

# **2025 39th Symposium on Microelectronics Technology and Devices (SBMicro 2025)**

**Manaus, Brazil  
25-29 August 2025**



**IEEE Catalog Number: CFP25SBO-POD  
ISBN: 979-8-3315-9964-5**

**Copyright © 2025 by the Institute of Electrical and Electronics Engineers, Inc.  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP25SBO-POD
ISBN (Print-On-Demand):	979-8-3315-9964-5
ISBN (Online):	979-8-3315-9963-8
ISSN:	2832-420X

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

Session 1 - Devices Reliability I

1	<b><u>INVITED</u>: Engineering Energy Efficient Switching Devices for AI Hardware...N/A</b> Durga Misra, IEEE Fellow (New Jersey Institute of Technology)
2	<b>Single Trap Effect on the Low-Frequency Noise of Junctionless Nanowire Transistors at Different Bias Conditions...1</b> Everton Silva (Centro Universitário FEI); Renan Trevisoli (Pontifical Catholic University of São Paulo); Rodrigo Doria (Centro Universitário FEI)
3	<b>Methodology for Assessing Neutron-Induced Effects on Field-Programmable Gate Arrays...5</b> Alexis Vilas Bôas (Centro Universitário FEI); Jorge Jimenez-Sanchez (University of Seville); Francisco Rogelio Palomo (University of Seville); Marcilei Guazzelli (Centro Universitário FEI)
4	<b>Magnetotransport Response of Neutron-Irradiated Highly Oriented Pyrolytic Graphite...9</b> Lucas Santos (Centro Universitário FEI); Sueli Masunaga (University of São Paulo); Marcilei Guazzelli (Centro Universitário FEI); Eliane Chinaglia (Centro Universitário FEI)
5	<b>Evaluation of the Impact of RDF on the On-Current of a Nanowire Transistor through Quantum-Corrected Monte Carlo Simulations...13</b> Rhaycen Prates (Centro Universitário FEI); Caroline Soares (Arizona State University); Gilson Wirth (Federal University of Rio Grande do Sul); Dragica Vasileska (Arizona State University); Marcelo Pavanello (Centro Universitário FEI)

Session 2 - Advanced Device Architectures in Circuit Applications

1	<b>Simulation-Based Analysis of Maximum Deliver Power in Dickson Charge Pumps Using Diode-Mode UTBB Transistors...17</b> Ewerton da Fonte (Centro Universitário FEI); Renan Trevisoli (Pontifical Catholic University of São Paulo); Rodrigo Doria (Centro Universitário FEI)
2	<b>Performance Comparison of an OTA using Vertical Nanowire FET in Forward and Reverse Modes...21</b> Arllen Ribeiro (University of São Paulo); Vanessa Venuto (University of São Paulo); Joao Martino (University of São Paulo); Paula Agopian (São Paulo State University)
3	<b>BESOI DC MOSFET Application in Reconfigurable Logic Circuit...25</b> Adriano Nishinari (University of São Paulo); Ricardo Rangel (University of São Paulo); João Martino (University of São Paulo)

## Session 3 - Electro-Thermal Analyses

1	<b>Polysilicon heater control for fast and stable temperature-dependent measurements...N/A</b> Nicolas Gabriel Cotti (National Technological University); Lucas Liaño (National Technological University); Mariano Garcia-Inza (National Technological University); Felix Palumbo (National Technological University); Andres Kasulin (Allegro MicroSystems)
N O S H O W	
2	<b>Calibrated TCAD Simulation of SOI Nanowire MOSFET down to 82K...29</b> * João Victor da Silveira (Centro Universitário FEI); Marcelo Pavanello (Centro Universitário FEI)
3	<b>Junctionless Nanowire Transistor-Based Current Mirror in High-Temperature Applications...33</b> * André Shibutani (Centro Universitário FEI); Renan Trevisoli (Pontifical Catholic University of São Paulo); Rodrigo Doria (Centro Universitário FEI)
4	<b>Evaluation of Analog Parameters of nMOSFETs from a 180 nm Technology at Low Temperatures...37</b> * Jessé Damião (Centro Universitário FEI); Marcelo Pavanello (Centro Universitário FEI); Michelly de Souza (Centro Universitário FEI)

## Session 4 - Materials and Electrical Characterization

1	<b>INVITED: High-k and Ferroelectrics Materials in the Era of Artificial Intelligence...N/A</b> Dina Triyoso, IEEE Fellow (Tokyo Electron)
2	<b>Gate Resistance Optimization for High-Frequency Operation of Emerging SiC MOSFET Technology...41</b> Denison Ferreira Silva (University of Campinas); Joel Guerreiro (Instituto de Pesquisas Eldorado); Marcos Puydinger (University of Campinas)
3	<b>Electric characterization of rare earth doped porous silicon via electrochemical impedance spectroscopy...45</b> Aldo Gomes (Federal University of Itajubá); Danilo Huanca (Federal University of Itajubá)
4	<b>Electrical characterization of Er-doped PANI/MPS Schottky junctions for sensing naphthalene...49</b> Danilo Huanca (Federal University of Itajubá); Adhimar Oliveira (Federal University of Itajubá); Aldo Gomes (Federal University of Itajubá)
5	<b>Characterization of Specific Contact Resistivity in Commercial Bifacial Solar Cell Contact Electrodes: TLM Measurement Approach...53</b> Allan Mariano da Silveira (University of Campinas); Gabriel Teixeira Brasil (Renato Archer Information Technology Center); Wellington Romeiro de Melo (Renato Archer Information Technology Center); Vinicius Peruzzi (Renato Archer Information Technology Center); Saulo Finco (Renato Archer Information Technology Center); Leandro Tiago Manera (University of Campinas)

## Session 5 - Photonics and Optoelectronics

1	<b>X-Ray Diffraction of Infrared Quantum Bragg Mirror Detectors Structures Designed by Artificial Intelligence...57</b>
*	Jailson Santana (Federal University of Rio de Janeiro); Jose E. R. Rosero (Federal University of Rio de Janeiro); Pedro Henrique Pereira (Rio de Janeiro State University); Luciana D. Pinto (Federal University of Rio de Janeiro); Rudy M. S. Kawabata (Pontifical Catholic University of Rio de Janeiro); Guilherme M. Torelly (Pontifical Catholic University of Rio de Janeiro); Germano M. Penello (University of São Paulo); Patrícia L. Souza (Federal University of Rio de Janeiro); Mauricio P. Pires (Federal University of Rio de Janeiro)
2	<b>Ag-doped TiO<sub>2</sub>/SiO<sub>2</sub>/MPS heterostructures: a study of photocatalytic properties...61</b>
*	Elizabeth Canchari (Federal University of Itajubá); Rero Rubinger (Federal University of Itajubá); Danilo Huanca (Federal University of Itajubá); Adhimar Oliveira (Federal University of Itajubá); Aldo Gomes (Federal University of Itajubá); Samuel Amancio (Federal University of Itajubá)
3	<b>Chemical and Morphological Engineering of VOx Thin Films for a Novel G-FET Photodetector...65</b>
*	Barbara Pralon (University of Campinas); Fernando Cesar Rufino (University of Campinas); Ricardo Cotrin Teixeira (National Institute for Space Research); Dunieskys R. Gonzalez Larrude (Mackenzie Presbyterian University); José Alexandre Diniz (University of Campinas)

## Session 6 - Devices Reliability II

1 *	<b>Total Ionizing Dose (TID) Effects on Variability and Mismatch in MOSFETs with Novel Layouts...69</b> Vinicius Peruzzi (Renato Archer Information Technology Center); Gabriel Augusto da Silva (Centro Universitário FEI); Luís Eduardo Seixas Júnior (Renato Archer Information Technology Center); Wellington Romeiro de Melo (Renato Archer Information Technology Center); Saulo Finco (Renato Archer Information Technology Center); Salvador Pinillos Gimenez (Centro Universitário FEI)
2 *	<b>TID and SEE Effects on Low-Gain Avalanche Detectors: A Study of Oxide Charge Buildup and Gain Degradation...73</b> Pedro Romano (Centro Universitário FEI); Thalia Alves (Centro Universitário FEI); Marcilei Guazzelli (Centro Universitário FEI); Leandro Santos (Centro Universitário FEI); Renato Giacomini (Centro Universitário FEI)
3 *	<b>X-ray Radiation Effects on Matching Properties of of MOSFETs Implemented with Octagonal Layout Style: A Cluster-Based Statistical Approach...77</b> Vinicius Peruzzi (Renato Archer Information Technology Center); Gabriel Augusto da Silva (Centro Universitário FEI); Luís Eduardo Seixas Júnior (Renato Archer Information Technology Center); Wellington Romeiro de Melo (Renato Archer Information Technology Center); Saulo Finco (Renato Archer Information Technology Center); Salvador Pinillos Gimenez (Centro Universitário FEI)

## Session 7 - Power Devices

1	<b><u>INVITED</u>: SiC Power Semiconductors: Device Technology and Potential for Power Electronics and Energy Systems...N/A</b> Renato Minamisawa (University of Applied Sciences and Arts of Northwestern Switzerland)
2 *	<b>Characterization of the ohmic contact of NixSiy for 4H-SiC-based Schottky diode...81</b> Jacilene Medeiros (University of Campinas); Andrei Alaferdov (Instituto de Pesquisas Eldorado); Renato Massaroto (University of Campinas); Melissa Vidal (University of Campinas); Fernando Leite (Instituto de Pesquisas Eldorado); José Diniz (University of Campinas)
3 *	<b>Design considerations for 4H-SiC planar power MOSFETs...85</b> João Vicente Oliveira Cunha (Instituto Eldorado); Luis Smith Oliveira de Castro (Instituto Eldorado); Fernando Chávez Porras (Instituto Eldorado)

## Session 8 - Devices Simulation and Electrical Characterization

1	<b><u>INVITED</u>: Quantum Computing in the Future of Electro-Thermal Design...N/A</b> Adam Skorek, IEEE Life Fellow (University of Québec)
2 *	<b>Strain Engineering Investigations for Optimization of Top-Down Fabricated Silicon Nanowires...89</b> Pedro Pessoa (University of Campinas); Kung Shao Chi (University of Campinas); Marcos V. Puydinger dos Santos (University of Campinas)
3 *	<b>Experimental Evaluation of Series Resistance in 7-Levels Stacked Nanosheet Transistors...93</b> Vinicius Prates (Centro Universitário FEI); Marcelo Pavanello (Centro Universitário FEI); Mikaël Cassé (CEA-Leti); Sylvain Barraud (CEA-Leti); Michelly de Souza (Centro Universitário FEI)
4 *	<b>Effect of Write Voltage and Time on ISFET Memory Sensitivity...97</b> Henrique Carvalho (University of São Paulo); Ricardo Rangel (University of São Paulo); João Martino (University of São Paulo)
5 *	<b>Physical Insights of Dickson Charge Pumping Circuits Composed of SOI UTBB Transistors...101</b> Fernando Costa (Centro Universitário FEI); Ewerton T. Fonte (Centro Universitário FEI); Renan Trevisoli (Pontifical Catholic University of São Paulo); Rodrigo T. Doria (Centro Universitário FEI)

## Session 9 - Sensors

- |        |  |
|--------|--|
| 1<br>* | <b>Revisiting Impedance Spectroscopy: A Didactic Virtual Instrument for Modeling and Analysing Nanomaterials in Gas Sensors...105</b><br>Henrique Peres (University of São Paulo); Elisabete Galeazzo (University of São Paulo); Mauricio Lisboa (University of São Paulo); João Junior (University of São Paulo); Michel Dantas (Federal University of ABC)   |
| 2<br>* | <b>Nanographite optical device in 4H-SiC: a new strategy for skin cancer screening...109</b><br>Jacilene Medeiros (University of Campinas); Audrey Silva (University of Campinas); Melissa Vidal (University of Campinas); Rodrigo Cesar (University of Campinas); Marcos Santos (University of Campinas); Giuseppe Cirino (Federal University of São Carlos); José Diniz (University of Campinas)   |
| 3<br>* | <b>Evaluation of a Tantalum Film Capacitive Pressure Sensor on PCB with Arduino-Based Readout...113</b><br>Mariana Fraga (Mackenzie Presbyterian University); Everton Bonturim (Mackenzie Presbyterian University); Carlos Alberto Oliveira (Mackenzie Presbyterian University); Luiz Antonio Rasia (Regional University of Northwestern Rio Grande do Sul); Marcos Massi (Mackenzie Presbyterian University); Humber Furlan (São Paulo Faculty of Technology) |

## Session 10 - Fabrication Processes

- |   |   |
|---|---|
| 1 | <b>Development of a Thin Film Pressure Sensor on a Metallic Substrate...116</b>   |
| * | Jackson Veiga (NOVUS); Sabrina Nunes (Technological Institute of Semiconductors); Gustavo Silva (Technological Institute of Semiconductors); Luana Mattos (Technological Institute of Semiconductors); Samuel Maraschin (Technological Institute of Semiconductors); Celso Peter (Technological Institute of Semiconductors); Sandro Ferreira (Technological Institute of Semiconductors) |
| 2 | <b>Study of Laser Drilling and Chemical Polishing as an Alternative TSV Fabrication Route...120</b>   |
| * | Fernando Rufino (University of Campinas); Andrei Alaferdov (Instituto de Pesquisas Eldorado); Luana Carvalho Jayme Espindola (University of Campinas); Audrey Roberto Silva (University of Campinas); Fernando Idalirio de Lima Leite (Instituto de Pesquisas Eldorado); José Alexandre Diniz (University of Campinas)  |
| 3 | <b>Blade Coating as a Promising Tool for High Yield Photoresist Coating on Silicon Substrates...124</b>   |
| * | Jordelson Junior (University of Campinas); Marcos H. Mamoru Otsuka Hamanaka (University of Campinas); Marcos Puydinger dos Santos (University of Campinas)  |

## Session 11 - Solar Cells

1 *	<b>Flexible Substrates for GaAs Solar Cells: A New Approach Using PVC:PMMA:DOP with exfoliated graphene...128</b> Graciana de Sousa (Federal University of Rio de Janeiro); Luciana D. Pinto (Federal University of Rio de Janeiro); Fabiele C. Tavares (Federal University of Rio de Janeiro); Guillermo J. N. Soares (Federal University of Rio de Janeiro); Rudy M. S. Kawabata (Pontifical Catholic University of Rio de Janeiro); Rogério Valaski (Inmetro); Guilherme M. Torelly (Pontifical Catholic University of Rio de Janeiro); Maurício P. Pires (Federal University of Rio de Janeiro); Roberto Jakomin (Federal University of Rio de Janeiro); Patrícia Lustoza de Souza (Federal University of Rio de Janeiro)
2 *	<b>Production and Electrical Characterization of Al/SiOxNy/Si-p and Al/Mg/SiOxNy/Si-p Structures for Energy Harvesting Solar Cells...132</b> Marcos Watanabe (University of São Paulo); Douglas Pereira (University of São Paulo); William Shiga (University of São Paulo); Sebastião dos Santos Filho (University of São Paulo)
3 *	<b>Proposal for Novel Applications of Advanced Geometries in Solar Cells Construction...136</b> Fernando Ribeiro (Centro Universitário FEI); Salvador Gimenez (Centro Universitário FEI)
4 *	<b>Optical and Structural Characterization of Strain-Balanced InGaAs/InGaP Quantum Wells for Multijunction Solar Cells...140</b> Jéssica Lorenzi (Pontifical Catholic University of Rio de Janeiro); Daniel N. Micha (Federal Center for Technological Education Celso Suckow da Fonseca); Rudy M. S. Kawabata (Pontifical Catholic University of Rio de Janeiro); Luciana D. Pinto (Pontifical Catholic University of Rio de Janeiro); Mauricio P. Pires (Federal University of Rio de Janeiro); Patricia L. Souza (Federal University of Rio de Janeiro); Guilherme M. Torelly (Pontifical Catholic University of Rio de Janeiro)

## Poster Session 1

Chair: Renato Camargo Giacomini (Centro Universitário FEI)

1 *	<b>A 22nm CMOS Voltage-Mode PWM Controller for a DC-DC Buck Converter used in a 32-bit RISC-V Microcontroller for IoT Applications...144</b> Vinícius Sotero (Federal University of Santa Maria); Wellington Amaral (University of Brasília); Sandro Haddad (University of Brasília); Luiz Oliveira (University of Brasília); Eduardo Barcelos (Federal University of Santa Maria); Emmanuel Jonhson (Federal University of Santa Maria); Pâmela Campagnucci (University of Brasília); Luis Lima (University of Brasília)
2 *	<b>Analysis of Total Ionizing Dose Effects in Power Transistors with Different Layout Designs...149</b> Paulo Garcia Junior (Centro Universitário FEI); Alexis Cristiano Vilas Boas (Centro Universitário FEI); Renato Camargo Giacomini (Centro Universitário FEI); Nilberto Heder Medina (University of São Paulo); Luis Eduardo Seixas (Renato Archer Information Technology Center); Marcilei Aparecida Guazzelli (Centro Universitário FEI)
3 *	<b>Adding multilayer graphene to Sn-Ag-Cu solder paste for solder joints formation...153</b> Ana Silva (São Paulo Faculty of Technology); Caio Cavadas (Mackenzie Presbyterian University); Marcos Massi (Mackenzie Presbyterian University); Bruno Lima (Mackenzie Presbyterian University)
4 *	<b>Temperature influence on Operational Transconductance Amplifier Designed with Nanosheet Transistors...158</b> Thainá Pereira (University of São Paulo); Joao Martino (University of São Paulo); Paula Agopian (São Paulo State University)
5 *	<b>Investigation of Synthesis and Purification Processes in Silver Selenide Quantum Dots Using FTIR Spectroscopy...162</b> Augusto Cezar Gomes dos Santos (Institute for Advanced Studies); Gustavo Vieira (Institute for Advanced Studies); João Souza Junior (National Center for Research in Energy and Materials)
6 *	<b>Impact of Gate Current on TFET and FinFET Verilog-A model...166</b> Pedro Madeira (São Paulo State University); Paula G. D. Agopian (São Paulo State University); João A. Martino (University of São Paulo)

7 *	<p><b>Flexible Substrate Manufacturing Process Development for Wearable BLE Beacons Fabrication...170</b></p> <p>Leticia Mariano (Technological Institute of Semiconductors); Sabrina Nunes (Technological Institute of Semiconductors); Gustavo Silva (Technological Institute of Semiconductors); Vitória Zilli (Technological Institute of Semiconductors); Luíse Dalló (Technological Institute of Semiconductors); Sandro Ferreira (Technological Institute of Semiconductors); Celso Peter (Technological Institute of Semiconductors)</p>
<p>Poster Session 1 , CONT</p> <p>Chair: Renato Camargo Giacomini (Centro Universitário FEI)</p>	
8 *	<p><b>Zero Temperature Coefficient Experimental Data for Half-Diamond MOSFET under High Temperatures...174</b></p> <p>Marco Aurélio Peixoto (Federal Center for Technological Education of Rio de Janeiro); Luciano Camillo (Federal Center for Technological Education of Rio de Janeiro); Salvador Gimenez (Centro Universitário FEI)</p>
9 *	<p><b>Analysis of edge current extraction method applied to p-i-n photodetectors...178</b></p> <p>João Martins (Aeronautical Institute of Technology); Gustavo Vieira (Institute for Advanced Studies); Ovaldo Braga Filho (Institute for Advanced Studies)</p>
10 *	<p><b>Fabrication and Characterization of PBTTT-C14 Organic Thin-Film Gas Sensors via Blade Coating...182</b></p> <p>Gelson de Barros Ferreira (University of Campinas); Henrique Mariano Freitas (University of Campinas); Arthur Santos Alencar (University of São Paulo); José Enrique Eirez Izquierdo (University of Campinas); Fernando Josepetti Fonseca (University of São Paulo); Marco Roberto Cavallari (University of Campinas)</p>

## Poster Session 2

Chair: Salvador Pinillos Gimenez (Centro Universitário FEI)

1 *	<b>Energy consumption and sustainability of digital activities calling improvement of microelectronics technologies and human skills...186</b> Olivier Bonnaud (GIP-CNFM and University of Rennes)
2 *	<b>Influence of Drain Voltage as a Function of Spatial Charges on NBTI for Junctionless Nanowire Transistors...191</b> Nilton Graziano Junior (São Paulo State University); Rodrigo Doria (Centro Universitário FEI); Renan Trevisoli (Pontifical Catholic University of São Paulo); Eduardo Canga Panzo (São Paulo State University); Maria Glória Caño de Andrade (São Paulo State University)
3 *	<b>The high temperature impact on Operational Transconductance Amplifier designed with Forksheet experimental data...195</b> Julius Paula (University of São Paulo); Joao Martino (University of São Paulo); Paula Agopian (São Paulo State University)
4 *	<b>Evaluation of Threshold Voltage Variability in Inversion-Mode Nanowire Transistors at High Temperatures through Numerical Simulations...199</b> Lucas Mota Barbosa da Silva (Centro Universitário FEI); Michelly de Souza (Centro Universitário FEI)
5 *	<b>Concentration and Diversity in Collaboration Networks in Microelectronics: A Study on CNPq Productivity Fellows...203</b> Fernando do Carmo (State University of Maranhão); Gustavo Silva (State University of Maranhão); Antonio F. L. Jacob Jr (State University of Maranhão); Fábio M. F. Lobato (Federal University of Western Pará)
6 *	<b>Analytical Modeling and Performance Limits of Sample-Hold Circuits in Sigma-Delta ADCs for Space Applications...207</b> Rafael O. Nunes (Renato Archer Information Technology Center); A. C. C. Telles (Renato Archer Information Technology Center); M. C. Carlos (Renato Archer Information Technology Center); W. R. Melo (Renato Archer Information Technology Center); S. Finco (Renato Archer Information Technology Center); L. E. Seixas Jr. (Renato Archer Information Technology Center)
7 *	<b>Influence of gate oxide and silicon sheet thicknesses on Forksheet electrical parameters from 25 to 150°C...211</b> Diogo Vaccaro (University of São Paulo); Joao Martino (University of São Paulo)
8 *	<b>3D Printing Capacitive Pressure Sensor...215</b> Marcelo Andrade Fontes (São Paulo Faculty of Technology); Thiago Ricardo Braga Silva (São Paulo Faculty of Technology); Ana Neilde Rodrigues da Silva (São Paulo Faculty of Technology); Francisco Tadeu Degasperri (São Paulo Faculty of Technology)

## Poster Session 2 , CONT

Chair: Salvador Pinillos Gimenez (Centro Universitário FEI)

9	<b>SiC surface passivation with ICP plasma at room temperature...218</b>
*	Rodrigo Cesar (Center for Semiconductor Components and Nanotechnologies); Melissa Mederos (Center for Semiconductor Components and Nanotechnologies); Audrey Silva (University of Campinas); Renato Minamisawa (University of Applied Sciences and Arts Northwestern Switzerland); Marcos Puydinger (University of Campinas); José Diniz (University of Campinas)
10	<b>Leakage current in SiC MOS capacitors with PECVD SiO<sub>2</sub> passivation...223</b>
*	Rodrigo Cesar (Assembly, Packaging and Systems Integration Division - DIMES); Melissa Mederos (Center for Semiconductor Components and Nanotechnologies); Frederico Cioldin (Center for Semiconductor Components and Nanotechnologies); Giuliano Maiolini (Renato Archer Information Technology Center); Renato Minamisawa (School of Engineering Northwestern Switzerland); Marcos Puydinger (University of Campinas); José Alexandre Diniz (University of Campinas)

## Tutorials

**SBMicro 2025 - 2025 EDS Brazil Mini-colloquium**

Session Chair: Sandro Binsfeld Ferreira

- |          |  |
|----------|--|
| <b>1</b> | <b>"Quantum Digital Twins and Electronic Devices" ...N/A</b><br><b>Prof. Adam W. Skorek</b><br>University of Québec at Trois-Rivières, Québec, Canada  |
| <b>2</b> | <b>"Evolution of Dielectrics from Field Effect Transistors to Nano-Systems" ...N/A</b><br><b>Durga Misra</b><br>Department of Electrical and Computer Engineering, New Jersey Institute of Technology, Newark, NJ, USA                                     |
| <b>3</b> | <b>"Flexible Electronics: Disruptive on Ladder Up, Elevator Down and Moving-Walkway Sideways" ...N/A</b><br><b>Paul R. Berger</b><br>Ohio State University; Tampere University, Columbus, Ohio USA & Tampere, Finland                                      |
| <b>4</b> | <b>"Celebrating 100 Years of FETs: The Journey of High-k Materials from Research to High Volume Manufacturing – an Industry Perspective" ...N/A</b><br><b>Dr. Dina Triyoso</b><br>Senior Member of Technical Staff at TEL Technology Center, America, LLC. |

## Panel - SBMicro 2025

- 1 "Trends and Challenges on Micro and Nanoelectronics"...N/A**  
**Moderator:** Ricardo Reis, UFRGS, Brazil  
  
Panelists:  
Dina Triyoso, TEL Technology Center, USA  
Olivier Bonnaud, Univeristy of Rennes, France  
Bei Yu, The Chinese University of Hong Kong  
Sergio Bampi, UFRGS, Brazil
  
- 2 "Estratégias para o Desenvolvimento Microeletrônica no Brasil"...N/A**  
**Moderator:** Fernanda Kastensmidt, UFRGS, Brazil  
  
Panelists:  
Alessandro Campo, MCTI  
Rosana Casais, ABISEMI  
Éric Fabris, CEITEC  
João Martino, SBMICRO  
Claudio Diniz, CECCI/SBC  
Linnyer Aylon, UEM

Keynotes - SBMicro 2025

1	<p><b>“Trustworthy AI: The role of the Hardware”...N/A</b>  <b>Alberto Bosio</b>                  Full Professor, Ecole Centrale de Lyon, Institute of Nanotechnology, France</p>
2	<p><b>“Reliability Challenges of Emerging MOSFET Devices”...N/A</b>  <b>Adrian Vaisman Chasin</b>                  Principal Member of Technical Staff at imec, Leuven, Belgium</p>
3	<p><b>“Machine Learning in EDA: When and How ”...N/A</b>  <b>Bei Yu</b>                  Associate Professor at the Department of Computer Science and Engineering, The Chinese University of Hong Kong</p>
4	<p><b>“Semiconductor Business in Latin America – From Latin America to the World”...N/A</b>  <b>Victor Grimblatt</b>                  R&amp;D Engineering, Executive Director and General Manager, Latin America Executive Sponsor, Synopsys, Chile</p>
5	<p><b>“ In-Memory Intelligence: Redefining AI Hardware”...N/A</b>  <b>Kaushik Roy</b>                  Edward G. Tiedemann, Jr. Distinguished Professor of Electrical and Computer Engineering, Purdue University, USA</p>
6	<p><b>“Manna and the next generation in semiconductor talents”...N/A</b>  <b>Linnyer Ruiz</b>                  Associate Professor, Department of Informatics, State University of Maringá, Brazil</p>

## Invited Papers - SBMicro 2025

<b>1</b>	<b><u>INVITED:</u> Engineering Energy Efficient Switching Devices for AI Hardware...N/A</b> Durga Misra, IEEE Fellow (New Jersey Institute of Technology)
<b>2</b>	<b><u>INVITED:</u> High-k and Ferroelectrics Materials in the Era of Artificial Intelligence...N/A</b> Dina Triyoso, IEEE Fellow (Tokyo Electron)
<b>3</b>	<b><u>INVITED:</u> SiC Power Semiconductors: Device Technology and Potential for Power Electronics and Energy Systems...N/A</b> Renato Minamisawa (University of Applied Sciences and Arts of Northwestern Switzerland)
<b>4</b>	<b><u>INVITED:</u> Quantum Computing in the Future of Electro-Thermal Design...N/A</b> Adam Skorek, IEEE Life Fellow (University of Québec)