

2025

Best Poster:

First place – Sierra Astle, Colorado School of Mines; “Siloxane Poisoning of Semiconducting Metal Oxide Gas Sensors: Mechanism Elucidation and Material Design”

First place – Chukwudalu Okafor, Karlsruhe Institut fur Technologie; “Doping regulated room-temperature dislocation plasticity in oxides: A scale bridging study on SrTiO₃”

Second place – Grace Guinan, National Renewable Energy Laboratory; “Accelerating Discovery of Atomistic Defects via Machine Learning”

Third place – Margaret Brown, Colorado School of Mines; “Oxygen Doping of Ferroelectric Al_{0.73}Sc_{0.27}N Thin Films”

Best Oral Presentations:

First place – Varsha Kumari, Indiana University; “Symmetry and Chemical Stability of 2D M₃X₈ (M = Nb, X= Cl, Br, I) and Related Ionic Kagome Materials”

Second place – Gerald Bejger, Virginia Polytechnic Institute and State University; “Unraveling the Local Disorder in High Entropy Oxides with XAFS and DFT-Assisted Analysis”

Third place – Liron Shvilberg, University of Virginia; “Oxygen Transport During Electric Field Cycling and Retention Testing in Ferroelectric Hafnium Zirconium Oxide Thin Films”

2024

Best Poster:

First place - En Ju Cho, University of Illinois; “Toward a Defect Chemical Model of Y₂Ru₂O₇ Pyrochlore, an OER Catalyst for Acidic Conditions”

2024

Best Oral Presentations:

First place – Blaz Jaklic, Institute Josef Stefan; “Investigating structural changes in epitaxial LiNi_{0.33}Mn_{0.33}Co_{0.33}O₂ thin films by high-resolution X-ray diffraction”

Second place – Michael D. Thuis, Northwestern University; “Improving the ionic conductivity of NaTiGaO electrolytes by pairing fast sintering, grain growth analysis, high throughput measurements, and data-driven computer models”

Third place - Benjamin L. Aronson, University of Virginia; “Impact of Electrodes on Retention Performance of Ferroelectric Hf_{0.5}Zr_{0.5}O₂ Capacitors”

2023

Best Posters:

First place - Jacob Strimaitis, Norfolk State University; “Novel Integration of Graphene-based Ceramics for Enhanced Supercapacitor Energy Storage”

Second Place - Rachel Beall, North Carolina State University; “Frequency dependence of domain switching in lead zirconate titanate”

Third Place - Brooke Nicole Richtik, University of Calgary; “Processing Optimization of Novel High Tc Piezoelectric Ceramic”

2023

Best Oral Presentations:

First place-Martin F. Sarott, ETH Zurich; “Unravelling the domain formation during the growth of epitaxial ferroelectrics”

Second Place-William Huxter, ETH Zurich; “Scanning nitrogen-vacancy microscopy for ferroelectrics and multiferroics”

Third Place-Samantha T. Jaszewski, University of Virginia; “Impact of Processing Parameters on Crystallization and Ferroelectric Behavior of Hafnium Oxide Thin Films”

2022

Best Posters:

First place-Christoph Riedl, TU Wien; “Surface Decoration of $\text{Pr}_{0.1}\text{Ce}_{0.9}\text{O}_{2-d}$ Electrodes with Binary Oxides Measured by in-situ PLD Technique”

Second place- Matthaues Siebenhofer, TU Wien; “Exploring Point Defects and Trap States in Undoped SrTiO_3 Single Crystals”

Third place- Bridget Powers Beggs, Case Western Reserve University; “Electrical Characterization of Lithium Cobalt Oxide Nanosheets”

Best Oral Presentations:

First place (tie)

Bryan Conry, University of Florida; “Engineering Grain Boundary Anisotropy to Suppress Abnormal Grain Growth in Alumina”

Luis Ortiz, University of Connecticut; “Grain and Grain Boundary Photoconduction in Perovskite Solar Cells with Tomographic AFM”

Second place- Lucas Enright, NIST; “Developing a Standard Reference Material for 5G Millimeter Wave”

Third place- Daniel Rossi, James Madison University; “Configurational Disorder in High Entropy T' Phase Ruddlesden-Popper Perovskites”

2021

Best Posters:

First place – Seongwoo Cho, Korea Advanced Institute of Science and Engineering, Korea, “High Speed Visualization of Ferroelectric Domains by Friction Asymmetry”

Second place – Viviann Pedersen, Norwegian University of Science and Technology, Norway, “Aqueous chemical solution deposition of $\text{Sr}_x\text{Ba}_{1-x}\text{Nb}_2\text{O}_6$ thin films”

Third place – Andreas Wohninsland, Technical University of Darmstadt, Germany, “Correlating structural changes to the volume fraction of polar nanoregions in quenched $\text{Na}_{1/2}\text{Bi}_{1/2}\text{TiO}_3$ - BaTiO_3 ceramics”

Best Oral Presentations:

First place – William Huddleston, Case Western Reserve University, “Microstructure quantification and machine learning to assess multifunctional performance of $\text{Li}_4\text{Ti}_5\text{O}_{12}$ – Ni anode composites”

Second place – Jacob Rochester, Ohio State University, “Role of Grain Boundary Refinement and Nano-Precipitates in Enhancing the Flux Pinning of Superconducting Nb_3Sn ”

Third place – Mao-Hua Zhang, Technical University of Darmstadt, Germany, “Design of New Lead-Free Antiferroelectric $(1-x)\text{NaNbO}_3$ - $x\text{SrSnO}_3$ Compositions Guided by First-Principles Calculations”

2020

Best Posters:

First place - Ayana Ghosh, University of Connecticut, “Design of novel molecular ferroelectrics using first-principles based and machine learning approaches”

Second place - Nicole Bartek, University of Duisburg-Essen, “Improving the electrical and ferroelectric properties of lead iron niobite by decreasing calcination temperature”

Third place - Charles McLouth Culbertson, Oregon State University, “Oxide ion conduction mechanisms in sodium bismuth titanate (NaO.5BiO.5TiO_3)”

Best Oral Presentations:

First place - Elzbieta Gradauskaite, ETH Zurich, “Robust in-plane ferroelectricity in ultrathin epitaxial Aurivillius films”

Second place - John McGarrahan, North Carolina State University, “Effects of electrode composition and potential on moisture incorporation and degradation of dielectrics and piezoelectrics”

Third place - Shelby Fields, University of Virginia, “Metal nitride stress and chemistry effects on polarization and cycling performance of $\text{Hf}_{0.58}\text{Zr}_{0.42}\text{O}_2$ films”

2019

Best Posters:

First place - Shuehi Nakayama, Sophia University; “Ferroelectric HfO_2 thin films with abundant dopants”

Second place - Kevin Ferri, Pennsylvania State University; “Investigating the Roles of Grain Size, Dopant Choice, and Orientation of ZnO Thin Film Varistor Prototypes”

Third place - Halee Lester, University of Florida; “Property and Structure Analysis of Novel 2D Group-III Oxides Predicted by Evolutionary Algorithm”

2019

Best Oral Presentations:

First place - Nives Strkalj, ETH Zurich, Switzerland; “Design of ferroelectric polarization states during epitaxial growth”

Second place – Shelby Fields, University of Virginia; “Polarization and permittivity dependence on electrode stress for ferroelectric $\text{Hf}_{0.58}\text{Zr}_{0.42}\text{O}_2$ films”

Third place (tie) – William Huddleston, Case Western Reserve University; “ $\text{Li}_4\text{Ti}_5\text{O}_{12}$ – $\text{Li}_{0.45}\text{La}_{0.52}\text{TiO}_3$ –Ni all-solid-state lithium-ion battery anode composites”

Third place (tie) – Joshua Paul, University of Florida; “Symmetry-Based Identification of 2D Materials for Piezoelectric Applications”

2018

Best Posters:

First place - William Huddleston; Case Western Reserve University; “Freeze casting of LAGP for 3D textured solid-state structural electrolytes”

Second place - Krishna Chaitanya Pitike; University of Connecticut; “Shape and size dependent phase transformations and field-induced behavior in ferroelectric nanoparticles”

Third place - Lukasz Kuna; University of Connecticut; “Mesoscale modeling of stress induced band-gap attenuation in ZnO Nanowires”

2018

Best Oral Presentations:

First place - Richard Veazey; University of Sheffield; “The Influence of Electrode Geometry on the Average and Local Electrical Responses of Electroceramics”

Second place - Kassiopeia Smith; Boise State University; “Understanding Electrochemical and Structural Behaviors of Irradiation Induced Defects in TiO₂”

Third place - Todd Surta; Oregon State University; “Exploring the rich defect chemistry of amorphous carbon using a combination of experiments and theory”

2017

Best posters:

First place - Tassie Andersen, Northwestern University, “Evolution of Brownmillerite Structure in SrCoO_{2.5} Under Varying Molecular Beam Epitaxy Growth Conditions”

Second place - William Huddleston, Case Western Reserve University, “Sintered Cathodes for All-Solid-State Structural Lithium-Ion Batteries”

Third place - Kevin Pachuta, Case Western Reserve University, “Characterization of Solution-Based Exfoliated Nanosheets”

Best oral presentations:

First place - Ching-Yen Tang, University of Illinois at Urbana Champaign, “In situ X-ray Photoelectron and Auger Electron Spectroscopic Characterization of Reaction Mechanisms during Li-ion Cycling of CuO Electrodes”

Second place - Ran Gao, University of California, Berkeley, “Ferroelectricity in Epitaxial Pb_{1+δ}ZrO₃ Thin Films”

Third place - Xiaorui Tong, West Virginia University, “Kinetic Poisson-Cahn Model of Defect Segregation Near Grain Boundaries During Thermal Annealing in Oxygen-Conducting Solid Electrolytes”

2016

Best posters:

First place - Daniel M. Long,⁽¹⁾ Andreas Klein,⁽²⁾ Elizabeth Dickey ⁽¹⁾

(1) North Carolina State University

(2) Technische Universität Darmstadt

“Band Alignment Characterization of Barium Titanate”

Second place - Gerardo Rodriguez-Hernandez, Peiman Hosseini, Harish Bhaskaran,
University of Oxford

“Study of Ge₂Sb₂Te₅ Properties for Opto-Electronic Applications

3rd Place - Dong Hou,⁽¹⁾ Tedi-Marie Usher,⁽¹⁾ Natthaphon Raengthon,^(2,3) Narit
Triamnak,⁽²⁾ David P. Cann,⁽²⁾ and Jacob L. Jones⁽¹⁾

(1) North Carolina State University

(2) Oregon State University

(3) Chulalongkorn University

“Temperature-induced Average and Local Structural Changes of BaTiO₃-Bi(Zn_{0.5}Ti_{0.5})O₃”

Best oral presentations:

First place - Kyle Kelley, Edward Sachet, Kniang Kham, Stefan Franzen, and Jon-Paul Maria,

North Carolina State University

"Doping control in epitaxial thin films via reactive RF co-sputtering”

Second place - Jeffrey Braun,⁽¹⁾ Mirza Elahi,⁽²⁾ John Gaskins,⁽¹⁾ Thomas E. Beechem III,⁽³⁾
Zayd C. Leseman,⁽²⁾ Hiroyuki Fujiwara,⁽⁴⁾ Sean King,⁽⁵⁾ and Patrick E. Hopkins⁽¹⁾

(1) University of Virginia

2) University of New Mexico

(3) Sandia National Laboratories

(4) Gifu University

(5) Intel Corporation

Third place - Steven Brewer,⁽¹⁾ McKinley Paul,⁽²⁾ Kenzie Fisher,⁽³⁾ Jonathon Guerrier,⁽⁴⁾
Jacob L. Jones,⁽⁴⁾ Ryan Rudy,⁽⁵⁾ Ronald G. Polcawich,⁽⁵⁾ Evan Glaser,⁽⁶⁾ Cory Cress,⁽⁶⁾ and
Nazanin Bassiri-Gharb⁽¹⁾

(1) Georgia Institute of Technology

(2) Woodward Academy

(3) Riverwood International Charter School

(4) North Carolina State University

(5) U.S. Army Research Laboratory

(6) Naval Research Laboratory

Best posters:

First place - Gye Hyun Kim, MIT "Effect of surface energy anisotropy on Rayleigh-like solid-state dewetting and nanowire stability"

Second place - Youngho Jin, Georgia Institute of Technology "Microstructure and electrical properties in PMMA/ATO conductive composites with phase segregated microstructures"

Third place - Jun-Young Cho, Seoul National University "The effect of nano-structure on the thermoelectric properties of bulk copper selenide"

Best oral presentations:

First place - Christina Rost, North Carolina State University "Entropy Driven Oxides: configurationally disordered solid solutions and their structure-property"

Second place - Edward Sachet, North Carolina State University "Extreme electron mobility in cadmium oxide through defect equilibrium engineering"

Third place - Jon Mackey, University of Akron "Analytic thermoelectric couple modeling: variable material properties and transient operation"

2014

Best posters:

First place - Shin ik Kim, Korea Institute of Science and Technology
"Non volatile control of 2DEG Conductance at oxide interfaces"

Second place - Dhruv Seshadri, Case Western University
"Lithium titanate as Anode Material in Lithium-Ion Batteries"

Third place - Lisheng Gao, The Pennsylvania State University
"Co-fired Multilayer ceramic batteries for safe electrochemical energy storage"

Best oral presentations:

First place - Brian Foley, University of Virginia "Glass-like Thermal Conductivity of (010)-Textured Lanthanum doped dStrontium Niobate Synthesized with Wet Chemical Deposition"

Second place - Brian Donovan, University of Virginia "Temperature Dependent Thermal Conductivity of nano-Grained Barium Titanate"

Third place - Russell Maier, Penn State University "Investigation of Defect Dipole Kinetics in the Ferroelectric and Paraelectric Phases of Acceptor Doped BaTiO₃ Single Crystals"

2013

Best posters:

First place - Jonathan Mackey, Case Western Reserve University, for “Analytic Thermoelectric Device Optimization”

Second place - Ali Henriques, University of Florida, for “Structural changes in Lead Zirconate Titanate due to High Neutron Radiation Exposure”

Third place - Michelle Nolan, University of Florida, for “Phase equilibria, crystallographic structure, and piezoelectric properties of tetragonal $\text{Pb}_{(1-1.5x)}\text{Sm}_x\text{Zr}_{(1-y)}\text{Ti}_y\text{O}_3$ ”

Best oral presentations:

First place - Chris Shelton, North Carolina State University, for “Control of ZnO thin film polarity through interface chemistry”

Second place - Tedi-Marie Usher, University of Florida, for “Domain wall motion and electric-field-induced strains in NBT-xBT solid solutions from in situ neutron diffraction”

Third place - Jon Bock, the Pennsylvania State University, for “The Influence, Role, and Property Variations in Ferroelectricity at the Edge of the Metal-Insulator Transition and Its Influence on Thermoelectric Properties”

2012

Best poster: Elena Aksel, University of Florida, for “Crystal Structure and Phase Transitions in Chemically Modified Sodium Bismuth Titanate”

Best oral presentation: Cassandra Llano, University of Florida, for “Development and Implementation of a Polarization and Strain Measurement System”

2011

Best poster: not awarded in 2011

Best oral presentation: Elena Aksel, University of Florida, for “Sodium Bismuth Titanate - Resolving Structural Contradictions”

2010

Best poster: Jin Woo Jung, Hoseo University, South Korea, for “Development of AZO-based Transparent, Thin Film Transistors on Transparent Structures”

Best oral presentation: Beverly B. Hinojosa, University of Florida, for “Developing the Link Between Atomic Structure and Macroscopic Properties of Cubic Pyrochlores”

2009

Best poster: not awarded in 2009

Best oral presentation: Anderson Prewitt, University of Florida for “Effects of Field & Temperature During Poling on the Ferroelectric Properties of Lead Zirconate Titanate”

2008

Best poster: Christopher T. Shelton, Oregon State University for “Epitaxial Piezoelectric Thin Films on Flexible Substrates”

Best oral presentation: Vivek Tomer, Penn State University for “Induced Anisotropy in Electrically Modified Polymer/Ceramic Nano-composites”

2007

Best oral presentation: Mark D. Losego, North Carolina State University, for “Engineering Oxide Interfaces to Gallium Nitride by Molecular Beam Epitaxy”

2006

Best poster: Weiqun Chen, University of California, Davis, for “Energetics of Cerium-Zirconium Substitution in the $x\text{Ce}_{0.8}\text{Y}_{0.2}\text{O}_{1.9}-(1-x)\text{Zr}_{0.8}\text{Y}_{0.2}\text{O}_{1.9}$ System”

Best oral presentation: Meagen A. Gillispie, Iowa State University, for “Crystal Chemistry and Electrical Properties of Delafossite Compounds”

2005

Best poster: Yusuke Tohdo, Nagoya Institute of Technology, for “Crystal Structure analysis of Homologous Compounds $\text{Ala}_4\text{Ti}_4\text{O}_{15}$ and its Microwave Dielectric Properties”

Best oral presentation: Niall J. Donnelly, Pennsylvania State University, for “Investigation of Nonlinear and Relaxation Phenomena in PMN-0.07PT Films Under Large AC Field”