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)
SrRuO3 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 La1/3Sr2/3FeO3

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 BaTiO3 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 NdNiO₃ 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 (SrTiO₃)ₓ(BaTiO₃)ₙSrO Superlattices for mmWave Tunable Dielectrics

9:45-10:00 Mark Huijben (Univ. Twente)
Enhanced Lithium Transport in Highly Ordered LiMn₂O₄ Cathode Films Towards Solid-State Batteries

10:00-10:15 Jonathan Hwang (MIT)
Interaction of CO₂ and NOₓ Gas on Transition Metal Perovskites

10:15-10:30 Martina Müller (Research Center Jülich)
2D Electron System at the Magnetically Tunable EuO/SrTiO₃ 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 La₁₋ₓSrxCoO₃ 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 VO₂ 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$_x$O$_3$ 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$_3$SnO 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