Taiwan University

Track 05_Photonics, Imaging & Display

EDTM26-000094

High-Temperature Robust β -Ga₂O₃ Phototransistors on Sapphire with Record Detectivity for Solar-Blind UV Detection

Shuqi Huang, Xiaoxi Li, Shuo Li, Di Wang, Yue Hao, Genquan Han

Presenter: Xiaoxi Li, Xidian University

Poster Session 2

Venue: Grand Foyer, Lower Ground Floor

Date: 3 March 2026, Tuesday

Time: 12:15pm to 1:15pm

EDTM26-000125

An undersampled broadband optoelectronic computing system enabled by PtSe₂/Si photodetectors

Yang Xu, Js L, Xinyi Xu, Mingsheng Xu, Jian Chai, Qinghai Zhu, Zhixiang Zhang

Presenter: Jiasheng Li, Zhejiang University

EDTM26-000138

Enhanced Mobility in Sputtering-IZO-Based Self-Aligned Top-Gate Oxide TFTs Enabled by ALD-Tailored IGO Barrier Layers

Li Xiao, Yang Shengjie, Man Hoi Wong, Tseng Man-Chun, Yeung Fion Sze Yan, Chang Kuan-Chang, Wang Xinwei, Zhang Shengdong, Yuhang Zhang, Liu Jinwen, Lu Lei

Presenter: Lei Lu, Peking University

EDTM26-000217

Modeling and Numerical Investigation of PCF-SPR Biosensor for Detecting HIV DNA Hybridization using the Refractive Index of the Sample

Jay Kumar Yadav, Susanta Kumar Tripathy

Presenter: Jay Kumar Yadav, National Institute of Technology Silchar

EDTM26-000250

A Miniaturized Spectrometer for Water Quality Monitoring Based on a 256×2 CMOS Linear Array Sensor

Chu Zhang, Qiang Chen, Chao Gao, Yihong Qi, Xinghui Liu, Kai Wang

Presenter: Chu Zhang, Sun Yat-Sen University

EDTM26-000281

Near-IR Ultra-High-Contrast Optical Switch Based on AIST Multilayer Fabry Perot Stacks

Qingshan Tan, Jingwei Cai, Qipei Zhou, Zhang Le, Yiliang Guo, Haoran Xia, Ruge Duan, Han Zhang, Ya Lin, Xiangshui Miao, Hao Tong

Presenter: Qingshan Tan, Huazhong University of Science and Technology

Track 06_Wide-Bandgap Power and RF Devices/Circuits

EDTM26-000066

3D Simulations for Fin Geometry Effects on the Linearity and On-Resistance of AlGa_N/Ga_N Multi-Channel Fin-HEMTs

Hui Jiao, Peiran Wang, Xiaowei Ma, Wenchuan Tao, Qing Wang, Hongyu Yu

Presenter: Hui Jiao, Southern University of Science and Technology

EDTM26-000082

Field-Stopping Ga_N HEMT with p-i-n Junction Gate for High Gate Breakdown and Reliability

Zhijia Zhao, Pengfei Zhang, Jinpeng Qiu, Gaoqiang Deng, Kemeng Yang, Shuxiang Sun, Chao Yang, Jie Wei, Xiaorong Luo

Presenter: Zhijia Zhao, University of Electronic Science and Technology of China

Poster Session 2

Venue: Grand Foyer, Lower Ground Floor

Date: 3 March 2026, Tuesday

Time: 12:15pm to 1:15pm

EDTM26-000113

Superior Interface Quality and Enhanced Channel Controllability of AlGa_N/Ga_N MOS-HEMTs Using High-quality Dual-Gate Dielectric Al_N/HfO₂

Tran Duy-Hung, Rai Rahul, Nguyen Quoc-Khanh, Chang Edward Yi

Presenter: Duy-Hung Tran, National Yang Ming Chiao Tung University

EDTM26-000116

Barrier Layer Optimization of DIBS-grown MgZnO/CdZnO Heterojunction for High Mobility

Brahmadutta Mahapatra, Saurabh Yadav, Sumit Chaudhary, Usha Usha, Myo Than Htay Yamamoto, Shaibal Mukherjee

Presenter: Brahmadutta Mahapatra, Indian Institute of Technology Indore

EDTM26-000151

Physics-AI-Driven Design of GaN P-MISFETs with InGa_N/Al_N/AlGa_N Heterostructures

Bowen Li, Wen Liu, Linkun Sun, Zhehao Hu, Qiyi Guo, Kain Lu Low

Presenter: Kain Lu Low, Xi'an Jiaotong-Liverpool University

EDTM26-000186

Assessment of 650 V discrete GIT GaN HEMTs for bi-directional switch implementation

Kulisa Nanayakkara, Alberto Castellazzi

Presenter: Kulisa Nanayakkar, Kyoto University of Advanced Science

EDTM26-000197

Exploring Bias-Controlled Mode Reconfigurability in GaN-Based Doherty Power Amplifiers

Siddharth Thakur, Mir Mohammad Shayoub, Nagaditya Poluri, Yogesh Singh Chauhan

Presenter: Siddharth Thakur, IIT Kanpur

EDTM26-000200

Thermal Performance of Power Module for SiC MOSFET and Si IGBT: A Comparative Study

Changli Zhang, Han Zhang, Kuan Yew Cheong

Presenter: Changli Zhang, Shenzhen Huasemi Electronics Co. Ltd.

Track 07_Modeling and Simulation

EDTM26-000174

A Surface Potential-based Compact Model of Carbon Nanotube Field Effect Transistors

Chengyue Wang, Panpan Zhang, Haochen Zhao, Shifeng Zhu, Tao Zhang, Shengchuan Hu

Presenter: Chengyue Wang, Beijing University of Posts and Telecommunications

Poster Session 2

Venue: Grand Foyer, Lower Ground Floor

Date: 3 March 2026, Tuesday

Time: 12:15pm to 1:15pm

EDTM26-000220

Optimized Glass Core Substrate as a DBC Alternative

Amir Murtadha Mohamad Yussof, Puteri Rahim, Mohd Faizol Abdullah, Badariah Bais, Norazreen Abd Aziz

Presenter: Amir Murtadha Mohamad Yussof, Universiti Kebangsaan Malaysia

EDTM26-000223

Investigation of Switching Characteristics of Ferroelectric Tunnel Junctions by TCAD Simulation

Jingchao Lei, Qiang Zhang, Di Lu

Presenter: Jingchao Lei, University of Science and Technology of China

EDTM26-000272

Dual-Loss Trained Compact Cascaded ANN for Custom-Range BSIM-CMG Parameter Extraction

Sidhant Vazarkar, Abdullah Cachhi, Shreyan Ghosh, Girish Pahwa

Presenter: Sidhant Vazarkar, National Yang Ming Chiao Tung University

EDTM26-000286

Design of Olfactory Receptor on Silicon Nanowire Hybrid Biomimetic Sensor for Food Freshness

Nidhi Pandey, Debankita De, Parijat Deshpande, Swaroop Ganguly

Presenter: Debankita De, IIT Bombay

EDTM26-000299

Chip-to-Package Level Thermal Analysis of GaN HEMT with Thermally Conductive Epoxy Integration

Puteri Nur Aisyah Abd Rahim, Amir Murtadha Mohamad Yussof, Mohd Faizol Abdullah, Norhana Arsad, Iskandar Yahya, Norazreen Abd Aziz

Presenter: Puteri Nur Aisyah Binti Abd Rahim, Universiti Kebangsaan Malaysia

EDTM26-000301

Large Signal Analytical Capacitance Model of B-doped Graphene FET for RF Applications

Anchal Chaudhary, Avinash Choudhary, Chandrasekar L, K P Pradhan

Presenter: Kumar Prasannajit Pradhan, Indian Institute of Information Technology Design and Manufacturing Kancheepuram

EDTM26-000351

Derivation of Cell-Level Parameters from Module Specifications with GPVDM Simulation of Aging Effects

Subathra Muniandy, Muhammad Idzdiyar Bin Idris, Zul Atfyi Fauzan Bin Mohammed Napiah, A. Sathiya Priya, Shadi Al Khateeb, Ahmad Wafi Bin Mahmood Zuhdi

Presenter: Subathra Muniandy, Universiti Teknikal Malaysia Melaka

Poster Session 2

Venue: Grand Foyer, Lower Ground Floor

Date: 3 March 2026, Tuesday

Time: 12:15pm to 1:15pm

Track 08_Reliability and Testing

EDTM26-000109

Breaking the Trade-Off: A Floating-Gate Field-Plated Split-Gate MOSFET for High-Frequency and High-Reliability Power Conversion

Yiming Zhang, Ran Tao, Dawei Gao

Presenter: Yiming Zhang, Zhejiang University

EDTM26-000129

On the Understanding of Aging-Induced Band Tail States Under Cryogenic Temperatures

Chenyang Zhang, Yilin Hu, Guanghua Xu, Maokun Wu, Yueyang Liu, Pengpeng Ren, Runsheng Wang, Zhigang Ji

Presenter: Chen Yang, Shanghai Jiao Tong University

EDTM26-000145

The Transition and Impacts of Antiferroelectric Phases in HZO Capacitors

Huanan Liu, Bowen Shen, Wen Sun, Mingcheng Shi, Yi Ding, Benjamin Yang, Jian Yuan, Qingtian Zhang, Bin Gao, Yuyan Wang, Jianshi Tang, He Qian, Huaqiang Wu

Presenter: Bowen Shen, Tsinghua University

EDTM26-000201

Systematic comparison of temperature-dependent hysteresis dynamics in MoS₂/HfO₂ and MoS₂/Al₂O₃ FETs

Shaokai Zhou, Haihui Cai, Yufeng Min, Renchen Yuan, Jianming Huang, Yuanyuan Shi, Yury Illarionov

Presenter: Shaokai Zhou, Southern University of Science and Technology

EDTM26-000240

The Effect of Layout Design on Hot Carrier Degradation in N-type STI-LDMOS

Jia Qiu, Junkang Li, Ran Tao, Rui Zhang, Qianwen Guo, Dawei Gao

Presenter: Jia Qiu, Zhejiang University

Track 10_Sensor, MEMS, Bio-electronics

EDTM26-000149

Double-Dome Pressure Sensor for Pulse Wave Monitoring

Jiarui He, Zhanfeng Guo, Yuhan Zhao, Ruolan Zhao, Minghao Wang, He Tian

Presenter: Jiarui He, Tsinghua University

EDTM26-000154

Active-Matrix Digital Microfluidics Chip with High-Contrast In-Pixel Sensing Circuit

Yong Le, Yan Huang, Congwei Liao, Lingxiao Qian, Shengyou Zhang, Shengdong Zhang

Presenter: Le Yong, Peking University

EDTM26-000188

Negative Capacitance Organic Electrochemical Transistors for High-Sensitivity pH Sensing

Anika Tasnim, Fahimul Islam Sakib, Mainul Hossain, Pinok Chowdhury Manik

Presenter: Pinok Chowdhury Manik, University of Dhaka

Poster Session 2

Venue: Grand Foyer, Lower Ground Floor

Date: 3 March 2026, Tuesday

Time: 12:15pm to 1:15pm

EDTM26-000238

Miniature Ultra-light Ku-band Filters based on Lithium Niobate for 6G and Satellite Applications

Moustafa Abdelbaky, Qun Li, Yansong Yang

Presenter: Moustafa Abdelbaky, The Hong Kong University of Science and Technology

EDTM26-000361

Polyimide MEMS Ring-Flexure-Membrane Capacitive Hydrogen Sensor

Deepak Barnwal, Joel Zacharias, Seena V

Presenter: Deepak Barnwal, Indian institute of Space Science and Technology, Thiruvananthapuram

Track 11_Flexible and Wearable Electronics

EDTM26-000316

High Performance Flexible Piezoelectric Sensors based on P(VDF-TrFE):GO Composite for Body Activity Monitoring

Ritesh Kumar Singh, Monika Gadhewal, Shree Prakash Tiwari

Presenter: Monika Gadhewal, Indian Institute of Technology (IIT), Jodhpur

Track 13_Neuromorphic, Quantum and Disruptive Technologies

EDTM26-000090

Dynamic Graph Convolutional Network using In-Memory Computing for Graph Convolution and In-Memory Search for Dynamic Gating

Yue Zhang, Jiahui Wu, Xiaojuan Qi, Zhongrui Wang

Presenter: Yue Zhang, The University of Hong Kong

EDTM26-000251

In-Memory Boolean Logic Computation in Binary Neural Network Inspired Memristor Crossbar Array

Md. Abu Sayed Chowdhury, Orchi Hassan

Presenter: Md. Abu Sayed Chowdhury, Bangladesh University of Engineering and Technology

EDTM26-000333

All-Optically Controlled Synapse Based on Oxide Plasmonic Optoelectronic Memristor

Haoyu Wang, Jian Chai, Zhixiang Zhang, Quan Yang, Yu Bin, Yang Xu

Presenter: Haoyu Wang, Zhejiang University

Poster Session 3

Venue: Grand Foyer, Lower Ground Floor

Date: 4 March 2026, Wednesday

Time: 12:45pm to 1:45pm

Track 01_Materials

EDTM26-000363

Switching Dynamics in Hf_{0.5}Zr_{0.5}O₂ Ferroelectric Film-based FeFET: A TCAD Analysis of Statistical Distribution and Nucleation-Limited Switching

Bharathi Prabha S G, Mohd. Shakir, Hsieng-Yang Liu, Tian Li Wu, Navjeet Bagga, Sudeb Dasgupta

Presenter: Mohammad Shakir, Indian Institute of Technology Roorkee

EDTM26-000410

A Label-Efficient Boundary-Aware Framework for SEM Segmentation of Metal Halide Perovskites

Xunyong Yang, Hao Xu, Lijuan Huang, Ying Meng, Yuanyuan Shi, Qin Hu

Presenter: Xunyong Yang, University of Science and Technology of China

EDTM26-000525

Polarization construction strategy of AlN heterostructure construction for improving AlGaN HEMT performance

Haidi Wu, Jing Ning, Longfei Xia, Shiyu Li, Yue Hao, Jincheng Zhang

Presenter: Haidi Wu, Xidian University

Track 02_Process, Tools, Yield and Manufacturing

EDTM26-000011

Plasma Etching of SiCr Thin Film Resistor

Caigan Chen, Yanlong Guo, Jian Huang, Quanbao Li, Yushan Chi, Kaiqi Xie, Jiayu Sun

Presenter: Chris Chen, Lam Research

EDTM26-000111

Suppressing Interfacial Reactivity toward Efficient Inverted Perovskite Modules

Feng Qian, Ting Zhang, Huahong Cai, Shihao Yuan, Lei Wang, Shibin Li

Presenter: Feng Qian, University of Electronic Science and Technology of China

EDTM26-000115

Efficient Semiconductor Process Modeling with PGD Augmentation and Knowledge Distillation

Yingqiang Hu, Weiping Xie, Yining Chen

Presenter: Yingqiang Hu, Zhejiang University

EDTM26-000505

Parameter-based Analysis of Ambient Light and Color Sensor Device for the Reduction of Parametric Failure Rate Using DMAIC Methodology: A Six-Sigma Project

Promil Gonzales

Presenter: Promil Gonzales, ams Osram Group

Poster Session 3

Venue: Grand Foyer, Lower Ground Floor

Date: 4 March 2026, Wednesday

Time: 12:45pm to 1:45pm

Track 03_Advanced Semiconductor (Logic) Devices

EDTM26-000239

Monolayer MoS₂/WSe₂ Negative Capacitance CFETs for Energy-Efficient Ultra-Scaled Logic Applications

Md. Abdul Muiz Ayon, Junaid Ibn Faruq, Nazmul Hasan Naime, Afsana Anjum Akhi, Mainul Hossain
Presenter: Nazmul Hasan Naime, University of Dhaka

EDTM26-000472

Engineering the Hydrogen-Supplying Interlayer for In-Situ Passivation to Enhance the Scalability of Self-Aligned Top-Gate ALD-InGaO TFTs

Shengjie Yang, Liu Jinwen, Lei Liao, Xinwei Wang, Shengdong Zhang, Lei Liao, Chuan Liu, Lei Lu
Presenter: Shengjie Yang, Peking University

EDTM26-000527

Investigation of Post-Programming Characteristics for Charge-Trap Transistors in Standard 28nm CMOS

Ye Lin, Jun Ma, Xiaoyong Song, Anying Jiang, Yuan Du, Li Du
Presenter: Ye Lin, Nanjing University

EDTM26-000543

Unveiling the Impact of Non-Ideal Gate in Stacked Nanosheet FETs

Jyoti Prakash Purohit, Vinitha Kamidi, Shobhit Shrivastava, Akhilesh Jain, Divya Singh, Abhishek Acharya
Presenter: Akhilesh Jain, Sardar Vallabhbhai National Institute of Technology, Surat

Track 04_Memory Technologies

EDTM26-000545

Performance Assessment of Spacer Engineered Si/SiGe Line Tunnel FETs

Akhilesh Jain, Jatothu Naveen, Sourabh Panwar, Jyoti Prakash Purohit, M. Shashidhara, Abhishek Acharya
Presenter: Akhilesh Jain, Sardar Vallabhbhai National Institute of Technology, Surat

EDTM26-000052

Wafer-scale Memristors based on Atomic Layer Deposited WS₂

Yuan Fa, Cindy H. X. Lam, Ke Ran, Holger Lerch, Zhenxing Wang, Bart Macco, Max Lemme
Presenter: Yuan Fa, AMO GmbH

EDTM26-000308

Demonstration of Polyvinylpyrrolidone as Sustainable Resistive Switching Material for Flexible Electronics

Anil Lodhi, Somnath Bhattacharjee, Arpit Khandelwal, Shree Prakash Tiwari
Presenter: Anil Lodhi, Indian Institute of Technology Jodhpur

Poster Session 3

Venue: Grand Foyer, Lower Ground Floor

Date: 4 March 2026, Wednesday

Time: 12:45pm to 1:45pm

EDTM26-000357

Retention Characteristics of HfO₂-based MFMIS FeFETs: Degradation Mechanism Revealed by Fast-PRER Measurement

Peiyuan Du, Fei Yu, Yutai Man, Huan Liu, Hongrui Zhang, Bing Chen, Ran Cheng, Mengnan Ke, Xiao Yu, Yan Liu, Yue Hao, Genquan Han

Presenter: Peiyuan Du, Xidian University

EDTM26-000421

Heterogeneous Bit- and Channel-Aware Mapping Framework for Area-Efficient and Robust RRAM-based CIM

Pan Zecheng, Jiyang Cao, Zhoujie Pan, Yuwan Hong, He Tian, Yi Yang, Tianling Ren

Presenter: Zecheng Pan, Tsinghua University

EDTM26-000431

A Novel Programmable Diode Using 0.18 μ m Standard CMOS Process for High-density One-Time-Programmable Application

Tianci Wang, Xibo Chen, Junru Qu, Wenhao Liu, Hongrui Zhang, Bing Chen, Genquan Han, Yan Liu, Bo Li

Presenter: Bing Chen, Xidian University

EDTM26-000528

Investigation of Row Hammer Failure in Lateral and Vertical Neighboring Cells of 3D DRAM

Arvind Kumar, Bushra Fatima, Sanjeev Kumar Manhas, Harsh Raju, Mohd Ashraf Lone

Presenter: Bushra Fatima, Indian Institute of Technology Roorkee

EDTM26-000534

Engineering Growth Conditions to Suppress Multi-Phase Issues in Hf_{0.5}Zr_{0.5}O₂ Ferroelectric Thin Films

Kun Chen, Huan Wang, Qundao Xu, Ming Xu

Presenter: Kun Chen, Huazhong University of Science and Technology

Track 05_Photonics, Imaging & Display

EDTM26-000327

Temperature-dependent analysis of Ge_{1-x}Sn_x-based single-photon avalanche diodes for cryogenic applications

Harshvardhan Kumar, Jyoti Tater

Presenter: Harshvardhan Kumar, The LNM Institute of Information Technology, Jaipur

EDTM26-000373

Comparative Study of Vacuum-Deposited and Solution-Combustion-Synthesis Al₂O₃-HfO₂ Gate Dielectric for a-IGZO Thin-Film Transistors

Candell Grace Paredes Quino, Kosuke O. Hara, Yukiharu Uraoka, Dian Budiarti Kastian, Juan Paolo Bermundo

Presenter: Dian Budiarti Kastian, Nara Institute of Science and Technology

Poster Session 3

Venue: Grand Foyer, Lower Ground Floor

Date: 4 March 2026, Wednesday

Time: 12:45pm to 1:45pm

EDTM26-000374

Trap-Mediated Ionic Dynamics in MAPbBr₃ PeLEDs Revealed by Modulus and Deep-Level Transient Spectroscopies

Understanding the interplay between ionic motion and electronic transport is essential for improving the performance and stability of perovskite light-emitting diodes (PeLEDs). Here, we investigate MAPbBr₃-based PeLEDs with structure ITO/PEDOT:PSS/MAPbBr₃

Presenter: Abinash Baruah, IIT Guwahati

EDTM26-000408

Multi-Component Heterojunction Long-Wavelength Infrared Avalanche Photodiode

Zihao Wang, Liqi Zhu, Songmin Zhou, Chun Lin, Baile Chen

Presenter: Zihao Wang, ShanghaiTech University

Track 06_Wide-Bandgap Power and RF Devices/Circuits

EDTM26-000057

Analysis of Double Gate AlGaN/GaN HEMT with Increasing Quantum Wells for Emerging Electronics Applications

Padmakshya Kar, Nitish Kumar, Niranjana Jyoti Borah, Trupti Ranjan Lenka, Sudhanshu Choudhary, Hieu Nguyen

Presenter: Trupti Ranjan Lenka, National Institute of Technology Silchar, Assam, India

EDTM26-000313

Vertical β -Ga₂O₃ UMOSFET with the insertion of sidewall regrown layer

Zhucheng Li, Anjing Luo, Gaofu Guo, Tiwei Chen, Li Zhang, Feng Yang, Yongjian Ma, Kun Xu, Zhili Zou, Chunhong Zeng, Chen Cui, Xiaodong Zhang, Baoshun Zhang, Zhongming Zeng

Presenter: Zhucheng L, University of Science and Technology of China

EDTM26-000337

Next Generation Solar Modules: Thermoelectric assisted Photovoltaics with Photothermal layer for thermal management

Parkavi Valaguruvan, Narendra K, Mohammed Faazil P, Jayabal K, Pandiyarasan Veluswamy

Presenter: Pandiyarasan Veluswamy, Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram

EDTM26-000474

High-Temperature Stable AlN/AlGaIn HEMT with Exceeding 3 kV Breakdown Voltage on Nanopatterned Sapphire Substrates

Rongjun Zhang, Dao Hua Zhang, Yuxi Wan, Sirui Feng, Yanqiu Wang, Haolin Hu

Presenter: Rongjun Zhang, Shenzhen Pinghu Lab

Poster Session 3

Venue: Grand Foyer, Lower Ground Floor

Date: 4 March 2026, Wednesday

Time: 12:45pm to 1:45pm

Track 07_Modeling and Simulation

EDTM26-000383

Design and Temperature-Sensitive Behavior of a Gate-Underlapped Negative Capacitance MoS₂ TFET for Low-Power Applications

Malvika ., Jagritee Talukdar, Bhaskaran Muralidharan

Presenter: Malvika ., Indian Institute of Technology Bombay

EDTM26-000398

Engineering AlN Barrier Thickness for High Mobility and DC Performance in AlN/ β -Ga₂O₃ MOSHEMTs

Meenakshi Chauhan, Kanjalochan Jena, T.R. Lenka

Presenter: Kanjalochan Jena, The LNM Institute of information Technology, Jaipur

EDTM26-000419

Compact Dual-Band Electromagnetically Coupled Hexagonal Antenna for C-Band and X-Band Wireless Systems

Praveen Kumar Sharma, Tapan Nahar, Rashmi Jangid, Mitesh Solanki, Sanyog Rawat

Presenter: Tapan Nahar, Marwadi University, Rajkot

EDTM26-000426

A SPICE-Compatible Compact Model for Ferroelectric-Gated GaN-HEMTs

Abhishek Kumar, Dariskhem Pyngrope, Avirup Dasgupta

Presenter: Dariskhem Pyngrope, Indian Institute of Technology Roorkee

EDTM26-000436

Analytical Modeling of Polarization-Coupled Gate Leakage Transport in ScAlN based Fe-HEMT

Dariskhem Pyngrope, Tanvika Garg, Avirup Dasgupta, Shubhankar Majumdar

Presenter: Dariskhem Pyngrope, Indian Institute of Technology Roorkee

EDTM26-000555

Multiscale Simulation Pipeline from Surface Chemistry to Device-Relevant Property Descriptors for ALD and ALE Processes

Fedor Goumans, Nicolao Onofrio, Nestor Aguirre

Presenter: Fedor Goumans, Software for Chemistry & Materials

Track 08_Reliability and Testing

EDTM26-000256

Highly Stable BEOL-Compatible 78 nm IGZO TFT (11.3 mV ΔV_{th} at 10 ks/125 °C) with ITO S/D Contact and F Doping

Shaocong Lv, Xianglong Li, Ziteng Zhao, Wenbo Cui, Zebin Zhang, Peng Guo, Hecheng Han, Yiming Wang, Zhuocheng Yan, Qian Xin, Yuxiang Li, Jiawei Zhang

Presenter: Shaocong Lv, Shandong University

Poster Session 3

Venue: Grand Foyer, Lower Ground Floor

Date: 4 March 2026, Wednesday

Time: 12:45pm to 1:45pm

EDTM26-000330

Body Bias Influence on Bias Temperature Instability Characteristics in 7nm Bulk and SOI-FinFET Technology

Suresh Gowreddy, Amit Kumar Behera, Anand Bulusu

Presenter: Amit Kumar Behera, Indian Institute of Technology Roorkee

EDTM26-000349

High-k scaling for reliability enhancement in 300-mm-integrated WS₂ FETs

Luca Panarella, Stanislav Tyaginov, Quentin Smets, Ben Kaczer, Tom Schram, Daire Cott, Cesar Javier Lockhart De La Rosa, Gouri Sankar Kar, Valeri Afanas'Ev

Presenter: Luca Panarella, IMEC

EDTM26-000358

AI-Enhanced Heat Monitoring System for Customer Validation Platform

Eswaran Shedu

Presenter: Eswaran Shedu, Intel Corporation

EDTM26-000452

Advance Packaging Test Hardware Development Technical Challenges and Mitigation

Sivaraman Rukumangatha Rajah

Presenter: Sivaraman Rukumangatha Rajah, Altera

Track 10_Sensor, MEMS, Bio-electronics

EDTM26-000069

Steep-Switching Organic FETs for Highly Sensitive Ammonia Sensing

Afsana Anjum Akhi, Nazmul Hasan Naime, Mainul Hossain

Presenter: Afsana Anjum Akhi, University of Dhaka

EDTM26-000276

Design of Molecular Logic Gates Using Heteroatom-Doped Carbon Quantum Dots for Metal Ion Detection

Parul Singh, Tinodaishe Semwa, Jhuma Saha

Presenter: Parul Singh, IIT Gandhinagar

EDTM26-000309

Flexible PIN Configuration for Hybrid Photo-Thermoelectric Energy Conversion

Lakshmi Prabha Chandrasekar, Pandiyarasan Veluswamy, Anshu Panbude, Pravarthana Prabhu

Presenter: Lakshmi Prabha Chandrasekar, Indian Institute of Information Technology Design and Manufacturing (IIITDM), Kancheepuram

Poster Session 3

Venue: Grand Foyer, Lower Ground Floor

Date: 4 March 2026, Wednesday

Time: 12:45pm to 1:45pm

Track 12_Nanotechnologies

EDTM26-000166

In-situ Self-oxidized Aluminum Seeding Layer for Scaled MoS₂ Top-gate FETs

Yuchen Tian, Wenzhong Bao, Haojie Chen, Jingjie Zhou, Zhengjie Sun, Xinrong Shan, Yang Liu, Yuxuan Zhu, Jiahao Wang, Yuexi Wang, Saifei Gou, Zhejia Zhang

Presenter: Zhejia Zhang, Fudan University

EDTM26-000284

Suspended MoS₂ Channels Through Controlled Etching Dynamics and Material Compatibility

Shihab Ahammed, Tin Shing Peter Ho, Narayana Thota, Kwok Ho Wong, Jinchen Wei, Mansun Chan

Presenter: Shihab Ahammed, Hong Kong University of Science and Technology

Track 13_Neuromorphic, Quantum and Disruptive Technologies

EDTM26-000530

A Reconfigurable Strong Physically Unclonable Function Enabled by Probabilistic Switching in Dual-mode Memristor

Houcheng Liu, Zongwei Wang, Lin Bao, Yabo Qin, Ling Liang, Zheng Zhou, Yimao Cai

Presenter: Houcheng Liu, Peking University

EDTM26-000532

Complementary Training of Neural Networks Using Self-Selective Memristor for Pattern Recognition

Yuchen Qiu, Gaoqi Yang, Lin Bao, Yichen Fang, Ling Liang, Zheng Zhou, Zongwei Wang, Yimao Cai

Presenter: Yuchen Qiu, Peking University