

CENTER FOR DIELECTRICS AND PIEZOELECTRICS
Fall 2023 Meeting
Toftrees Golf Resort, State College, Pennsylvania
October 9-11, 2023

AGENDA

Monday, October 9:

8:00 – 5:00	<i>Registration</i>	<i>Outside Silver Maple 1</i>
8:00 – 9:00	<i>Breakfast</i>	<i>The Aspen Room</i>
9:00 – 9:15	<i>Welcome/Introduction for tutorial</i>	<i>Silver Maple 1</i>
9:15 – 10:30	<i>Tutorial</i> Phase Field Modeling of Ferroelectrics <i>Long-Qing Chen</i>	<i>Silver Maple 1</i>
10:30 – 10:45	<i>Break</i>	<i>Lobby</i>
10:45 – 11:30	<i>Table-top Participation</i>	<i>Lobby</i>
11:30 – 12:30	<i>Lunch</i>	<i>The Aspen Room</i>
12:30 – 1:00	<i>Welcome and Introductions</i>	<i>Susan Trolier-McKinstry (PSU)</i>
1:00 – 4:30	<u>SESSION I</u>	<i>Silver Maple 1</i>
1:00 – 1:20	I-1 <i>Acoustic Characterization of Damage in Multilayer Ceramic Capacitors (Arguelles/Trolier-McKinstry)</i>	<i>Haley Jones (PSU)</i>
1:20 – 1:25	CDP_2022_4 Q&A for CDP_2022_4	
1:25 – 1:45	I-2 <i>Advancing Solid State Reaction Science through in-situ Diffraction and Processing Control (Jones/Forrester)</i>	<i>Andre Hillsman/Grace Kiel (NCSU)</i>
1:45 – 1:50	CDP_2022_5 Q&A for CDP_2022_5	
1:50 – 2:10	I-3 <i>Through Thickness Variations of Degradation Phenomena in Piezoelectric and Ferroelectric Ceramics (Balke/Jones)</i>	<i>Huimin Qiao (NCSU)</i>
2:10 – 2:15	CDP_2023_8 Q&A for CDP_2023_8	
2:15 – 2:45	<i>Break</i>	<i>Lobby</i>
2:45 - 3:05	I-4 <i>Effects of Grain Neighborhood on Local Piezoelectric Response and Stress Concentration in Bulk Polycrystals (Pagan/Trolier-McKinstry)</i>	<i>Reilly Knox (PSU)</i>
	CDP_2023_6	

3:05 – 3:10	Q&A for CDP_2023_6	
3:10 – 3:30	I-5 Beyond 5G – Electromagnetic Property Characterization at THz Frequencies (Lanagan/Foley) CDP_2022_6	Rocio Rodriguez/Michael Marakovits/Arafat Hossain (PSU)
3:30 – 3:35	Q&A for CDP_2022_6	
3:35 – 3:55	I-6 Investigation of MLCC Reliability and the Al _{1-x} Sc _x N Device Quality Factor Using Optical Thermography (Choi/Trolier-McKinstry) CDP_2023_5	Kyuhwe Kang (PSU)
3:55 – 4:00	Q&A for CDP_2023_5	
4:00 – 4:20	I-7 Domain Wall Contributions to the Properties of PZT	Susan Trolier-McKinstry (PSU)
4:20 – 4:25	Q&A for I-7	
4:25 – 5:00	<i>Break</i>	
5:00 – 7:00	Poster Session/Reception	The Aspen Room
7:00 – 9:00	W.R. Buessem Award Dinner	The Aspen Room

Tuesday, October 10:

7:30 - 5:00	Registration	Lobby outside Silver Maple I
7:30 – 9:00	Breakfast (Regular meeting) (Buffet in Lobby for both groups)	The Aspen Room
8:00 – 8:30	Student/Industry Breakfast	The Field Alcove
8:30 – 9:00	<i>Talk by Marcy Milhomme on how to do a pitch.</i> <i>Student-Industry discussion</i>	
9:00 – 12:00	<u>SESSION II</u>	Silver Maple I
9:00 – 9:20	II-1 Determining Relationships between Burn-in Conditions and Wear-Out in BME X7R MLCCs (Randall) CDP_2022_3	Pedram Yousefian (PSU)
9:20 – 9:25	Q&A for CDP_2022_3	
9:25 – 9:45	II-2 Designing Highly Reliable Dielectrics with Cold Sintering (Randall) CDP_2022_2	Jake DeChiara (PSU)
9:45 – 9:50	Q&A for CDP_2022_2	
9:50 – 10:20	<i>Break</i>	Lobby

10:20 – 10:40	II-3 Designing Novel Dielectric Composites with High Thermal Conductivity Enabled by Cold Sintering (Randall) CDP_2023_4 Q&A for CDP_2023_4	<i>Javier Mena Garcia (PSU)</i>
10:40 - 10:45		
10:45 - 11:05	II-4 Flexible Lead-Free Antiferroelectric Capacitor for Energy Storage (R, Xu) CDP_2023_7 Q&A for CDP_2023_7	<i>Reza Ghanbari Shokralikandi (NCSU)</i>
11:05-11:10		
11:10-11:30	II-5 Complex Dielectrics by Atomic Layer Deposition (Parsons/Jones) CDP_2022_10 Q&A for CDP_2022_10	<i>Carwynn Rivera (NCSU)</i>
11:30-11:35		
11:35 – 11:55	II-6 Ferroelectric and Piezoelectric Opportunities in $A_2B_6O_{17}$ (Maria) CDP_2023_9 Q&A for CDP_2023_9	<i>Jackson Spurling (PSU)</i>
11:55 – 12:00		
12:00 - 1:00	<i>Lunch</i>	<i>The Aspen Room</i>
1:00 – 5:00	<u>SESSION III</u>	<i>Silver Maple I</i>
1:00-1:20	III-1 Polymer Composites (Lanagan/Meddeb) CDP_2022_7 Q&A for CDP_2022_7	<i>MD Mashfiqur Rahman (PSU)</i>
1:20-1:25		
1:25-1:45	III-2 Electromagnetic Interference (EMI) Absorbers (C. Xu/Adams) CDP_2023_10 Q&A for CDP_2023_10	<i>Shalini Rajpoot (NCSU)</i>
1:45-1:50		
1:50 – 2:10	III-3 Researching a Book on Electroceramics	<i>Clive Randall (PSU)</i>
2:10 – 2:15	Q&A for III-3	
2:15 – 2:50	<i>Break</i>	<i>Lobby</i>
2:50 – 3:10	III-4 Electrooptic Properties of Wurtzite Ferroelectrics	<i>Venkatraman Gopalan (PSU)</i>
3:10 - 3:15	Q&A for III-4	
3:15 - 3:35	III-5 Electromechanical Reliability in PiezoMEMS (Akkopru-Akgun/Trolier-McKinstry) CDP_2023_1 Q&A for CDP_2023_1	<i>Betul Akkopru-Akgun (PSU)</i>
3:35 - 3:40		
3:40 – 4:00	III-6 Effective Moisture Protection for Bulk and Thin Film Piezoelectric Actuators (Trolier-McKinstry)	<i>Anthony Diaz-Huemme (PSU)</i>

4:00 - 4:05	CDP_2022_1 Q&A for CDP_2022_1	
4:05 – 4:25	III-7 piezoMEMS Arrays on Metal Foils (Trolier-McKinstry)	<i>Kae Nakamura (PSU)</i>
4:25 – 4:30	CDP_2023_2 Q&A for CDP_2023_2	
4:30 – 4:50	III-8 CHIMES: Center for Heterogeneous Integration of Micro Electronic Systems	<i>Madhavan Swaminathan (PSU)</i>
4:50 – 4:55	Q&A for III-8	
4:55	<i>Close of Meeting</i>	
Evening	<i>Dinner on your own</i>	

Wednesday, October 11:

7:30 – 8:30	<i>Breakfast</i>	<i>The Aspen Room</i>
8:30 - 12:00	<i>Industrial Advisory Board Meeting (Closed Industrial Advisory Board and CDP Faculty Only)</i>	<i>Silver Maple I</i>
12:00 - 1:00	Lunch for Industrial Advisory Board	<i>The Aspen Room</i>