

**CALCE Reliability Science Symposium**  
**DeWalt Seminar (Room 2164) and Zoom**  
**Glenn Martin Hall**  
**University of Maryland**  
**College Park, MD**  
**To attend contact: Michael Osterman**  
**osterman@umd.edu**

Register at: <https://web.calce.umd.edu/symposiums/RS/2023/Spring/>

**March 21, 2022 (Tuesday) (All times US Eastern)**

9:00 am Opening Presentation- Dr. Lee's Presentation

9:30 am Research Presentations – Session 1

*Presentation Title*

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Selection Criteria for Use of Multilayer Ceramic Capacitors (MLCCs) with  
Ripple Current Loading Conditions

Quality and Reliability Benefits of AEC-Qualified Components

Evaluation and Selection of Lubricants for Mechanical Interfaces

Durability of Paint used for Electronic Products

\*\*\* *Break* \*\*\*

11:00 am

Fatigue under Multiaxial Cyclic Creep and Plasticity in Oligocrystalline SAC  
Solder Joints

Reliability of Lead-free High-Performance Solder Interconnects

Reliability of Low Temperature (i.e. BiSn) Solder Interconnects

Board Level Reliability Assessment of Bi-based Hybrid Low Melting Solder as a  
Function of Bi Diffusion

12:30 pm \*\*\* *Lunch Break* \*\*\*

1:30 pm Research Presentations – Session 2

*Proj. # Presentation Title*

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Advances in Diamond Devices and Packaging

Component Selection for Use Beyond Specifications

Component Life Assessment Methodology Development

Discrete Component Qualification Methods

Supply Chain Modeling (15 min)

\*\*\* *Break* \*\*\*

3:15 pm *Student Presentation Title*

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Swelling in Li-Batteries

Swelling Tests for Li-Batteries

Lithium Battery Thermal Runaway

Dendrite Formation in Li-Batteries

Low Temperature Issues with Li-Batteries

5:00 pm \*\*\* *Adjourn* \*\*\*

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**March 22, 2023 (Wednesday) (All times US Eastern)**

9:00 am      CALCE 2024 Research  
                 Introduction  
                 Proposal Review

10:30 am    Open Discussion  
                 Adjourn