2017 iWOE Presentation Schedule

Updated 25 August 2017

Monday, September 25

Session 1: Electronic Structure (chair: Lane Martin)

8:30-9:00 Chris Van de Walle (*Univ. California, Santa Barbara*)
Electronic and Optical Properties of Rare Earth Titanates

9:00-9:30 Scott Chambers (*Pacific Northwest National Lab.*)
High-Energy Resolution X-Ray Photoemission and Ultraviolet Photoemission as Probes of Electronic Structure at Complex Oxide Heterostructures

9:30-9:45 Gennadii Laskin (*Max Planck Institute for Solid State Research*)
$SrRuO_3$ as a Model System for Quantum Dots of Correlated Materials

9:45-10:00 Robert Green (*Univ. British Columbia*)
Resonant X-ray Reflectometry of Oxide Heterostructures

10:00-10:30 Kyle Shen (*Cornell Univ.*)
Controlling Electronic Structure through Epitaxial Strain in Oxide Thin Films

Session 2: Non-Equilibrium Behavior (chair: Divine Kumah)

10:45-11:15 Richard Averitt (*Univ. California, San Diego*)
Ultrafast Dynamics and Control in Transition Metal Oxides: Recent results on manganites and cuprates

11:15-11:45 Nicole Benedek (*Cornell Univ.*)
Shedding Light on Materials Out of Equilibrium: Ultrafast control of complex oxide properties from first principles

11:45-12:00 Jason Hoffman (*Harvard Univ.*)
Unconventional Slowing Down of Electronic and Structural Dynamics in Photoexcited Charge-Ordered $La_{1/3}Sr_{2/3}FeO_3$

12:00-1:30 Lunch

1:30-3:00 Poster Session 1

Session 3: New Routes to Functional Behavior (chair: Nicole Benedek)

3:15-3:45 Matthew Rosseinsky (*Univ. Liverpool*)
Crystal Chemistry and Computation in the Design and Discovery of Oxide Materials and Interfaces

3:45-4:00 Julia Mundy (*Univ. California, Berkeley*)
Functional Electronic Inversion Layers at Ferroelectric Domain Walls

4:00-4:15 Ho Nyung Lee (*Oak Ridge National Lab.*)
Neel Skyrmion Lattice Stabilized in Iridate-Manganite Heterostructures

4:15-4:45 Venkat Gopalan (*Penn State Univ.*)
Polar Metal Oxides: Science and applications

4:45-5:00 Josep Fontcuberta (*Institut de Ciència de Materials de Barcelona*)
Reversing ON/OFF Resistance States in $BaTiO_3$ Ferroelectric Tunnel Junctions: Entangled role of polarization and ionic motion

Session 4: Metal-Insulator Transitions (chair: Marta Gibert)

5:15-5:45 Susanne Stemmer (*Univ. California, Santa Barbara*)
Metal-Insulator Transitions at Oxide Interfaces

5:45-6:00 Danfeng Li (*Stanford Univ.*)
Metal-Insulator Transitions in Freestanding $NdNiO_3$ Films

6:00-6:30 Philippe Ghosez (*Univ. Liège*)
On the Origin of the Metal-Insulator Transition in Rare-Earth Nickelates

Tuesday, September 26

Session 5: Defects, Ionics, and Functional Properties (chair: Bharat Jalan)

8:30-9:00 Sverre Selbach (*Norwegian Univ. of Science and Technology*)
Local Strain Fields and Point Defects in Epitaxial Thin Films of Ferroic Oxides

9:00-9:30 Alex Frano (*Univ. California, Berkeley*)
Disorder-Free Electrochemical Doping of Oxygen Charge Carriers into Epitaxial Metal-Oxide Films

9:30-9:45 Natalie Dawley (*Cornell Univ.*)
Defect Mitigating $(SrTiO_3)_n(BaTiO_3)_mSrO$ Superlattices for mmWave Tunable Dielectrics

9:45-10:00 Mark Huijben (*Univ. Twente*)
Enhanced Lithium Transport in Highly Ordered $LiMn_2O_4$ Cathode Films Towards Solid-State Batteries

10:00-10:15 Jonathan Hwang (*MIT*)
Interaction of CO_2 and NO_x Gas on Transition Metal Perovskites

10:15-10:30 Martina Müller (*Research Center Jülich*)
2D Electron System at the Magnetically Tunable $EuO/SrTiO_3$ interface

Session 6: Field-Effect Gating and Devices (chair: Ambrose Seo)

10:45-11:15 Chris Leighton (*Univ. Minnesota*)
Control of Ferromagnetism in Ion-Gel-Gated $La_{1-x}Sr_xCoO_3$ Thin Films

11:15-11:45 Suman Datta (*Notre Dame Univ.*)
A New Computing Substrate Enabled by Functional Oxides

11:45-12:00 Takeaki Yajima (*Univ. Tokyo*)
Designing Type II Neurons via Instability of VO_2 Metal-Insulator Transition

12:00-1:30 Lunch

1:30-3:00 Poster Session 2

Session 7: Materials Design and Synthesis (chair: Gertjan Koster)

3:15-3:45 T. Saha-Dasgupta (*S.N. Bose National Centre*)
3d-5d Double Perovskites: Playground for Oxide Electronics

3:45-4:15 Yuefeng Nie (*Nanjing Univ.*)
In Situ Observation of Layer-By-Layer Mean Inner Potential Oscillations and Precise Growth Control of Oxide Interfaces

4:15-4:30 David Harris (*Univ. Wisconsin*)
Suppressed Disorder in Superconducting $BaPb_{1-x}Bi_xO_3$ Epitaxial Thin Films

4:30-5:00 Yuichi Shimakawa (*Kyoto Univ.*)
Control of Oxygen Coordination Environment in Transition-Metal Oxides

5:00-5:15 Sohrab Ismail-Beigi (*Yale Univ.*)
Unusual Orbitally-Polarized Insulating State at a Titanate/Cobaltate Interface

5:15-5:30 Makoto Minohara (*High Energy Accelerator Research Organization*)
Growth of Antiperovskite-Type Oxide Ca_3SnO Thin Films by Pulsed Laser Deposition

6:30 Conference Banquet
Boarding begins at 6:30pm and ends promptly at 7:00pm

Wednesday, September 27

Session 8: Topology and Ferroics (chair: Steve May)

8:30-8:45 Padraic Shafer (*Lawrence Berkeley National Lab.*)
In-Plane Spin Cycloid Structure in Multiferroic $Bifeo_3$ Thin Films

8:45-9:00 Sungmin Park (*Seoul National Univ.*)
Selective Control of Multiple Ferroelectric Switching Pathways Using Trailing Flexoelectric Field

9:00-9:30 Masashi Kawasaki (*Univ. Tokyo*)
Topological Functions in Oxide Heterostructures

9:30-9:45 Marta Gibert (*Univ. Geneva*)
Unusual Magnetism in $LaNiO_3$-Based Superlattices

9:45-10:00 Ingrid Hallsteinsen (*Lawrence Berkeley National Lab.*)
Controlling the Magnetic Spin Reconstruction in (111)-Oriented $La_{0.7}Sr_{0.3}mno_3/Lafeo_3$ Heterostructures

Session 9: Interfacial Electronic Behavior (chair: Julia Mundy)

10:15-10:45 Guus Rijnders (*Univ. Twente*)
Tuning the Properties of Oxide Heterostructures by Interfacial Oxygen Octahedral Coupling

10:45-11:15 Kookrin Char (*Seoul National University*)
Manipulating $LaInO_3/BaSnO_3$ Polar Interface

11:15-11:30 Ryan Comes (*Auburn Univ.*)
Surface and Interfacial Phenomena in the $LaFeO_3$/n-$SrTiO_3$ Heterojunction

11:30-11:45 Ke Zou (*Yale Univ.*)
Revealing Topological States at a Hybrid Oxide Chalcogenide Interface

11:45-12:15 Marc Gabay (*Université Paris-Sud*)
Multifunctional Electronic States of 2DEGs at Perovskite Oxide Surfaces

12:15-12:30 Awards and Closing