

2022 Radiation Damage of Electronics Review

Drs. Kenneth Goretta, Michael Yakes; Art Edwards | September 20-21, 2022 | VA - hybrid

Agenda Day 1 | September 20, 2022

MURI Kickoff

Time	Topic	Speaker
8:30-9:00	Check-in / Zoom Login	
9:00-9:10	Welcome Remark by AFOSR/AFRL	
9:10-9:40	Multi-Scale Simulations of Radiation-Induced Defects in AlGaN/GaN Systems (Ab Initio Study of Radiation Induced Defects in GaN)	Rongming Chu
10:20-10:40	BREAK	
10:40-11:10	Characterizing Structure and Chemistry of Radiation-Induced Defects in GaN Using Electron and Atom Probe Microscopy	Xing Wang
11:10-11:40	Characterizing Radiation-Induced Defects Using X-Ray Total Scattering Methods	Reeja Jayan
11:40-13:30	LUNCH	
13:30-14:00	Magnetic Resonance Tools to Study Radiation Damage in GaN Devices	Pat Lenahan
14:00-14:30	Identifying the Spin Character of Radiation-Induced Defects via Magnetic Field Effects on Electronic Transport	Michael Flatte
14:30-15:00	TBD	Tania Roy
15:00-15:30	Questions & Answers & Comments	
15:30	MEETING ADJOURN	

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Agenda Day 2 | September 21, 2022

Radiation Effects Center of Excellence Review

Time	Topic	Speaker
8:30	Check-in / Zoom Login	
9:00	Welcome and Overview of Air Force Engagement in COE	Art Edwards
9:10	COE Overview and Introduction	Ron Schrimpf
9:30	Rad Effects in WBG Semiconductors	Dan Fleetwood
10:10	Radiation-induced defect dynamics in wide-gap semiconductors	Sok Pantelides
10:30	BREAK	
10:50	Diffusion of point defects in Ga ₂ O ₃	Chris Van de Walle
11:10	Monte Carlo simulation of high-energy (~100 eV) electron relaxation in GaN	Max Fischetti
11:30	Progress in beta-gallium oxide and GaN test structures for radiation effects	Jim Speck and Esmat Farzana
11:50	LUNCH	
1:15	Progress on Trap Characterization for Radiation Studies	Steve Ringel and Aaron Arehart
1:35	Radiation Testing Capabilities and Radiation Effects on 3D NAND Flash Cells	Enxia Zhang
1:50	Effects of Geometry and Cycling on the Radiation Response of Charge-Trapping NAND Memory Devices with SiON Tunneling Oxide	Isabella Wynocker
2:05	Radiation Effects in Photonic Integrated Circuits	Robert Reed
2:25	Fault injection emulation in a radiation hardened microcontroller	Stefania Esquer
2:40	Discussion and Wrap-up	
	MEETING ADJOURN	