

**In Person**  
**Hands-On ESD Workshop**  
**"ESD Best Practices for Technology Change!"**  
**July 25, 26, 27th, 2023**



**Great Ocean Views**

We are excited to announce.  
the workshop will be held at  
the Elks at Bass Rocks  
97 Atlantic Rd #101,  
Gloucester, MA

**ESD Dream Team**  
[www.dangelmayer.com](http://www.dangelmayer.com)



**Hands-on ESD Workshop with the Dream Team:**  
*Basic and Advanced Principles*

**Intended for Professionals Who:**

- Want to Expand Their Knowledge of ESD
- Desire Roadmap for Today's Advanced Technologies
- Need A Better Understanding of The Technology
- Want to know if Standards Adequately Protect Their Products

**What You Will Learn:**

- CDM, CBE, CDE & Class 0 Fundamentals and Counter Measures
- The Latest ESD Trends & Best Practices
- Hands-On CDM & Class 0 Test Methods
- Auditing Skills & Class Exercises Daily
- 99.9% of ESD Failures are CDM – Not HBM
- Most FA Experts Misdiagnose CBE as EOS
- ESD S20.20 2014 Changes Implications & Limitations
- Class 0 & CDM Advanced Measurement Techniques

## Workshop Agenda

### Day 1: Tuesday

1. Introductions – *Ted*
2. ESD QMS Best Practices *Ted*
  - Breakout groups
3. Fundamental ESD Concepts – *Terry & Ted*
4. Hands-on – Class Exercises & Measurement Pitfalls – *Ginger*
  - Fieldmeters & Voltmeters
5. Day's Highlights & Questions



**Ted  
Dangelmayer  
President**



**Terry  
Welsher  
Sr. Vice  
President**

## Workshop Agenda

### Day 2: Wednesday

6. Ionization Analysis for 3D IC Device Technology  
Joshua Yoo – Core Insight – Korea
7. Hands-on – Class Exercises & Measurement  
Pitfalls – **Terry**
  - a. Resistance Measurements
8. Is the ESD program working? – “Secret Sauce”  
Auditing Strategy & Test Methods – **Arnie & Ted**
9. Hands-on – Class Exercises: Measurement &  
Trouble Shooting - Workstations – **Ginger**
10. Day’s Highlights & Questions

Evening Dinner

**Seaside at Ipswich Bay**



**Ginger  
Hansel  
Director**



**Arnie  
Steinman  
Director**

## Workshop Agenda

### Day 3: Thursday

11. Fixture Design Considerations and Case Studies - -  
*Ginger & Ted*
12. How do I know when Ionization is necessary and if it is effective?  
– *Arnie*
13. Hands-on – Class Exercises & Ionization Pitfalls – -  
*Ted*
14. Automation Equipment Analysis for Class 0 and 50 V qualification – *Terry*
15. Advanced Event Detection with Videos – Finding, Diagnosing and Fixing Problems - *Terry*
16. Hands on Session
  - Tribocharging: Glove – Screwdriver - *Ginger*
  - Charge Board Event - *Arnie*
  - Automation video analysis - *Ted*
17. Day's Highlights & Questions

**DA Hands-On ESD Workshop July 25, 26, 27, 2023**  
**Gloucester Elks, 97 Atlantic Rd #101**

Workshop includes lunch every day, and dinner on Day 2.  
3-Day Registration \$2,380 per person. Register by June 30 for \$2,180

Email Registration Information to: [kristin@dangelmayer.com](mailto:kristin@dangelmayer.com)

Name: \_\_\_\_\_ Title: \_\_\_\_\_

Company: \_\_\_\_\_

Mail Stop: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Phone: work \_\_\_\_\_ cell \_\_\_\_\_

E-mail: \_\_\_\_\_

Preferred method of contact:

Phone \_\_\_\_\_ E-mail: \_\_\_\_\_

Credit Card  Visa  Master Card  Amex

Card # \_\_\_\_\_ Expiration \_\_\_\_\_

Security Code \_\_\_\_\_

Billing Address \_\_\_\_\_

Name on Card \_\_\_\_\_

If paying by check, please make check payable to:

Dangelmayer Associates

14 Butternut Lane

Gloucester, MA 01930

**Seating is limited!**

**Complete your registration  
today!**

**\*No Refunds after June 30th**

Local Accommodations: ([www.capeann.com](http://www.capeann.com))

Rockport B&Bs ([www.capeann.com](http://www.capeann.com)) (10 Min)

Rockport Inn & Suites (10 Min)

Beauport Hotel Gloucester (8 Min)

Danvers Marriott Courtyard 978-777-8630 (43 Min)

Peabody Marriott 978-977-9700 (39 Min)