

CENTER FOR DIELECTRICS AND PIEZOELECTRICS

Spring 2023 Meeting
Sheraton Hotel, Raleigh, North Carolina
June 28-29, 2023

AGENDA

Wednesday, June 28, 2023:

7:30 AM – 5:00 PM Registration
(Mezzanine)

7:30 AM – 8:30 AM Breakfast
(Hannover II & III)

8:30 AM – MEETING BEGINS (Oak Forest A)

8:30 – 9:00 AM Welcome and Introductions
Greg Parsons/ Susan Trolrier-McKinstry

9:00 AM – 12:15 PM SESSION I (Oak Forest A)

9:00 – 9:20 I-1 Determining Relationship between Burn-in Conditions and Wear-out in BME X7R MLCCs **CDP_2022_3** (Randall) Pedram Yousefian (Penn State)

9:20 – 9:25 **Q&A for I-1**

9:25 – 9:45 I-2 Moisture Degradation **CDP_2021_2** (E. Dickey/Irving) John McGarrahan (NC State)

9:45 – 9:50 **Q&A for I-2**

9:50 – 10:10 I-3 Defect Kinetics in Lead Free Ferroelectrics **CDP_2021_3** (Randall) Clive Randall (Penn State)

10:10 – 10:15 **Q&A for I-3**

10:15 – 10:35 Coffee break (Mezzanine)

10:35 – 10:55 I-4 Thermal Characterization **CDP_2021_5** (Choi/Trolrier-McKinstry) Kyuhwe Kang (Penn State)

10:55 – 11:00 **Q&A for I-4**

11:00 – 11:20 I-5 Acoustic Characterization of Damage in Multilayer Ceramic Capacitors **CDP_2022_4** (Arguelles/Trolrier-McKinstry) Haley Jones (Penn State)

11:20 – 11:25 **Q&A for I-5**

11:25 – 11:45 I-6 Designing Highly Reliable Dielectrics with Cold Sintering **CDP_2022_2** (Randall) Jake DeChiara (Penn State)

11:45 – 11:50 **Q&A for I-6**

11:50 – 12:10 I-7 Through Thickness Variations of Degradation Phenomena in Piezoelectric and Ferroelectric Ceramics **CDP_2022_8** (Balke/Jones) Huimin Qiao (NC State)

12:10 – 12:15	Q&A for I-7	
12:15 – 1:30		<i>Lunch (Hannover II & III)</i>
1:30 – 5:00 PM		<u>SESSION II (Oak Forest A)</u>
1:30 – 1:50	II-1 Advancing Solid State Reaction Science through In-Situ Diffraction and Processing Control CDP_2022_5 <i>(Jones/Forrester)</i>	<i>Jacob Jones (NC State)</i>
1:50 – 1:55	Q&A for II-1	
1:55 – 2:15	II-2 Designing Novel Dielectric Composites with High Thermal Conductivity CDP_2021_4 <i>(Randall/Foley)</i>	<i>Javier Mena Garcia (Penn State)</i>
2:15 – 2:20	Q&A for II-2	
2:20 – 2:40	II-3 Dielectric Response of Polymers at High Electric Field CDP_2022_7 <i>(Lanagan/Meddeb)</i>	<i>Amira Meddeb (Penn State)</i>
2:40 – 2:45	Q&A for II-3	
2:45 – 3:10		<i>Coffee Break (Mezzanine)</i>
3:10 – 3:30	II-4 Beyond 5G – Electromagnetic Property Characterization at THz Frequencies CDP_2022_6 <i>(Lanagan)</i>	<i>Rocio Rodriguez (Penn State)</i>
3:30 – 3:35	Q&A for II-4	
3:35 – 3:55	II-5 Ferroelectric and Piezoelectric Opportunities CDP_2022_9 <i>(Maria)</i>	<i>Jon-Paul Maria (Penn State)</i>
3:55 – 4:00	Q&A for II-5	
4:00 – 4:20	II-6 Wet Oxide Thin Film Formation Technology and its Applications	<i>Toshihiro Doi (Mitsubishi Materials Corp)</i>
4:20 – 4:25	Q&A for II-6	
4:25 – 4:55	II-7 Electromechanical Reliability in PiezoMEMS CDP_2021_1 <i>(Akkopru-Akgun/Trolier-McKinstry)</i>	<i>Betul Akkopru-Akgun (Penn State)</i>
4:55 – 5:00	Q&A for II-7	
5:00 – 7:00		<i>Poster Session/Reception</i> <i>(Hannover I)</i>
Evening		<i>Dinner on your own</i>

Thursday, June 29, 2023:

8:00 AM-5:00 PM		Registration (Mezzanine)	
8:00 – 9:20 AM		Breakfast (Regular meeting) (Hannover II)	
8:00 – 9:20 AM		Student/CDP Member Breakfast (Hannover III)	
9:20 – 11:50 AM		<u>SESSION III (Oak Forest A)</u>	
9:20 – 9:25		Welcome	<i>Greg Parsons</i>
9:25 – 9:45	III-1	Effective Moisture Protection for Bulk and Thin Film Piezoelectric Actuators CDP_2022_1 (Trolrier-McKinstry)	<i>Anthony Diaz-Huemme (Penn State)</i>
9:45 – 9:50		Q&A for III-1	
9:50 – 10:10	III-2	Pb and Bi Free, High Permittivity Quasi-linear Dielectrics for Giant Energy Density Capacitors	<i>Ian Reaney (University of Sheffield)</i>
10:10 – 10:15		Q&A for III-2	
10:15 – 10:35	III-3	Wide-Band Tunable Microwave Absorbing/Sheilding Ceramic Composites for High-Temperature Applications	<i>Cheryl Xu (NC State)</i>
10:35 – 10:40		Q&A for III-3	
10:40 – 11:00		<i>Coffee break (Mezzanine)</i>	
11:00 – 11:20	III-4	Complex Dielectrics by Atomic Layer Deposition CDP_2022_10 (Parsons/Jones)	<i>Nick Carroll (NC State)</i>
11:20 – 11:25		Q&A for III-4	
11:25 – 11:45	III-5	The Price of Science	<i>Jon-Paul Maria (Penn State)</i>
11:45 – 11:50		Q&A for III-5	
11:50		<i>CLOSE OF TECHNICAL MEETING</i> -----	
11:50 AM – 1:00 PM		Lunch (Regular meeting)	<i>Hannover III</i>
11:50 AM – 1:00 PM		IAB Lunch (CDP member company private lunch meeting)	<i>Hannover II</i>
		Industrial Advisory Board Meeting (Industry Members and CDP Faculty Only)	
1:00 – 3:30 PM		Closed IAB meeting	<i>Governor's Ballroom</i>