



First RESIST Workshop AGENDA

Cross-Layer Reliability Assessment of Electronic Systems – RESIST

Faculty of Electronic Engineering, University of Niš,
Niš, Serbia

5-7 May 2025

Monday, 5.5.2025.

Faculty of Electronic Engineering Niš, room 457 (Aleksandra Medvedeva 4, Niš)	
9.45-10.00	The welcome reception at the Dean's Office of the Faculty of Electronic Engineering Niš
10.00-10.15	Introduction to the First RESIST Workshop Danijel Danković, Miloš Marjanović, Biljana Stošić, Vladimir Ćirić
10.15-10.30	Lifecycle Management of Emerging Memories: Why and How? Leticia Bolzani Poehls
10.30-10.45	Phase Control Loops in Analog and Digital Circuits Darko Mitić
10.45-11.00	<i>Coffee break</i>
11.00-11.15	Characterization of Single Event Transients in Standard Combinational Cells Marko Andjelković
11.15-11.30	SPICE Modeling of MOSFETs for Reliability Parameter Analysis Considering NBTI, Radiation, and Self-Heating Effects Miloš Marjanović
11.30-11.45	Applying Machine Learning to Improve System Reliability Tatjana Nikolić
11.45-13.00	<i>Lunch</i>
13.00-13.15	Dependable RISC-V Systems at IHP Markus Ulbricht
13.15-13.30	Enhancing Sensor Reliability Through Linearization Using Two-Stage Piecewise Linear ADC Jelena Jovanović
13.30-13.45	Predictive Maintenance: A Powerful Tool for Enhancing the Reliability of Industrial Systems Milan Dinčić
13.45-14.00	Radiation Effects on Analog and Radio Circuits Goran Panić

Tuesday, 6.5.2025.

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9.30-9.45	On-Chip Sensor to Monitor Aging Evolution in FinFET-Based Memories Fabian Vargas
9.45-10.00	Accuracy and Reliability Analysis of Software Supported Method for Testing the Electrical Power Quality Meters Milan Simić
10.00-10.15	Reliable Deployment of Neural Networks for Position Estimation on Microcontrollers Vladimir Sibinović
10.15-10.30	<i>Coffee break</i>
10.30-10.45	HfO₂-Based RRAM Technology as a Candidate for In-Memory Computing in Harsh Radiation and Ultra-Low-Temperature Environments Emilio Perez Bosch Quesada
10.45-11.00	Reliability Characterization of n-channel VDMOSFET on Elevated Temperatures Sanja Aleksić, Dragan Pantić, Neda Branković, Aleksandar Pantić, Adriana Petković
11.00-11.15	Development of Gas Burner Controller According to Industrial Safety Standards Dragan Živanović
11.15-11.30	Kinematic Parameter Calibration of Quadruped Robots Vladimir Mitić
11.30-12.00	<i>Coffee break</i>

Erasmus+ Project PEMS-ML Round Table

University of Niš (Univerzitetski trg 2, Niš)

12.00-13.20	Presentation of the ERASMUS+ Project
13.20-13.40	<i>Coffee break</i>
13.40-15.00	Round Table
15.00-15.45	<i>Cocktail - Lunch</i>
15.45-16.45	Research presentations of the partners

Tuesday, 6.5.2025.

Reliability Experts Forum (5-min Power Point presentations and 45-min of discussion)

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12.00-12.05	Reliability Testing of Low-Impedance Aluminum Electrolytic Capacitors Vojkan Davidović, Lana Tasić
12.05-12.10	Recovery Behavior of VDMOS Transistors under Sequential Irradiation and NBT Stress Snežana Djorić-Veljković, Emilija Živanović, Vojkan Davidović, Sandra Veljković, Nikola Mitrović, Goran Ristić, Albena Paskaleva, Dencho Spassov, and Danijel Danković
12.10-12.15	Utilizing Logical Implications for Verifying Accuracy of Exponentiation Functions in Embedded Systems through XOR Operation Jelena Nedeljković
12.15-12.20	Thermal Operating Conditions Aspects of the TEG-microporous Ceramic Heatsink Assemblies within the Energy Harvesting Systems Aleksandra Stojković
12.20-12.25	Reliability Assessment of a Novel Photoacoustic Method for Material Characterization Neda Branković, Dragana Markushev, Dragan Pantić, Sanja Aleksić, Dragan Markushev, Aleksandar Pantić
12.25-12.30	Reliability of Gas-filled Surge Arresters Subjected to the Gamma Radiation Emilija Živanović, Sandra Veljković
12.30-12.35	Application of Filters in Vehicle Detectors Based on Magnetic Field Sensors Milan Stojanović
12.35-12.40	Influence of Magnetic Field on Commercial P-Channel VDMOSFETs Nikola Mitrović, Sandra Veljković, Miloš Marjanović, Emilija Živanović, Vojkan Davidović, Goran Ristić, Danijel Danković
12.40-12.45	A new approach to fast estimation of EM wave penetration in soil based on ANN Ksenija Mladenović, Zoran Stanković, Olivera Pronić Rančić, Nebojša Dončov
12.45-13.30	Poster Session

Wednesday, 7.5.2025.

Faculty of Electronic Engineering Niš, room 457 (Aleksandra Medvedeva 4, Niš)

9.00-10.00	Visit to the laboratories at the Faculty of Electronic Engineering Niš
10.15-11.00	Tour of the Science and Technology Park Niš
11.00-11.15	<i>Coffee break</i>
11.15-11.30	How Can We Bring Efficient and Reliable AI to Resource-Constrained Edge Platforms? Jelena Nikolić
11.30-13.00	Reliability Experts Forum (see next page)
13.00-14.00	<i>Lunch (self-paid by the participants)</i>
14.00-16.00	Discussion on future joint collaboration (preparation of new project proposals)
20.00-22.00	<i>Dinner</i>

Wednesday, 7.5.2025.

Reliability Experts Forum (5-min Power Point presentations and 45-min of discussion)

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11.30-11.35	New Classes of the Orthogonal Polynomials/Filters Saša S. Nikolić
11.35-11.40	Adaptive Cascade Orthogonal Filters based on a Special Inner Product Nikola Danković
11.40-11.45	Is Reliability of Electronic Components Understandable to High School Students? A Workshop-Based Insight from the RESIST Project Sandra Veljković, Nikola Mitrović, Miloš Marjanović, Emilija Živanović, Vojkan Davidović, Goran Ristić, Danijel Danković
11.45-11.50	Experimental Procedure for Investigation of NBTI and SH Effects on Power VDMOS Transistors Marija Petrović, Emilija Živanović, Danijel Danković
11.50-11.55	Automated Calculation Method of t_{rise} and t_{fall} Times for MOSFET Characterization Nevena Veselinović, Nikola Mitrović, Danijel Danković
11.55-12.00	Investigation of the Self-Heating Effect in a P-Channel VDMOS Transistor under Dynamic Stress Conditions Dunja Đorđević, Sandra Veljković, Goran Ristić
12.00-12.05	Compact SPICE Model for Self-Heating Estimation in Power p-Channel VDMOS Transistors Lana Tasić, Miloš Marjanović, Vojkan Davidović
12.05-12.10	Mechatronics and Control Theory Anđela Jovanović
12.10-12.15	Implementation of Hybrid Boundary Element Method for Permanent Magnet Assembly Modeling Ana Vučković
12.15-13.00	Poster Session
