



**IEEE Boston Reliability Chapter**  
*A Joint Chapter with New Hampshire and Providence*  
<http://www.ieee.org/bostonrel>

## **AdCom Meeting Agenda**

**Wednesday, June 5th, 2024**

**6:00-7:30 PM**

**Zoom**

**PLEASE NOTE NEW Meeting Link:**

<https://us06web.zoom.us/j/83839280573?pwd=f8kfaYzZ94zVhUYQG0Zy5KHRpR801T.1>

[Meeting ID: 838 3928 0573](#)

[Passcode: 383263](#)

**Additional meeting information including call-in numbers  
and the call-in passcode can be found at the end of the agenda.**

- 1. Call to Order**
- 2. Opening Remarks**
- 3. Officer Reports**
  - a) Secretary**
    - i. AdCom Meeting Minutes**
  - b) Treasurer**
    - i. Awards**
    - ii. Financials**
  - c) Vice Chair**
    - i. Technical Meeting Schedule**
    - ii. Potential Technical Meeting Presentations**
    - iii. Newsletter**
  - d) Chair Report**
    - i. Recent Technical Meeting Attendance**
      - 1) Joint IEEE Boston Reliability/Boston SMTA/iMAPS: Presentation & Tour,  
Tuesday 23-April-2024**
        - a. Location:**

**Advanced MicroAnalytical**

**IEEE Boston Reliability Chapter AdCom Agenda – Wednesday, 05-June-2024**

**50A Northwestern Drive  
Salem, New Hampshire  
United States 03079  
Building: Unit #4**

**b. Attendance:**

**IEEE Attended: 4**

**Guests Attended: 25**

**ii. Upcoming Technical Meeting Registration**

**1) Adam Bahret, 12-JUN-2024, ASMPT NEXX, 900 Middlesex Turnpike, Billerica, MA 01821.**

**a. 20240603 2205: 9 virtual; 5 in-person**

**b. Jay will not be attending. We need to make other arrangements for pizza, salad, & soda.**

**2) Ethan Cascio, 26-JUN-2024 at Lincoln Laboratory Main Cafeteria**

**a. Registration opened 20240603**

**e) Old Business**

**i. MIT Lincoln Laboratory Appreciation / Thank You Plaque and Presentation**

**ii. Proposed creation of IEEE Boston Reliability Chapter brochure**

**iii. Targeting the Younger Demographic - Facebook, Instagram, Twitter**

**iv. Website Status**

**i. New Chapter Chairs Handbook (in development)**

**ii. Distinguished Speakers: Societies pay for airfare, chapters pay for hotels and expenses**

**iii. Section is developing a list of possible venues.**

**iv. Zoom licenses for clusters (we have one now).**

**v. From 2015, Boston section has Constant Contact for email; can combine IEEE and non- emails in lists. These can go to entire section or go specifically to chapter. (Bob Alongi to let Jay know about this.)**

**vi. VTools calendar feeds to IEEE app.**

**vii. Section Volunteer awards**

**viii. Discussion on CEU credits (Seems like this is for seminars or workshops. We have only needed to provide confirmation of attendance documentation).**

**ix. Gift cards for speakers- Ask Karen. (Jay to ask Karen for June speakers. Whom should laser pointers be sent to?)**

**i. Done: Charlie has laser pointer for Adam; Jay will bring another for Ethan.**

**x. Check how many Rel chapter members are eligible for Senior Member elevation. (To Do)**

**v. AdCom Calendar**

**4. Old Business**

**a) MIT Lincoln Laboratory Appreciation / Thank You Plaque and Presentation**

**b) Proposed creation of IEEE Boston Reliability Chapter brochure Targeting the Younger Demographic - Facebook, Instagram, Twitter**

**c) Website Status**

**i. Webmaster moving to Colorado**

**d)**

**e)**

**5. New Business**

**a) Promotional Article**

**6. For August September (Annually)**

**a) Past Chairs Meeting invitations / RSVPs**

**b) Officer Election - Open October 30 / Close December 4**

**7. Schedule Next AdCom Meeting**

**a) TBD.**

**8. Closing Remarks**

**9. Adjournment**

**Attachments (4)**

- **Meeting Sponsor Guidance**
- **Technical Presentation Schedule**
- **Possible Technical Presentation Topics**
- **Possible Speaker**
- **AdCom Calendar**
- **Requested Technical Presentation Topics**

**Meeting Sponsor Guidance:**

**For speakers from commercial entities that want to highlight their products within the meeting, we:**

- (a) continue to strongly encourage good technical content over "sales pitches", and**
- (b) diplomatically request, in-person or via direct contact (zoom/phone), whether their company would share some of the meeting refreshment expenses or perhaps host the meeting in their facility.**
- (c) emphasize this is not mandatory, just good sponsorship.**
- (d) followup via email for confirmation and logistics.**

## Technical Presentation Schedule

Date	Speaker	Title	Location
December 13, 2023 Wednesday	Dr. Mohammad Pourgol Teradyne	Hybrid Event- Complex Electronics Reliability and Life Modeling Based on Physics of failure Simulation	MIT LL (Main Cafeteria) & Virtual
January 17, 2024 Wednesday	Arun Gowtham	Transforming Reliability with AI	Virtual
February 7, 2024 Wednesday	Jian Cao	Analyzing_Time-to-Event Data: A Comparison Between Reliability and_Survival Methods	Virtual
March 06, 2024 Wednesday	Priscila D Silva	REGRESSION AND TIME SERIES MIXTURE APPROACHES TO PREDICT RESILIENCE.	MIT LL (Main Cafeteria) & Virtual
April 23, 2024 Tuesday	Jared Kelly Chuck Lemieux	Joint IEEE Boston Reliability/Boston SMTA/iMAPS: Presentation & Tour, Tuesday 23-April-2024	Advanced MicroAnalytical , Salem, NH
May 8, 2024 Wednesday			
June 12, 2024 Wednesday	Adam Bahret		ASMPT NEXX
June 26, 2024 Wednesday	Ethan Cascio		Lincoln Laboratory Main Cafeteria
September 11, 2024 Wednesday			
October 9, 2024 Wednesday			
November 6, 2024 Wednesday			
December 11, 2024 Wednesday			

January 8, 2025 Wednesday			
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**Potential Technical Presentation Topics**

Tentative Date	Speaker	Title	Location
	MRSI Systems	Presentation and Plant Tour	MRSI Systems
	Jeff Voas	Internet of Things	Webinar or MIT II
	(Bill Gervasi, Nantero) <i>see Dan's email below</i>	A Carbon Nanotube Non-Volatile Memory Technology for Von Neumann and Beyond	Webinar or MIT LL
	Angelo Scangas / Jim Leonard (OSG)	DFMEA / FMECA	Webinar or MIT II
	?	Reliability Product Sales / Marketing People	Webinar or MIT II
	Adam Bharet	?	Webinar or MIT II
	Glen Emelock	Consulting NSAI Auditor OSG	Webinar or MIT LL



## Possible Speaker

Mike and Ken,

On Tuesday, February 8, at a conference in southern California, I met someone who represents a company in Woburn, MA.


Their technology is very interesting, because it promises to provide memory that is tolerant of radiation much longer than any electronics today.

The person whom I met is not local, but the company is headquartered in Woburn, MA, and their CEO or CTO or Director of Engineering would probably be interested in speaker to our IEEE Boston Reliability Chapter as a way to spread the word about their technology.

Please add this to the agenda for our next Advisory Committee meeting, which I think is less than a week away. We should discuss whether we want to pursue this, and, if so, who should make first contact.


Thanks,

Dan




### Session IV: Emerging Technologies I – 1D and 2D Devices

- **4:15** "A Carbon Nanotube Non-Volatile Memory Technology for Von Neumann and Beyond" *Bill Gervasi, Nantero, Woburn, MA!*
  - Looking for dynamic RAM applications of carbon nanotubes, using carbon nanotubes that move
  - Van der Waals energy barrier keeps CNTs apart or together
  - Data retention more than ten years (and possibly more than a thousand years)
    - No degradation from -55C to +300C
  - No dielectric to succumb to charge effects
  - After DRAM, they plan to address flash memory
  - Expected to cost less than alternative technologies
  - They are an "IP (intellectual property) house," not a "product house"
  - [After the last presentation of the day, on the shuttle bus to the hotel, I spoke with Bill Gervasi, who is local to southern California, not Woburn, MA. The headquarters of Nantero is in Woburn, MA.]



**Carbon nanotubes promise to provide memory that will last in a radiation environment for more than ten times the duration of most of our present missions**



No Dielectric → No Known Failure Mechanism\*  
CNTs switch in a void  
No dielectric  
Wear-out has not been observed  
→ Unlimited write endurance expected

Microelectronics Reliability and Qualification Workshop - 20  
Sep. 2020

# AdCom Calendar

November 2023						
			1	2	3 Award Req	4
5	6	7	8 TM & PCI	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30 AdCom		
December 2023						
					1	2
3	4 Close Elect	5	6	7	8 Award Sub	9
10	11 PC Food	12	13 PC Tech Mtg	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
January 2024						
31	1	2	3	4	5	6
7	8	9 AdCom	10	11	12 Tax Rpt	13
14	15	16	17 Tech Mtg	18	19	20
21	22	23	24	25	26 POBC/COI	27
28	29	30	31			
February 2024						
				1	2	3
4	5	6	7 Tech Mtg	8	9	10
11	12	13	14	15	16	17
18	19	20 AdCom	21	22	23	24
25	26	27	28	29 Newsletter		
March 2024						
					1	2
3	4	5	6	7	8	9
10	11	12	13 Tech Mtg	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
April 2024						
31	1	2 AdCom	3	4	5	6
7	8	9	10 Tech Mtg	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				
May 2024						
			1	2	3	4
5	6	7	8 Tech Mtg	9	10	11
12	13	14 AdCom	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31 Newsletter	
June 2024						
						1
2	3	4	5	6	7	8
9	10	11	12 Tech Mtg	13	14	15
16	17	18	19	20	21	22
23	24	25 AdCom	26	27	28	29

July 2024						
30	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			
August 2024						
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30 Newsletter	31
September 2024						
1	2	3 AdCom	4	5	6	7
8	9	10	11 Tech Mtg	12	13	14
15	16	17	18	19	20	21
22	23 Open Nom	24	25	26	27	28
29	30					
October 2024						
		1	2	3	4	5
6	7	8	9 Tech Mtg	10	11	12
13	14	15 AdCom	16	17	18	19
20	21 Close Nom	22	23	24	25	26
27	28 Open Elect	29	30	31		
November 2024						
					1	2
3	4	5	6 PC Invite	7	8 Award Req	9
10	11	12	13 Tech Mtg	14	15	16
17	18	19	20	21	22	23
24	25	26 AdCom	27	28	29 Newsletter	30
December 2024						
1	2 Close Elect	3	4	5	6	7
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19	20	21	22	23	24 POBC/COI	25
26	27	28	29	30	31	
February 2025						
						1
2	3	4	5	6	7	8
9	10	11	12 Tech Mtg	13	14	15
16	17	18 AdCom	19	20	21	22
23	24	25	26	27	28 Newsletter	

### **Calendar Legend:**

AdCom	(AC)	AdCom Meeting
Newsletter	(NL)	Newsletter due date
PC Invite	(PCI)	Send Past Chairs Technical Meeting invitations
PC Food	(PCF)	Order food for Past Chairs Technical Meeting
PC Tech Mtg	(PCM)	Past Chairs Technical Meeting
Tech Mtg	(TM)	Technical Meeting
POBC/COI	(P/C)	Annual Principles of Business Conduct / Conflict of Interest certification due date for officers
Tax Rpt	(TR)	Annual Tax Reporting due date
Award Req	(AR)	Send requests for award submissions
Award Sub	(AS)	Award submission due date
Open Nom	(ON)	Open nominations for officers
Close Nom	(CN)	Close nominations for officers
Open Elect	(OE)	Open election of officers
Close Elect	(CE)	Close election of officers
<b>Multiple Events</b>		Multiple events scheduled for same day use abbreviations shown in parentheses above

### **Requested Technical Presentation Topics**

Reliability of Electric Vehicles Batteries and Control Circuits

Reliability target setting and allocation

LONG DURATION RELIABILITY OF HIGH VOLTAGE/POWER SEMICONDUCTORS

AI opportunities in quality & reliability

comparison of usability and capabilities of reliability analysis SW packages, including analysis of physical degradation (drift) and binomial (pass/fail) data, and availability (e.g., Markov) modeling

Reliability of Power Semiconductors

how was JWST success achieved?

Software Reliability and Availability

DfR practices and ALT

Ways to use AI, ML & Generative AI in Reliability

Microfabrication Reliability, Reliability of Power Electronics, Reliability of Sensors, design and system integration considerations to ensure reliability

fault tree analysis

Electric Grid Decarbonization

I am interested in statistical methodology presented in this (Priscila Silva's) session

Reliability and Resilience prediction

[James P \(Jay\) Yakura is inviting you to a scheduled Zoom meeting.](#)

**IEEE Boston Reliability Chapter AdCom Agenda – Wednesday, 05-June-2024**

Topic: IEEE Reliability Boston/New Hampshire/Providence Chapter ADCOM Meeting

Time: This is a recurring meeting Meet anytime

Join Zoom Meeting

<https://us06web.zoom.us/j/83839280573?pwd=f8kfaYzZ94zVhUYQG0Zy5KHRpR801T.1>

Meeting ID: 838 3928 0573

Passcode: 383263

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One tap mobile

+13052241968,,83839280573#,,,,\*383263# US

+13092053325,,83839280573#,,,,\*383263# US

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Dial by your location

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• +1 301 715 8592 US (Washington DC)

• +1 669 444 9171 US

• +1 669 900 6833 US (San Jose)

• +1 689 278 1000 US

• +1 719 359 4580 US

• +1 253 205 0468 US

• +1 253 215 8782 US (Tacoma)

**IEEE Boston Reliability Chapter AdCom Agenda – Wednesday, 05-June-2024**

• +1 346 248 7799 US (Houston)

• +1 360 209 5623 US

• +1 386 347 5053 US

• +1 507 473 4847 US

• +1 564 217 2000 US

Meeting ID: 838 3928 0573

Passcode: 383263

Find your local number: <https://us06web.zoom.us/j/kqQobl261>