Novel High-k Application Workshop — June 11th, 2019

	Time	Presenter	Institute	Title of Presentation
	9:00	T. Mikolajick/U. Schroeder	Namlab	Welcome
		GaN Devices	*chair: U. Schroeder*	
1	9:15	I. Mitrovic	University of Liverpool, UK	Band line-up of high-k oxides on GaN
2	9:35	A. Kurek	Oxford Instruments, UK	Atomic Scale Processing for GaN Devices
3	9:55	N. Bickel	FBH, Berlin, D	Thermal and Plasma ALD Al_2O_3 Gate Insulator for GaN Electronic Devices Characterized by CV-Stress Measurements
4	10:15	S. Seidel	TUBA Freiberg, D	GdScO3 as epitaxial grown dielectric for MISHEMTs
5	10:35	A. Calzolaro	Namlab Dresden, D	ALD Al_2O_3 dielectrics for AlGaN/GaN MIS HEMT gate modules
		Coffee break: 10:55 - 11:30h		
		Novel Devices	*chair: T. Mikolajick*	
6	11:30	M. Knaut	TU Dresden, IHM, D	TSVFET - Functionalization of Through Silicon VIAs by the Integration of a Field-Effect Transistor
7	11:50	M. Lammel	IFW, Dresden, D	Ferromagnetic insulators for future spintronic devices
8	12:10	T. Mauersberger	Namlab Dresden, D	The role of dielectric mismatch in nanowire based devices
9	12:30	M. Czernohorsky	Fraunhofer IPMS-CNT, Dresden, D	High-density energy storage in Si-doped hafnium oxide thin films on area-enhanced substrates
10	12:50	H. Winterfeld	Univ. Kiel, D	MISFET based piezo-stress sensor with AlN gate dielectric
		Lunch - MPI PKS: 13:10 - 14:15h		
		RRAM	chair: S. Slesazeck	
11	14:15	M. Ziegler	TU Ilmenau, D	Memristive Devices for On-Chip Learning in Neural Networks
12	14:35	L. Alff	Univ. Darmstadt, D	Oxygen engineered HfO_x-based memristive devices
13	14:55	C. Wenger	IHP Frankfurt/Oder, D	Towards neuromorphic computing: Inherent stochastic learning in memristive HfO_2 arrays
14	15:15	U. Böttger	RWTH Aachen, D	Resistive Switching in VCM cells
15	15:35	M. Herzig	Namlab Dresden, D	Sub-microscaled NbO_x-based threshold switches as selector devices
		Coffee break: 15:55 - 16:30h		
		Solar	*chair: M. Grube*	
16	16:30	M. Godlewski	Acad. of Sc. Warsaw, PL	ALD for new generations of solar cells
17	16:50	D. Spoltore	IAPP, Dresden, D	Intermolecular Charge-Transfer states for Organic Opto-electronics
18	17:10	C. Strobel	TU Dresden, IHM, D	Comparison of amorphous silicon deposition methods for a-Si / c-Si heterojunction solar cells
19	17:30	D. Troeger	Namlab Dresden, D	Towards Full Area Passivating Contacts for enhanced PERC Solar Cell Concepts
	17:50	End		
	19:30	Workshop Dinner	Pullman Hotel	sponsored by Oxford Instruments

Novel High-k Application Workshop — June 12th, 2019

		FeCap	*chair: U. Schroeder*	
1	9:00	P. Nukala	Univ. of Groningen/Netherlands	Ferroelectricity through nanoscopic confinement effects in epitaxially grown HfO_2-ZrO_2 thin-films
2	9:20	L. Grenouillet	LETI/France	Investigation of HfO_2:Si ferroelectric properties by 2 different techniques : ALD vs Si ion implantion
3	9:40	B. Vilquin	Univ. Lyon/France	Huge working pressure effect on the ferroelectric properties of RF sputtered hafnia/zirconia layers
4	10:00	F. Berg	RWTH Aachen/Germany	Influence of process parameters on the ferroelectric properties of sputtered hafnium oxide
5	10:20	A. Dimoulas	Demokritos Athens/Greece	High remanent polarization ferroelectric $Hf_{1-x}Zr_xO_2$ on Ge substrates by plasma enhanced atomic oxygen deposition
			Coffee break: 10:40 - 11:10h	
		FeFET/NCFET	chair: S. Slesazeck	
7	11:10	M. Mennenga	FMC/Dresden	Recent characterization results for HfO_2 based FeFETs on 28 nm HKMG technology
8	11:30	H. Mulaosmanovic	Namlab Dresden/Germany	Switching kinetics in ferroelectric HfO_2 for memory applications and unconventional computing
9	11:50	M. Lederer	IPMS-CNT, Dresden/Germany	FeFET Realibility
10	12:10	H.W. Park	Seoul National Univ./Korea	Negative capacitance in ferroelectric thin film from phase field model approach
11	12:30	M. Hoffmann	Namlab Dresden/Germany	Negative capacitance effects in ferroelectric HfO_2
			Lunch break: 12:50 - 14:00h	
		FTJ/FeCap		
13	14:00	Y. Wei	Univ. of Groningen/Netherlands	Multiferroic tunnel junctions based on ferroelectric $Hf_{0.5}Zr_{0.5}O_2$ barriers
12	14:20	N. Ronchi	IMEC, Leuven/Belgium	Recent development on 3D FeFET
13	14:40	A. Toriumi	University of Tokyo/Japan	Impact of quenching in post deposition anneals on ferroelectric HfO_2
14	15:00	F. Mehmood	Namlab Dresden/Germany	Reliability Characterization of Lanthanum Doped Hafnium Zirconium Oxide based Ferroelectric Capacitors
15	15:20	M. Falkowski	UAS Munich/ Germany	Nucleation model for ferroelectric HZO using first principles data
			Coffee break: 15:40 - 16:00h	
		Characterization		
16	16:00	J. I. Flege	BTU Cottbus, Germany	In situ real-time studies of rare-earth oxide growth, structure, and chemistry with low-energy electron microscopy
17	16:20	A. Gruverman	Lincoln, Nebraska/USA	Domain kinetics and imprint phenomena in HfO_2-based capacitors
18	16:40	I. Stolichnov	EPF Lausanne/Switzerland	Genuinely Ferroelectric Sub-1-Volt-Switchable Nanodomains in $Hf_xZr_{(1-x)}O_2$ Ultrathin Capacitors
19	17:00	A. Zenkevich	MIPT, Moscow/Russia	Measurements of electric potential distribution across nanoscale ferroelectric HfO_2 capacitors by HAXPES
20	17:20	N. Barrett	CEA-Saclay, Paris/France	Non-destructive XPS study of the TiN/$Hf_{0.5}Zr_{0.5}O_2$ interface
21	17:40	M. Mueller	FZ Juelich/Germany	Impact of oxygen content on ferroelectric properties
	18:00	End		

Poster session: June 12th during coffee breaks

1	L. Pintilie	NIMP/ Romania	Structural and electrical characterization of HZO-based structures
2	C. Gastaldi	EPF Lausanne/Switzerland	Negative capacitance in HZO-based heterostructures: insight from pulse switching and PFM nanoscale imaging
3	T. Szyjka	FZ Juelich/Germany	HAXPES Study of Oxygen Vacancies in HfO2-based Ferroelectric Capacitors