



Basic Research Innovation and Collaboration Center (BRICC)
4075 Wilson Blvd., Suite 350 | Liberty Room
Arlington, VA 22203

Agenda Day 1 | July 11, 2017

Time	Title	Speaker
8:00	Registration	
8:30	Welcome	
8:50	Transport studies for disordered ionic metal-oxide semiconductor thin films	Mike Schuette (Sensors Dir./AFRL)
9:10	Growth and characterization of transition metal nitrides for electronics and sensing	John Cetnar (Sensors Dir./AFRL) / Amber Reed (Materials & Manufacturing Dir./AFRL)
9:30	Physics of failure and radiation effects in emerging electronic materials and devices in space applications	Ron Schrimpf (Vanderbilt U.)
9:50	Atomic layer epitaxy oxide for GaN MOSHFETs	Peide Ye (Purdue U.)
10:10	BREAK	
10:30	GaN based devices for RF applications	Srabanti Chowdhury (U. California Davis)
10:50	Title TBD	Marco Saraniti (Arizona State U.)
11:10	Title TBD	Can Bayram (U. Illinois Urbana-Champaign)
11:30	Phonon engineering to tailor heat transport	Mike Stroscio / Mitra Dutta (U. Illinois Chicago)
11:50	LUNCH	
12:55	Title TBD	Hadis Morkoc (Virginia Commonwealth U.)
13:15	Local moment counter charge DFT predictions for pressure effects on defect levels in GaN and AlN	Art Edwards (Space Vehicles Dir./AFRL)
13:35	Light-mass-atom semiconductor materials and devices	Grace Xing / DJ Jena (Cornell U.)
13:55	Title TBD	Shin Mou / Kent Averett (Materials & Manufacturing Dir./AFRL)

14:15	2-D materials Basic Research Initiative talk 1	Pulickel Ajayan (Rice U.)
14:35	2-D materials Basic Research Initiative talk 2	TBD
14:55	BREAK	
15:15	Electronic and spintronic properties of 2D materials and vdW heterostructures	Berry Jonker (NRL)
15:35	Fundamental properties of phosphorene and its device applications (2-D EFRI program)	Peter Ye (Purdue U.)
15:55	2D/CMOS integration (2-D EFRI program)	Jim Hwang (Lehigh U.)
16:15	Development of CVD methods for 2D materials and heterostructures	Mike Snure (Sensors Dir./AFRL)
16:35	Electronic and opto-electronic properties of binary and elemental 2D layered materials and their device applications	Anupama Kaul (U. Texas El Paso)
16:55	ADJOURN	



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Agenda Day 2 | July 12, 2017

Time	Title	Speaker
8:00	Registration	
8:20	Contacts to 2-D materials	Manish Chhowalla (Rutgers U.)
8:40	2D transistors at their limit	Saptarshi Das (Penn State U.)
9:00	2D/GaN heterojunction bipolar transistors	Siddharth Rajan (Ohio State U.)
9:20	Tailoring of opto-electronic properties of 2D semiconductors via defect engineering	Emilie Ringe (Rice U.)
9:40	Title TBD	Sayeef Salahuddin (U. California Berkeley)
10:00	Title TBD	Chang-Beom Eom (Wisconsin U.)
10:20	BREAK	
10:40	Towards high-mobility perovskites	Jayakanth Ravichandran (U. Southern California)
11:00	Ultrafast dynamics in vanadium oxides	Oleg Shpyrko (U. California San Diego)
11:20	Doping and dynamics in correlated oxides	Shriram Ramanathan (Purdue U.)
11:40	Phase transitions in iridate-based complex oxide heterostructures	Yuri Suzuki (Stanford U.)
12:00	LUNCH	
13:10	Band engineered oxides with ultra-high density electron gas	Bharat Jalan (U. Minnesota)
13:30	Title TBD	Darrell Schlom (Cornell U.)
13:50	Inversion symmetry breaking for orbital polarization	Charles Ahn (Yale U.)
14:10	Quantum-engineered interband cascade structures and their device applications	Rui Yang (U. Oklahoma)
14:30	Modulation-doped heterovalent structures for high-speed electronic devices	Yong Zhang (Arizona State U.)

14:50	BREAK	
15:10	Title TBD	Xiaoxing Xi (Temple U.)
15:30	Modelling, understanding and controlling properties of ferroelectric and multiferroic materials	Laurent Bellaiche (U. Arkansas)
15:50	Magneto-electric heterostructures and nanocomposites for reconfigurable electronics	Dwight Viehland (Virginia Tech)
16:10	Title TBD	Brandon Howe (Materials & Manufacturing Dir./AFRL)
16:30	Title TBD	Mike McConney (Materials & Manufacturing Dir./AFRL)
16:50	ADJOURN	



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Agenda Day 3 | July 13, 2017

Time	Title	Speaker
8:00	Registration	
8:20	Nanoscopy of black phosphorus/nano-spectroscopy and nano-imaging of low dimensional materials from visible to THz frequencies	Yohannes Abate (Georgia State U.)
8:40	All-electrical characterization of black phosphorus resistance anisotropy, and switching transients	Matthew Grayson (Northwestern U.)
9:00	Title TBD	Xuejun Lu (U. Mass Lowell)
9:20	High dynamic range RF frontend on photonic chip	Yifei Li (U. Mass Dartmouth)
9:40	THz modulation of transistor and laser via intra-cavity photon-assisted tunneling	Milton Feng (U. Illinois Urbana-Champaign)
10:00	BREAK	
10:20	0.56-THz frequency synthesizer SOC on CMOS technology	Yan Zhao (U. California Los Angeles)
10:40	Hybrid graphene/semiconductor technology for terahertz communications	Josep Jornet (U. at Buffalo)
11:00	Title TBD	Arturo Ayon (U. Texas San Antonio)
11:20	Title TBD	Mayer Landau (Space Vehicles Dir./AFRL)
11:40	Wrap up	
11:50	ADJOURN	