

Sunday Afternoon, January 13, 2019

Room: Ballroom South	
3:00pm	INVITED: PCSI-SuA1 Chiraltronics: chiral domain wall and anti-skyrmion data storage elements for high performance Racetrack Memories, <i>Stuart Parkin</i> , Max Planck Institute, Germany
3:05pm	Invited talk continues.
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3:40pm	INVITED: PCSI-SuA9 Neuromorphic Architectures for Smart Sensing Applications—Lessons from the Insect Brain, <i>Angel Yanguas-Gil</i> , Argonne National Laboratory
3:45pm	Invited talk continues.
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4:20pm	PCSI-SuA17 Panel Discussion
4:25pm	Panel discussion continues.
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5:00pm	Poster Setup (Room: Ballroom North)
6:00pm	Welcome Reception (Room: La Terraza)

PCSI-SuA - The Future of Computing
Moderator: Christopher Palmstrøm, University of California, Santa Barbara

Sunday Evening, January 13, 2019

Room: Ballroom South	
7:30pm	INVITED: PCSI-SuE1 Understanding the Kinetics of III-V Semiconductor Nanowire Growth using <i>in-situ</i> TEM, <i>C. Maliakkal, D. Jacobsson, M. Tornberg, A. Persson, J. Johansson, R. Wallenberg, Kimberly Thelander</i> , Lund University, Sweden
7:35pm	Invited talk continues.
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8:00pm	PCSI-SuE7 <i>In situ</i> Studies of Surface Morphological Evolution During Indium Nitride Growth by Atomic Layer Epitaxy, <i>Charles R. Eddy, Jr., N. Nepal</i> , U.S. Naval Research Laboratory; <i>S. Rosenberg</i> , American Association for Engineering Education; <i>V. Anderson</i> , Sotera Defense Solutions; <i>J. Woodward</i> , American Society for Engineering Education; <i>C. Wagenbach</i> , Boston University; <i>A.C. Kozen</i> , American Society for Engineering Education; <i>Z. Robinson</i> , College at Brockport SUNY; <i>L. Nyakiti</i> , Texas A&M University; <i>S. Qadri</i> , U.S. Naval Research Laboratory; <i>M. Mehl</i> , U.S. Naval Academy; <i>K. Ludwig</i> , Boston University; <i>J. Hite</i> , U.S. Naval Research Laboratory
8:05pm	PCSI-SuE8 Growth Strategies for Modifying Heterovalent Interfaces, <i>Kirstin Alberi, K. Park</i> , National Renewable Energy Laboratory
8:10pm	PCSI-SuE9 InAs QD Formation on GaAs(110) by Bi-surfactants, <i>W. Martyanov</i> , Technische Universität Berlin, Germany; <i>R. Lewis</i> , Paul-Drude-Institut für Festkörperelektronik, Germany; <i>H. Janssen, P. Farin, R. Zielinski, C. Schulze, A. Lenz</i> , Technische Universität Berlin, Germany; <i>L. Geelhaar</i> , Paul-Drude-Institut für Festkörperelektronik, Germany; <i>Holger Eisele</i> , Technische Universität Berlin, Germany
8:15pm	PCSI-SuE10 Total Tomography of Nonplanar III-As Heterostructures, <i>L. Lähnemann</i> , 1Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im Forschungsverbund Berlin e.V., Germany; <i>M.O. Hill</i> , Northwestern University; <i>J. Herranz</i> , 1Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im Forschungsverbund Berlin e.V., Germany; <i>O. Marquardt</i> , Weierstraß-Institut für Angewandte Analysis und Stochastik, Germany; <i>A. Al Hassan, A. Davtyan</i> , Naturwissenschaftlich-Technische Fakultät der Universität Siegen, Germany; <i>O. Hruszkewycz, M.V. Holt</i> , Argonne National Laboratory; <i>C.Y. Huang</i> , Northwestern University; <i>U. Jahn</i> , Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im Forschungsverbund Berlin e.V., Germany; <i>U. Pietsch</i> , Naturwissenschaftlich-Technische Fakultät der Universität Siegen, Germany; <i>Lincoln J. Lauhon</i> , Northwestern University; <i>L. Geelhaar</i> , Paul-Drude-Institut für Festkörperelektronik, Germany
8:20pm	INVITED: PCSI-SuE11 Superconducting Proximity Effect in Two-Dimensional Semiconductor-Superconductor Structures, <i>Javad Shabani</i> , New York University
8:25pm	Invited talk continues.
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PCSI-SuE: III-V Growth Moderator: Lincoln J. Lauhon, Northwestern University	

Monday Morning, January 14, 2019

Room: Ballroom South		
8:30am	INVITED: PCSI-1MoM1 Controlling Light at the Atomic Scale with 2D Polaritons, <i>Javier García de Abajo</i> , ICFO-Institut de Ciències Fòtoniques, Castelldefels (Barcelona), Spain	PCSI-1MoM - 2D Plasmonics Moderator: Anders Mikkelsen, Lund University
8:35am	Invited talk continues.	
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9:05am	PCSI-1MoM8 An Optical transformer-based Campanile Near-field Probe on an AFM Cantilever, <i>K. Le</i> , aBeam Technologies; <i>S. Bilent</i> , Lawrence Berkeley National Lab; <i>C. Pina-Hernandez</i> , aBeam Technologies; <i>S. Cabrini</i> , Lawrence Berkeley National Lab; <i>Keiko Munechika</i> , aBeam Technologies	
9:10am	PCSI-1MoM9 Localized Surface Curvature Artifacts in Gap-mode Tip-enhanced Nanospectroscopy, <i>Darya Stepanichsheva</i> , Tomsk Polytechnic University, Russia	
9:15am	INVITED: PCSI-2MoM10 How Chemistry Drives Microstructure: Probing the Structure of sub-nm ALD Materials using <i>in-situ</i> FTIR and Synchrotron Techniques, <i>Angel Yanguas-Gil</i> , Argonne National Laboratory	PCSI-2MoM- Atomic Layer Deposition & Etching I Moderator: Anders Mikkelsen, Lund University
9:20am	Invited talk continues.	
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9:45am	PCSI-2MoM16 Mechanism of Hydrogen Plasma Modified ALD Growth of Metal-enriched Oxides Studied by <i>In-Situ</i> Mass Spectrometry, <i>Thomas Larrabee</i> , <i>S. Prokes</i> , Naval Research Laboratory	
9:50am	PCSI-2MoM17 <i>In Situ</i> Investigation of Doping of 2D Semiconductors During Atomic Layer Deposition of Dielectrics, <i>Michael Moody</i> , <i>J.Y. Shang</i> , <i>J. Chen</i> , <i>A. Henning</i> , <i>T. Lohr</i> , <i>T. Marks</i> , <i>L.J. Lauhon</i> , Northwestern University	
9:55am	PCSI-2MoM18 The Impact of the Annealing Temperature of the Seed Layer on the Growth and the Electrical Properties of the Main Layer in Atomic Layer Deposition of SrTiO ₃ Films, <i>Sang Hyeon Kim</i> , Seoul National University, Republic of Korea; <i>W. Lee</i> , Northwestern University; <i>C.H. An</i> , <i>D.S. Kwon</i> , <i>D.-G. Kim</i> , <i>S.H. Cha</i> , <i>S.T. Cho</i> , <i>C.H. Hwang</i> , Seoul National University, Republic of Korea	
10:00am	Coffee Break & Poster Viewing (Room: Ballroom North)	
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11:00am	INVITED: PCSI-3MoM31 Topological Heterostructures by Molecular Beam Epitaxy, <i>Susanne Stemmer</i> , University of California, Santa Barbara	PCSI-3MoM - Topological Materials Moderator: Javad Shabani, New York University
11:05am	Invited talk continues.	
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Monday Morning, January 14, 2019

11:30am	PCSI-3MoM37 Structural Distortions and Surface/Bulk Competition in Quasi-2D SnSe-TiSe ₂ Nanolayered Heterostructures, <i>Sage Bauers</i> , National Renewable Energy Laboratory; <i>D. Hamann, D. Merrill, J. Ditto, M. Esters</i> , University of Oregon; <i>D. Roberts</i> , University of Colorado at Boulder; <i>A. Zakutayev</i> , National Renewable Energy Laboratory; <i>D. Johnson</i> , University of Oregon	
11:35am	PCSI-3MoM38 Gold-gold Dimer Buckling and Electronic Structure of Epitaxial LaAuSb Films., <i>Patrick Strohbeen, D. Du, C. Zhang, E.H. Shourov</i> , University of Wisconsin-Madison; <i>F. Rodolakis, J. McChesney</i> , Argonne National Laboratory; <i>P. Voyles, J. Kawasaki</i> , University of Wisconsin-Madison	
11:40am	PCSI-3MoM39 MBE Growth of Cd ₃ As ₂ on GaAs(001) Substrates, <i>Anthony Rice, K. Alberi</i> , National Renewable Energy Laboratory	
11:45am	PCSI-4MoM40 The Direct Band Gap of α -Sn Investigated by Infrared Ellipsometry, <i>Rigo Carrasco, C. Zamarripa, S. Zollner</i> , New Mexico State University; <i>J. Menendez</i> , Arizona State University	PCSI-4MoM - Surface Characterization Moderator: Javad Shabani, New York University
11:50am	PCSI-4MoM41 Advanced ARPES Analyzer and Momentum Microscope KREIOS 150 – Concepts and First Results on Layered Materials and Topological Insulators, <i>Thomas Schultmeyer</i> , SPECS-TII, Inc.	
11:55am	PCSI-4MoM42 Investigating Relative Binding Strengths of Various Dye Attachment Chemistries at the Titania-Dye Interface in Dye-Sensitized Solar Cells, <i>Gregory Smith, B. Harvey, J. Placzek</i> , Angelo State University	
12:00pm	Lunch and Poster Viewing (Room: La Terraza)	

Monday Afternoon, January 14, 2019

Room: Ballroom South		
2:00pm	INVITED: PCSI-1MoA1 Sequential and In-Situ Atom Probe Tomography and Optical Spectroscopy on Single Luminescent Nanoscale Objects, <i>Lorenzo Rigutti</i> , University of Rouen Normandie, France	PCSI-1MoA - Device Interface Characterization Moderator: Kimberly Thelander, Lund University
2:05pm	Invited talk continues.	
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2:30pm	PCSI-1MoA7 The Three-dimensional Shape of Antiphase Domains in GaP on Si(001), <i>Pascal Farin</i> , Technische Universität Berlin, Germany	
2:35pm	PCSI-1MoA8 Atom Probe Tomography of GaN Vertical Power Diodes: Impurity Distribution near Regrowth Interfaces, <i>Alexander Chang</i> , Northwestern University; <i>M. Nami, B. Li, J. Han</i> , Yale University; <i>L.J. Lauhon</i> , Northwestern University	
2:40pm	PCSI-1MoA9 Surface/Subsurface Identification and Control of Ga ₂ O ₃ Native Point Defects, <i>Hantian Gao, S. Muralidharan, N. Pronin, M.R. Karim, S.M. White, T. Asef, G. Foster, S. Krishnamoorthy, S. Rajan, L.R. Cao</i> , The Ohio State University; <i>M. Higashiwaki</i> , National Institute of Information Communications Technology, Japan; <i>H. Von Wenckstern, M. Grundmann</i> , Universität Leipzig, Germany; <i>H. Zhao</i> , The Ohio State University; <i>D.C. Look</i> , Wright State University; <i>L. Brillson</i> , The Ohio State University	
2:45pm	PCSI-1MoA10 Electrically Detected Magnetic Resonance Study of Leakage Currents in a-SiN:H, <i>Ryan Waskiewicz, P. Lenahan</i> , Pennsylvania State University; <i>S. King</i> , Intel Corp.	
2:50pm	PCSI-1MoA11 Internal Mechanical Stresses Relaxation in the Si-SiO ₂ System and its Influence on the Interface Properties, <i>Daniel Kropman, V. Seeman</i> , Tartu University, Estonia; <i>A. Medvids, P. Onufrievs</i> , Riga Technical University, Latvia	PCSI-2MoA - Spectroscopy of 2D Materials Moderator: Kimberly Thelander, Lund University
2:55pm	INVITED: PCSI-2MoA12 Light Matter Interaction in Tunable 2D Materials and Artificial van der Waals Solids, <i>Ursula Wurstbauer</i> , University of Münster, Germany	
3:00pm	Invited talk continues.	
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3:25pm	PCSI-2MoA18 Ultrafast Enhancement of Interfacial Exchange Coupling in Ferromagnetic Co:FeAl/(Ga,Mn)As Bilayer, <i>Gunter Luepke</i> , College of William & Mary	
3:30pm	Coffee Break & Poster Viewing (Room: Ballroom North)	
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4:30pm	INVITED: PCSI-3MoA31 Magnetism in Monolayer Transition Metal Dichalcogenides, <i>Matthias Batzill</i> , University of South Florida	PCSI-3MoA - Magnetism in 2D Materials and Interfaces Moderator: Anders Mikkelsen, Lund University
4:35pm	Invited talk continues.	
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Monday Afternoon, January 14, 2019

5:00pm	PCSI-3MoA37 Epitaxial Growth and STM Characterization of 2D Magnet MnSe ₂ and VSe ₂ , <i>Tiancong Zhu</i> , The Ohio State University; <i>D. O'Hara</i> , University of California, Riverside; <i>J.J. Repicky, J. Cobbert, J. Gupta</i> , The Ohio State University; <i>R. Kawakami</i> , Ohio State University-Columbus	
5:05pm	PCSI-3MoA38 Investigation of Low-Energy Ion-Implanted Multilayer Epitaxial Graphene, <i>P. Miceli, Alessandro Mazza</i> , University of Missouri	
5:10pm	PCSI-3MoA39 Large Positive Linear Magnetoresistance in the Two-dimensional t_{2g} Electron Gas at the EuO/SrTiO ₃ Interface, <i>Alexander Demkov</i> , The University of Texas	
5:15pm	INVITED: PCSI-4MoA40 Invited Speaker, <i>Bharat Jalan</i> , University of Minnesota	PCSI-4MoA - Oxide Growth and Properties Moderator: Anders Mikkelsen, Lund University
5:20pm	Invited talk continues.	
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5:45pm	PCSI-4MoA46 Strain Enhancement of the Electro-optical Response in Semiconductor-integrated Perovskites, <i>Alexander Demkov</i> , The University of Texas	
5:50pm	PCSI-4MoA47 Synthesis of Large Area Single-crystalline Freestanding Oxide Membranes, <i>Prastuti Singh, A. Swartz, D. Lu, S.S. Hong</i> , Stanford University; <i>K. Nishio</i> , Geballe Laboratory for Advanced Materials; <i>Y. Hikita</i> , Stanford Institute for Materials and Energy Sciences; <i>H. Hwang</i> , Stanford University	
6:00pm	Dinner (Room: La Terraza)	

Monday Evening, January 14, 2019

Room: Ballroom South		
7:45pm	PCSI-MoE1 Determining Chirality of Non-Centrosymmetric FeGe and MnGe with Spin-polarized Imaging of MnGe Spin Spirals via STM, <i>J.P. Corbett, J.J. Repicky, T. Zhu, A.S. Ahmed, R. Bennet</i> , The Ohio State University; <i>J. Guerrero-Sanchez</i> , Universidad Nacional Autonoma de Mexico; <i>R. Kawakami</i> , Ohio State University-Columbus; <i>J. Gupta</i> , The Ohio State University	PCSI-MoE - 2D Materials Characterization and Devices Moderator: Ursula Wurstbauer, University of Münster
7:50pm	Talk continues.	
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8:00pm	PCSI-MoE4 Ultrafast Spin and Charge Transfer in Monolayer WSe ₂ -Graphene Heterostructure Devices, <i>Michael Newburger, K. Luo</i> , Ohio State University-Columbus; <i>K. McCreary</i> , Naval Research Laboratory; <i>I. Martin, E. McCormick</i> , Ohio State University-Columbus; <i>B. Jonker</i> , Naval Research Laboratory; <i>R. Kawakami</i> , Ohio State University-Columbus	
8:05pm	PCSI-MoE5 Probing Quantum Hall and Quantum Valley Hall Effect in Bilayer Graphene Nanostructures, <i>Jing Li</i> , Los Alamos National Laboratory; <i>J. Zhu</i> , The Pennsylvania State University	
8:10pm	PCSI-MoE6 Optoelectronic Modulation in 2D Mo _{1-x} W _x Te ₂ Monolayers, <i>Zakaria Al Balushi</i> , UC Berkeley	
8:15pm	PCSI-MoE7 Pressure-controlled Photoluminescence and Identification of an Electronic State in Hydrated Methyl-Terminated Germanane, <i>B.A. Noesges, T. Asel, W. Huey, S. Jiang, K. Krymowski, Y. Wang, W. Windl, J. Goldberger, L. Brillson</i> , The Ohio State University	
8:20pm	PCSI-MoE8 Ultrafast Hot Electron Dynamics in InAs Nanowires with Variable Crystal Phases Investigated by Time-resolved Photoelectron Emission Microscopy, <i>L. Wittenbecher, J. Vogelsang, S. Lehmann, K. Thelander, D. Zigmantas, Anders Mikkelsen</i> , Lund University, Sweden	
8:25pm	INVITED: PCSI-MoE9 Van der Waals Integration beyond 2D Materials, <i>Xiangfeng Duan</i> , UCLA	
8:30pm	Invited talk continues.	
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Tuesday Morning, January 15, 2019

Room: Ballroom South	
8:30am	INVITED: PCSI-1TuM1 The NV Center in Diamond: A Versatile Quantum Technology, <i>Ania Bleszynski Jayich</i> , University of California, Santa Barbara; <i>A. Jenkins, D. Bluvstein, S. Meynell, S. Baumann, Z. Zhang</i> , University of California, Santa Barbara
8:35am	Invited talk continues.
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9:05am	PCSI-1TuM8 Stark Tuning of Single Photon Emitters in Hexagonal Boron Nitride, <i>G. Noh, D. Choi</i> , Ajou University, Korea; <i>J.-H. Kim, D.-G. Im, Y.-H. Kim</i> , POSTECH, Korea; <i>H. Seo, Jieun Lee</i> , Ajou University, Korea
9:10am	Talk continues.
9:15am	
9:20am	PCSI-1TuM11 Quantum Magnonics in V[TCNE] ₂ , <i>Ezekiel Johnston-Halperin</i> , The Ohio State University
9:25am	PCSI-2TuM12 Surface Potential and Hydrophilicity Measurements on Titanium Dioxide before and after Ultraviolet Irradiation, <i>Takuya Furukawa, K. Noda</i> , Keio University, Japan
9:30am	PCSI-2TuM13 Atomic-scale Observations of Reduced Graphene Oxide Nanosheets Dispersed on HOPG Substrates, <i>Shaoxian Li, T. Hirano, K. Kawai, K. Yamamura, K. Arima</i> , Osaka University, Japan
9:35am	PCSI-2TuM14 Diamond Coated Tips for Scanning Tunneling Microscopy, <i>Ben Stein, O. Auciello</i> , University of Texas at Dallas
9:40am	PCSI-2TuM15 Surface Physical and Chemical Processes with an Optical Scanning Tunneling Microscope, <i>Shaowei Li</i> , University of California, Irvine; <i>W. Ho</i> , Northwestern University
9:45am	Talk continues.
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9:55am	Coffee Break & Poster Viewing (Room: Ballroom North)
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11:00am	INVITED: PCSI-3TuM31 Chemically and Atomically Ordered States in 2D Crystal Alloys, <i>Nasim Alem</i> , Penn State University
11:05am	Invited talk continues.
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11:30am	PCSI-3TuM37 Defect-Assisted Heteroepitaxial Growth of Monolayer Tungsten Diselenide Films with Preferential Orientation on Hexagonal Boron Nitride, <i>Xiaotian Zhang, F. Zhang, Y. Wang, D. Schulman, T. Zhang, A. Bansal, N. Alem, S. Das, V. Crespi, M. Terrones, J. Redwing</i> , The Pennsylvania State University

PCSI-1TuM - Quantum Emitters and Excitations

Moderator: Javier García de Abajo, ICFO-Institut de Ciències Fotoniques

PCSI-2TuM - Atomic Scale Characterization

Moderator: Javier García de Abajo, ICFO-Institut de Ciències Fotoniques

PCSI-3TuM -2D Materials and Heterostructure Growth

Moderator: Susanne Stemmer, University of California, Santa Barbara

Tuesday Morning, January 15, 2019

11:35am	PCSI-3TuM38 Novel Sulfide Heterostructures from Designed Precursors, <i>D. Roberts</i> , University of Colorado at Boulder; Sage Bauers , <i>J. Perkins</i> , National Renewable Energy Laboratory; <i>C. Stoldt</i> , University of Colorado at Boulder; <i>A. Zakutayev</i> , National Renewable Energy Laboratory	
11:40am	PCSI-3TuM39 Rotational Alignment of Epitaxially-grown hBN on Macrostepped Graphene/SiC(0001) Single-Crystal Substrates, Daniel Pennachio , University of California, Santa Barbara; <i>C. Ornelas-Skarin</i> , University of California, Irvine; <i>N. Wilson</i> , <i>E. Young</i> , <i>A. McFadden</i> , <i>T. Brown-Heft</i> , University of California, Santa Barbara; <i>K. Daniels</i> , <i>R. Myers-Ward</i> , <i>K. Gaskill</i> , <i>C.R. Eddy, Jr.</i> , U.S. Naval Research Laboratory; <i>C.J. Palmstrom</i> , University of California, Santa Barbara	
11:45am	Free Afternoon	

Tuesday Evening, January 15, 2019

Room: Ballroom South	
7:00pm	INVITED: PCSI-TuE1 Magnetic Weyl Semimetals!, <i>Claudia Felser, J. Gooth, K. Manna, E. Lui, Y. Sun</i> , Max Planck Institute, Germany
7:05pm	Invited talk continues.
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7:30pm	INVITED: PCSI-TuE7 Status of Purity for Bulk Samples and Implications for Quantum States, <i>Arthur Ramirez</i> , University of California Santa Cruz
7:35pm	Invited talk continues.
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8:00pm	PCSI-TuE13 Rump Session
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PCSI-TuE - Quantum Materials?

Moderator: Debdeep Jena, Cornell University

Wednesday Morning, January 16, 2019

Room: Ballroom South		
8:30am	INVITED: PCSI-1WeM1 Nanoimaging and Spectroscopy of Emerging Photovoltaic, <i>Marina Leite</i> , University of Maryland	PCSI-1WeM - Hybrid and Mixed-Dimensional Interfaces I Moderator: A. Alec Talin, Sandia National Laboratories
8:35am	Invited talk continues.	
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9:05am	PCSI-1WeM8 Electronic Charge Transport in Solution-processed Vertically Stacked 2D Perovskite Quantum Wells, <i>H. Tsai</i> , Rice University; <i>R. Asadpour</i> , Purdue University; <i>M. Kanatzidis</i> , Northwestern University; <i>M. Alam</i> , Purdue University; <i>A. Mohite</i> , Rice University; Wanyi Nie , Los Alamos National Laboratory	
9:10am	PCSI-1WeM9 N-type Doping in Organic Semiconductor Thin Films by using a Dendritic Oligoarylamine-substituted Benzimidazole Dopant, <i>Yuji Yoshihashi</i> , Keio University, Japan	
9:15am	INVITED: PCSI-1WeM10 Multi-scale Modeling of Molecule-Surface Interactions for Improved Charge Transfer across Photoelectrochemical Interfaces, <i>A. Iyer</i> , <i>K. Kearney</i> , University of Illinois at Urbana-Champaign; <i>A. Rockett</i> , Colorado School of Mines; <i>Elif Ertekin</i> , University of Illinois at Urbana-Champaign	
9:20am	Invited talk continues.	
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9:45am	PCSI-1WeM16 Scanning Electrochemical Microscopy of Graphene-based Hybrids: Insights into Physicochemical Interfacial Processes and Electroactive Site Density Distribution, <i>Sanju Gupta</i> , Western Kentucky University	
9:50am	Coffee Break & Poster Viewing (Room: Ballroom North)	
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11:00am	INVITED: PCSI-2WeM31 Epitaxial Nitride Semiconductor/Superconductor Heterostructures, <i>Debdeep Jena</i> , Cornell University	PCSI-2WeM - Topological Materials II Moderator: Lincoln J. Lauhon, Northwestern University
11:05am	Invited talk continues.	
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11:55am	Lunch and Poster Viewing (Room: La Terraza)	

Wednesday Morning, January 16, 2019

11:30am	PCSI-2WeM37 Wafer Bonding Approach for Epitaxial Al/GaAs(001)/Al Tri-layers, Anthony McFadden , M. Seas, University of California, Santa Barbara; C.R. McRae, R. Lake, National Institute of Standards and Technology; J. Wen, J. Wang, I. Arslan, Argonne National Laboratory; D. Pappas, National Institute of Standards and Technology; C.J. Palmstrøm, University of California, Santa Barbara	<p>PCSI-3WeM - Exploiting Ions in Devices</p> <p>Moderator: Lincoln J. Lauhon, Northwestern University</p>
11:35am	PCSI-2WeM38 Growth and Nucleation of Low-Loss Titanium Nitride Superconductors on Silicon (111) using Plasma Assisted MBE, Chris Richardson , A. Alexander, C. Weddle, University of Maryland; B. Arey, M. Olszta, Pacific Northwest National Laboratory	
11:40am	PCSI-3WeM39 Non-volatile Redox Memory for Brain Inspired Computing, Elliot Fuller , Sandia National Laboratories; S. Keene, A. Melianas, Stanford University; Z. Wang, University of Massachusetts Amherst; S. Agarwal, Y. Li, Sandia National Laboratories; Y. Tuchman, Stanford University; C. James, M. Marinella, Sandia National Laboratories; J.J. Yang, University of Massachusetts Amherst; A. Salleo, Stanford University; A.A. Talin, Sandia National Laboratories	
11:45am	PCSI-3WeM40 Non-volatile Electrochemical Memory Operating near the Thermal Voltage Limit, Yiyang Li , E. Fuller, S. Agarwal, A.A. Talin, Sandia National Laboratories	
11:50am	PCSI-3WeM41 Simultaneous Topographical and Electrochemical Mapping using Scanning Ion Conductance Microscopy – Scanning Electrochemical Microscopy (SICM-SECM), W. Shi, Byong Kim , K. Lee, Park Systems; G. Mendoza, Park Systems, Mexico	

Wednesday Afternoon, January 16, 2019

Room: Ballroom South	
2:00pm	INVITED: PCSI-1WeA1 Thermal Atomic Layer Etching of Silicon Using an Oxidation and "Conversion-Etch" Mechanism, <i>Steven M. George, A. Abdulgatov</i> , University of Colorado at Boulder
2:05pm	Invited talk continues.
2:10pm	
2:15pm	
2:20pm	
2:25pm	
2:30pm	PCSI-1WeA7 Fundamental Properties for Enhanced Etching of Ge Surfaces in Water Assisted by Single Sheets of Reduced Graphene Oxide, <i>Tomoki Hirano, Y. Nakata, H. Yamashita, S. Li, K. Kawai, K. Yamamura, K. Arima</i> , Osaka University, Japan
2:35pm	PCSI-1WeA8 Laser-patterning of Graphene Oxide Beyond the Diffraction Limit, <i>Maksim Fatkullin</i> , Tomsk Polytechnic University, Russia
2:40pm	PCSI-1WeA9 Maskless Si Nano-wall Formation by Wet-etching Process using a Femtosecond Laser Irradiation, <i>S. Lee</i> , Pusan National University, South Korea; <i>Hyun Hwi Lee</i> , Pohang Accelerator Laboratory, South Korea; <i>H.J. Kim</i> , Pusan National University, South Korea
2:45pm	PCSI-1WeA10 Epitaxial (Bi,Sb) ₂ Te ₃ /Graphene/2D-Ga Heterostructures Towards Topological Superconductivity, <i>Brian Bersch, N. Briggs, J. Jiang, Y. Zhao, Y.-W. Chuang, C. Li, Y. Wang</i> , The Pennsylvania State University; <i>M. Fu, Q. Zou, Z. Gai, A.-P. Li</i> , Oak Ridge National Laboratory; <i>M. Chan, C.-Z. Chang, V. Crespi, J. Zhu, J. Robinson</i> , The Pennsylvania State University
2:50pm	Talk continues.
2:55pm	
3:00pm	PCSI-1WeA13 Tracking Defects through Ultra-Thin Layered Complex Oxides, <i>B.A. Noesges</i> , The Ohio State University; <i>J. Lee, C.B. Eom</i> , University of Wisconsin-Madison; <i>L. Brillson</i> , The Ohio State University
3:05pm	Coffee Break & Poster Viewing (Room: Ballroom North)
3:10pm	
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4:15pm	INVITED: PCSI-2WeA28 Hexagonal Boron Nitride for Quantum and Nonlinear Optics, <i>Alexander Solntsev, I. Aharonovich</i> , University of Technology Sydney, Australia
4:20pm	Invited talk continues.
4:25pm	
4:30pm	
4:35pm	
4:40pm	
4:45pm	PCSI-2WeA34 Detection of Thermodynamic "Valley Noise" in Monolayer Semiconductors: Access to Intrinsic Valley Relaxation Timescales, <i>Mateusz Goryca</i> , National High Magnetic Field Laboratory; <i>N. Wilson</i> , University of Washington; <i>P. Dey</i> , National High Magnetic Field Laboratory; <i>X. Xu</i> , University of Washington; <i>S. Crooker</i> , National High Magnetic Field Laboratory
4:50pm	Talk continues.
4:55pm	
5:00pm	INVITED: PCSI-2WeA37 The Electronic Structure of 2D Materials, <i>Justin Wells</i> , Norwegian University of Science and Technology, Norway
5:05pm	Invited talk continues.
5:10pm	
5:15pm	
5:20pm	
5:25pm	
6:00 pm	Conference Banquet (Room: La Terraza)

PCSI-1WeA - Atomic Layer Deposition & Etching II

Moderator: Angel Yanguas-Gil, Argonne National Laboratory

PCSI-2WeA - Applications of 2D Defects and Interfaces

Moderator: Ania Bleszynski Jayich, University of California, Santa Barbara

Thursday Morning, January 17, 2019

Room: Ballroom South	
8:30am	INVITED: PCSI-ThM1 Excitons and Exciton Confinement in Organic Heterojunctions, <i>Stephen Forrest</i> , University of Michigan
8:35am	Invited talk continues.
8:40am	
8:45am	
8:50am	
8:55am	
9:00am	
9:05am	
9:10am	PCSI-ThM9 Panel Discussion II - Forrest, Leite, Ertekin,
9:15am	Talk continues.
9:20am	
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9:55am	
10:00am	Conference Ends

PCSI-ThM - Hybrid and Mixed-Dimensional Interfaces II

Moderator: Marina Leite, University of Maryland