

CENTER FOR DIELECTRICS AND PIEZOELECTRICS

Spring 2020 Meeting

May 13, 2020

AGENDA A

[Click here for Live Stream](#)

Wednesday, May 13, 2020:

MEETING BEGINS

US 8:00 -11:10 AM EDT / 5:00-8:10 AM PDT

UK 13:00-16:10 / Central Europe 14:00-17:10

Tokyo 9:00 PM-midnight

Time

(EDT)

8:00 – 8:10

LIVE STREAM

SESSION A: Morning EDT

Welcome and Introduction

Beth Dickey (NCSU)

Cluster 1: Processing

8:10 – 8:30

LIVE STREAM

I-1 **Extrinsic Processing Parameters and Their Impact on Building High Voltage BME Multilayer Ceramic Capacitors**

Clive Randall (PSU)

Pre-recorded

I-2 Search for High Performance Ferroelectrics and Piezoelectrics than can undergo Cold Sintering
CDP_2018_2

Kosuke Tsuji (PSU)

Pre-recorded

I-3 Updates to the Cold Sintering Process (*Maria*)
CDP_2019_3

Sarah Lowum (PSU)

Pre-recorded

I-4 Designing Electroceramics with Ferroelectric Grain Boundaries and Cold Sintering (*Randall*)
CDP_2019_2

Javier Mena Garcia (PSU)

Pre-recorded

I-5 Cold Sintering of Li ion Chemistries for Energy Storage Applications **CDP_2019_11**

*Derek Sinclair,
Brant Walkley
James Watt(UoS)*

Pre-recorded

I-6 Cold Sintering of Piezoelectric Composites for Ultrasound Transducer Arrays (*Trolier-McKinstry/Randall*) **CDP_2018_1**

Shruti Gupta (PSU)

Pre-recorded

I-7 Inkjet Printing of Multilayer Capacitor Structures (*Jur*)
CDP_2019_4

Ying Zhou (NCSU)

8:30 – 9:00

Q&A for Cluster 1

9:00 – 9:10

Break

Cluster 2: Dielectrics

9:10 – 9:25

LIVE STREAM

II-1 **Advances in High Energy Density Capacitors**

Ian Reaney (UoS)

9:25 – 9:40

LIVE STREAM

II-2 **Fermi level Pinning in Co-Doped BaTiO₃**

Beth Dickey (NCSU)

<i>Pre-recorded</i>	II-3	Defect Kinetics in Lead-free Ferroelectrics (<i>Randall</i>) CDP_2019_10	<i>Zhongming Fan</i> (PSU)
<i>Pre-recorded</i>	II-4	Effects of Electrode Composition and Potential on Moisture Incorporation and Degradation of Dielectrics and Piezoelectrics (<i>Dickey</i>) CDP_2019_5	<i>John McGarrahan</i> (NCSU)
<i>Pre-recorded</i>	II-5	Dielectric Characterization in the Microwave Frequency Range (<i>Lanagan/Narayanan</i>) CDP_2018_3	<i>Mike Lanagan</i> (PSU)
<i>Pre-recorded</i>	II-6	Nucleation and Growth PEDOT Thin Films for Capacitor Device Systems (<i>Parsons/Dickey</i>) CDP_2018_4	<i>Justin Kim</i> (NCSU)
<i>Pre-recorded</i>	II-7	Technique Development for Studying Origins of Fracture due to Inhomogeneous Stresses (<i>Jones/Dickey</i>) CDP_2018_6	<i>Jianwei Zhao</i> (NCSU)

9:40 – 10:10 Q&A for Cluster 2

10:10 – 10:20 *Break*

Cluster 3: Films

10:20 – 10:40 LIVE STREAM	III-1	Piezoelectric Micromachined Ultrasound Transducers for Imaging and Particle Manipulation	<i>Susan Trolier-McKinstry</i> (PSU)
<i>Pre-recorded</i>	III-2	Materials and Process Options for HfO ₂ Capacitors, Sensors and Ferroelectrics on Unique Substrates (<i>Jones/Parsons</i>) CDP_2019_6	<i>Younghwan Lee,</i> <i>Alex Hsain</i> (NCSU)
<i>Pre-recorded</i>	III-3	Ferroelectrics Everywhere (<i>Maria-seed project</i>) CDP_2019_7	<i>John Hayden</i> (PSU)
<i>Pre-recorded</i>	III-4	Mechanical Reliability and Drift in PiezoMEMS CDP_2019_1 (<i>Trolier-McKinstry</i>)	<i>Kathleen Coleman</i> (PSU)
<i>Pre-recorded</i>	III-5	The Effect of Imprint on Remanent Piezoelectric Properties and Ferroelectric Aging of PbZr _{0.52} Ti _{0.48} O ₃ Films (<i>Trolier-McKinstry</i>) CDP_2018_5	<i>Betul Akkopru</i> <i>Akgun</i> (PSU)
<i>Pre-recorded</i>	III-6	Thermal Characterization of Dielectrics and Piezoelectrics (<i>Choi/Trolier-McKinstry</i>) CDP_2019_9	<i>James Spencer</i> <i>Lundh</i> (PSU)

10:40 – 11:10 Q&A for Cluster 3

Close of Technical Meeting

11:30 -1:00

IAB Meeting

[Click here for meeting](#)

US 11:30 AM -1:00 PM EDT / 8:30 – 10:00 AM PDT

UK 16:30 – 18:00 / Central Europe 17:30 – 19:00

CENTER FOR DIELECTRICS AND PIEZOELECTRICS

Spring 2020 Meeting
May 13, 2020

AGENDA B

[Click here for Live Stream](#)

Wed./Thurs. May 13/14, 2020:

MEETING BEGINS

US 19:00 -22:10 EDT / 16:00 -19:10 PDT
Tokyo 8:00 -11:10 AM (Thursday, May 14)

Time

SESSION B: Evening EDT

(EDT)

19:00 – 19:10

Welcome and Introduction

Beth Dickey (NCSU)

LIVE STREAM

Cluster 1: Processing

19:10 – 19:30

I-1

Extrinsic Processing Parameters and their Impact on Building High Voltage BME Multilayer Ceramic Capacitors

Clive Randall (PSU)

LIVE STREAM

Pre-recorded

I-2

Search for High Performance Ferroelectrics and Piezoelectrics than can undergo Cold Sintering
CDP_2018_2

Kosuke Tsuji (PSU)

Pre-recorded

I-3

Updates to the Cold Sintering Process (*Maria*)
CDP_2019_3

Sarah Lowum (PSU)

Pre-recorded

I-4

Designing Electroceramics with Ferroelectric Grain Boundaries and Cold Sintering (*Randall*)
CDP_2019_2

Javier Mena Garcia (PSU)

Pre-recorded

I-5

Cold Sintering of Li ion Chemistries for Energy Storage Applications **CDP_2019_11**

*Derek Sinclair,
Brant Walkley,*

Pre-recorded

I-6

Cold Sintering of Piezoelectric Composites for Ultrasound Transducer Arrays
(*Trolier-McKinstry/Randall*) **CDP_2018_1**

*James Watt(UoS)
Shruti Gupta (PSU)*

Pre-recorded

I-7

Inkjet Printing of Multilayer Capacitor Structures (*Jur*)
CDP_2019_4

Ying Zhou (NCSU)

19:30 – 20:00

Q&A for Cluster 1

20:00 – 20:10

Break

Cluster 2: Dielectrics

20:10 – 20:25

II-1

Advances in High Energy Density Capacitors

Ian Reaney (UoS)

LIVE STREAM

20:25 – 20:40

II-2

Fermi level Pinning in Co-Doped BaTiO₃

Beth Dickey (NCSU)

LIVE STREAM

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<i>Pre-recorded</i>	II-7	Technique Development for Studying Origins of Fracture due to Inhomogeneous Stresses (<i>Jones/Dickey</i>) CDP_2018_6	<i>Jianwei Zhao (NCSU)</i>

20:40 – 21:10 **Q&A for Cluster 2**

21:10 – 21:20 *Break*

Cluster 3: Films

21:20 – 21:40 LIVE STREAM	III-1	Piezoelectric Micromachined Ultrasound Transducers for Imaging and Particle Manipulation	<i>Susan Trolier-McKinstry (PSU)</i>
<i>Pre-recorded</i>	III-2	Materials and Process Options for HfO ₂ Capacitors, Sensors and Ferroelectrics on Unique Substrates (<i>Jones/Parsons</i>) CDP_2019_6	<i>Younghwan Lee, Alex Hsain (NCSU)</i>
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<i>Pre-recorded</i>	III-6	Thermal Characterization of Dielectrics and Piezoelectrics (<i>Choi/Trolier-McKinstry</i>) CDP_2019_9	<i>James Spencer Lundh (PSU)</i>

21:40 – 22:10 **Q&A for Cluster 3**

Close of Technical Meeting

22:30 – 24:00

IAB Meeting

[Click here for meeting](#)

US 22:30 -24:00 EDT / 19:00 – 21:00 PDT
Tokyo 11:30 AM – 1:00 PM (Thursday, May 14)