

Applied Materials Ginestra integrates advanced physics knowledge to manage the complexity of new architectures. The Ginestra team has published more than 350 papers and presentations.

Year	Title
2022	Atomic Defects Profiling and Reliability of Amorphous Al₂O₃ Metal-Insulator-Metal Stacks
2022	Towards hole-spin qubits in Si pMOSFETs within a planar CMOS foundry technology
2022	Investigating Defects in the High-k/Ingaas System at Cryogenic Temperature.
2022	Variability and disturb sources in ferroelectric 3D NANDs and comparison to Charge-Trap equivalents
2022	Electron-assisted switching in FeFETs: Memory window dynamics–retention–trapping mechanisms and correlation
2022	Reliability of Non-Volatile Memory Devices for Neuromorphic Applications: A Modeling Perspective
2022	Investigation of Coercive Field Shift During Cycling in HfZrO_x Ferroelectric Capacitors
2022	The electrons' journey in thick metal oxides
2021	Pulse optimization and device engineering of 3D charge-trap flash for synaptic operation
2021	Dielectric breakdown in HfO₂ dielectrics: Using multiscale modeling to identify the critical physical processes involved in oxide degradation
2021	Pulse Optimization and Device Engineering of Charge Trap Flash for Synaptic Operation
2021	Decoupling the Sequence of Dielectric Breakdown with Single Device Bilayer Stack by Radiation Dosage Design of Experiments
2020	Extraction of Defects Properties in Dielectric Materials From IV Curve Hysteresis
2020	Variability sources and reliability of 3D—FeFETs
2020	Extraction of Defects Properties in Dielectric Materials From IV Curve Hysteresis
2020	Engineering Atom Scale Defects in Materials for Future Electronic Devices
2020	Analysis and Simulation of Interface Quality and Defect Induced Variability in MgO Spin-Transfer Torque Magnetic RAMs
2020	Effect of electric field on defect generation and migration in HfO₂
2020	Memory technology—a primer for material scientists
2020	Multiscale modeling of CeO₂/La₂ O₃ stacks for material/defect characterization
2020	Multiscale Modeling of Atom Scale Defects for Electronic Devices Engineering
2019	Hot electrons as the dominant source of degradation for sub-5nm HZO FeFETs
2019	Demonstration and Endurance Improvement of p-channel Hafnia-based Ferroelectric Field Effect Transistors
2019	Properties of intrinsic point defects and dimers in hexagonal boron nitride
2019	Understanding the Impact of Annealing on Interface and Border Traps in the Cr/HfO₂/Al₂O₃/MoS₂ System
2019	Boron vacancies causing breakdown in 2D layered hexagonal boron nitride dielectrics
2019	Role of Defects in the Reliability of HfO₂/Si-Based Spacer Dielectric Stacks for Local Interconnects
2019	Spatio-Temporal Defect Generation Process in Irradiated HfO₂ MOS Stacks: Correlated Versus Uncorrelated Mechanisms
2019	Understanding and variability of lateral charge migration in 3D CT-NAND flash with and without band-gap engineered barriers
2019	A Sensitivity Map-Based Approach to Profile Defects in MIM Capacitors From I–V , C –V , and G–V Measurements
2019	Investigation of I-V Linearity in TaO_x-Based RRAM Devices for Neuromorphic Applications
2019	Multiscale modeling for application-oriented optimization of resistive random-access memory