

Detroit Chapter

NATIONAL OFFICERS NIGHT | NOVEMBER 10

NTSB Materials Failure Analysis of Lithium-Ion Battery Incidents from the Boeing 787

Among the events investigated by the agency, the NTSB agency investigated multiple incidents of eight-cell lithium-ion batteries that powered various systems of the Boeing 787 in 2013. Specifically, a mechanic servicing a Japan Airlines 787-8 gate parked at Boston Logan International Airport found heavy smoke and fire from the front of the auxiliary power unit (APU) battery case. This battery consists of eight lithium-ion cells connected in series and assembled in two rows of four cells, each based on a lithium cobalt oxide compound chemistry with a flammable electrolyte liquid. *NATIONAL OFFICERS NIGHT continued on page 2*

GUEST SPEAKER





JP SINGH, FASM ASM INT. TRUSTEE 2025-2028

ERIK M MUELLER, Ph.D., P.E., FASM is currently a Materials Research Engineer at the NTSB where he has performed over 100 failure investigations of aircraft, rail, pipeline, and marine transportation accidents. Erik has previously won the ASM Silver Medal award for his contributions to failure analysis and is a Fellow of ASM International, having twice won the Journal of Failure Analysis and Prevention Best Paper Award. He is a licensed professional engineer (PE) in Florida, Virginia, and the District of Columbia. Dr. Mueller previously graduated from the University of Florida in 2007, where he served as the official mascot (Albert the Alligator). Dr. Mueller also recently graduated with his Masters in Civil Engineering from the University of the District of Columbia. Erik chairs the FAS International Relations Committee, currently serves on the ASM Board of Trustees, and volunteers with the ASM Inclusion Diversity Equity & Awareness Committee. Erik teaches failure analysis to high school students at the Eisenman Materials Camp and Lycée Lafayette Materials Explorers camp each summer, while also teaching the PE test preparation course for TMS and instructs failure analysis classes as an adjunct assistant professor at Case-Western Reserve University. Erik has been an invited guest lecturer at Ohio State, Iowa State, Michigan, Campbell, and Youngstown State Universities, and has been the featured speaker at local ASM chapter meetings in Philadelphia, Washington, Chicago, and Cleveland. Erik is also a volunteer for Engineers Without Borders, having helped design and implement water and sewer projects near Nebaj, Guatemala, and currently designing and fundraising for a bridge project in southeastern Sierra Leone.

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Micro EXAMINER

NATIONAL OFFICERS NIGHT

MONDAY, NOV. 10

GUEST SPEAKER:

ERIK M MUELLER, Ph.D., P.E., FASM

ASM TRUSTEE (2025 - 2028)

"NTSB MATERIALS FAILURE ANALYSIS OF LITHIUM-ION BATTERY INCIDENTS FROM THE BOEING 787"

LOCATION:

GAZEBO BANQUET CENTER 31104 MOUND RD, WARREN, MI

SCHEDULE:

- 5:30 PM | SOCIAL HOUR
- 6:30 PM | DINNER
- 7:00 PM | ANNOUNCEMENTS
- 7:15-8 PM | GUEST SPEAKER

PRICING:

- \$30 WITH RESERVATION
- \$25 RETIREES/UNEMPLOYED
- \$5 STUDENTS

RSVP BY NOV. 6th:

ASMDETROITCHAPTER @GMAIL.COM

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CHAIR'S NOTE



BHAMBROO MATERIALS **ENGINEER** -TENNECO INC

As you read this, October has come and gone, highlighted by the success of the October 13th DWAFS-ASM Detroit joint meeting. We welcomed 48 attendees, including 13 students, a fantastic turnout that brought great energy to the evening. Sandy Calbrese, Director of Sales-DISA & Simpson NA, Norican, delivered a thrilling presentation that truly captivated the audience. Her insights sparked great conversation and engagement throughout the evening. We were also honored to have Kathie Sponseller, wife of lifetime ASM supporter, Dr. David Sponseller, join us. She was presented with a framed letter commemorating the endowment made in Dr. Sponseller's name to the ASM-MEF Ann Arbor Teacher Camp. It was a heartfelt moment, filled with fond memories and a deep appreciation for Dr. Sponseller's legacy. A big thank you to everyone who participated, and to our social hour sponsor, Aalberts surface technologies, and our 2025-2026 student sponsor, Fluxtrol.

Looking ahead to November 10th, we are honored to welcome Dr. Erik M Mueller, Ph.D., P.E., FASM ASM Trustee (2025-2028), to discuss "NTSB Materials Failure Analysis of Lithium-Ion Battery Incidents from the Boeing 787."

We will also recognize three high school teachers with our Teacher Scholar Award for their dedication to integrating materials science into their curriculum. Additionally, as it is Officers Night, we will honor past officers of both ASM and AFS at the local and national levels.

Rajan to add experience from Heat Treat Mini Camp

One of the ASM Detroit Chapter's core goals is to provide meaningful education and networking opportunities. If there's a topic you'd like to explore or you're looking to connect with someone who has expertise in a specific area, please don't hesitate to reach out to me or any member of the Detroit Chapter Board. We're here to support you.

NATIONAL OFFICERS NIGHT

CONTINUED FROM PAGE 1

The investigation found that the thermal runaway of several of these battery cells led to the failure of the battery, which affected safety of flight at the time. This presentation will review the novel failure analysis process performed by the NTSB materials laboratory, specifically focusing on examining fire signatures, thermal damage mapping, computed tomography, and chemical analytical data. Along with optical and electron microscopy, the data helped recreate the sequence of events leading to thermal runaway. Along with details of battery manufacturing processes, the investigation resulted in multiple recommendations to prevent thermal runaway from impacting flight safety again.

NADDRG FALL MEETING

SAVE THE DATE! The North American Deep Draw Research Group (NADDRG) Fall Meeting takes place December 4, 2025 at St. John's Resort, Plymouth, MI. Sessions will cover sheet metal forming and related topics such as defects, lubrication, coatings, and surface texture—and share your own research or industry experience. Advance registration is required at NADDRG.ORG, with discounted rates available through November 14.

The ASM Detroit Chapter Thanks It's Sustaining Members for Their Continued Support!

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WELDALOY SPECIALTY FORGINGS



ASM Detroit Chapter & DWAFS Dinner Meeting, Monday, Oct. 13th



Pictured from left to right: Stu Smalinskas; Dr. James Boileau, FASM; Kathie Sponseller; Prof. Robert Cryderman, FASM; Dr. Manish Mehta, FASM; and Greg Brown.

AT THE OCTOBER 13TH DINNER MEETING, Kathie Sponseller was presented with a letter detailing a donation to the ASM Materials Education Foundation from the ASM Detroit Chapter, made in memory of Dr. David Sponseller, FASM. Attendees fondly shared memories of Dr. Sponseller and his lasting impact.

THANK YOU TO OUR SPEAKER ON OCTOBER 13th.

From Left to right, Angella Sell (October 13th Tech Chair), Sandy Calabrese (October 13th Speaker), Rajan Bhambroo, (25-26 ASM Detroit Chapter Chair) and Jonathan Goettsch (25-26 DWAFS Chair)





Thirteen students attended the October 13th Dinner Meeting, generously sponsored once again by Fluxtrol. Pictured with the students are Bob Ruffini (Fluxtrol), Rajan Bhambroo (ASM Detroit Chair), and Jonathan Goettsch (DWAFS Chair)

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Vice - Chair

YI LIU

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DANIEL BAKER

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2025-2026 ASM Detroit Chapter STEM Outreach Sponsor!



Thanks to Fluxtrol's generous donation we are able to offset the dinner cost at our monthly chapter dinner meetings for our STEM Outreach attendees. These attendees include: Teacher Scholarship Winners, University Scholarship Winners, Community College Scholarship Winners, Metro Detroit Science Fair Winners, and ESD Future City Winners.

College and university students can also attend our ASM Detroit Chapter dinner meetings for just \$5 thanks to this generous donation!

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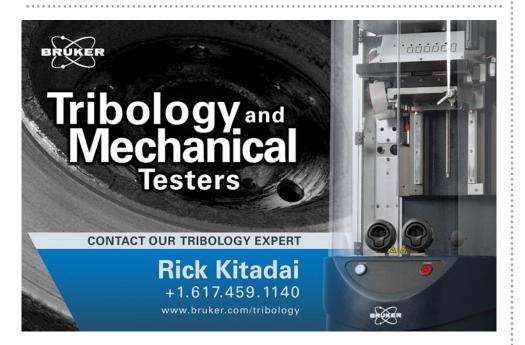


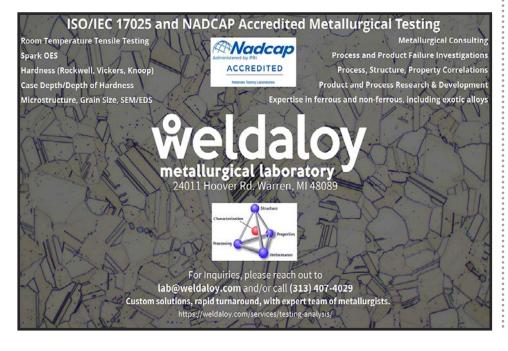




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CHAPTER PROGRAM

NOVEMBER 10

NATIONAL OFFICERS NIGHT

GUEST SPEAKER:

ERIK MUELLER, Ph.D., P.E., FASM

ASM Trustee (2025-2028) Materials Research Engineer-**NTSB**

LOCATION:

Gazebo Banquet Center, Warren

FEBRUARY 9

MEMBERSHIP NIGHT

GUEST SPEAKER: SALIM BRAHIMI

TOPIC:

"Bay Bridge Bolt Failure Investigation"

MARCH 9

SUSTAINING MEMBERS NIGHT

APRIL 9 – (Thursday) **ASM & AFS** COMBINED MEETING

MAY 11

WOODSIDE LECTURE





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NOVEMBER



Three Scholarships Available for Materials Science & Engineering Students

The ASM Detroit Chapter is pleased to announce that we will be awarding three scholarships to students pursuing a degree in materials science and engineering.

- THE MARION SEMCHYSHEN SCHOLARSHIP and the JAMES A. MANSFIELD SCHOLARSHIP will be awarded again this year.
- We are also excited to introduce a new opportunity: THE LEO AND BETTY BLAZOK UNIVERSITY SCHOLARSHIP, made possible by a generous donation from the Leo and Betty Blazok Foundation.

These scholarships recognize high scholastic achievement and active involvement in the field of Materials Science or Metallurgy. Eligible applicants include sophomores, juniors, and first-year seniors. Each scholarship includes:



A \$1,500 cash award



A certificate of recognition



Presentation at an ASM Detroit Chapter meeting in March or April

If you know a college or university student studying Materials Science or Metallurgy, please share this opportunity with them!

Take a moment to think of that outstanding co-op student or intern you've worked with—send them a quick email and encourage them to apply!

APPLICATION DETAILS:

- Applications will be sent to university advisors and posted on the ASM Detroit website by January 2, 2026.
- · Completed applications must be submitted to the ASM Detroit Chapter by midnight on Sunday, January 30, 2026.









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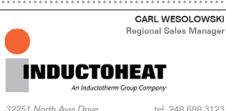


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IMAT – HEAT TREAT MINI CAMP, TUESDAY, OCTOBER 21st

IMAT/Heat Treat 2023 Minicamp at Hunnington Place!

The IMAT/Heat Treat 2025 Minicamp was held at the Hunnington Place on October 21st and 22nd in conjunction with IMAT and Heat Treat 2025. We had a fabulous time demonstrating materials based experiments for over 200 high school students from around Metro Detroit.

Some of the experiments demonstrated were: Foundry in a Box, Polymer Powders. Induction Heat Treating, Hardness Testing, Nitinol: A Shape Memory Alloy, Brassing a Penny, and Careers in Materials Science and Engineering

Thanks to the many Master Teachers and Industry professionals who volunteered for this event! From the Detroit Chapter, thanks to James Boileau, Max Mayhew, Jesse Newton, Tom Prucha, and Joseph Luellen. This year we had some UofM MMS students who also helped with the presentations!

We would also like to thank Fluxtrol, Suntec and Tom Prucha for the use of their equipment for the demonstrations and finally, thanks to Jeane Deatherage, Victoria Brown and the ASM Materials Education foundation for their support and organizing of the event!



2025 IMAT Awards and Acknowledgements

The ASM Detroit Chapter received two awards at Leadership Days (during IMAT 2025) The winning categories were communications, and volunteerism. Each came with a \$500 monetary award which will be allocated towards future student outreach programs.

> From LtoR: Dr. Navin Manjooran, FASM (24-25 ASM International President); Dr. Kathy Hayrynen, FASM (ASM Detroit Teachers Camp Co-Chair); Rajan Bhambroo (25-26 ASM Detroit Chair and ASM International Residual Stress Technical Committee Chair): and Dr. James Boileau, FASM (ASM Detroit Board Member and ASM International Action in Education Committee Chair).



Dr. Mark Harper, Giving the opening address at IMMA 2025



Chip Keough, FASM received the 2025 Pacesetter Award on behalf of the Keough Family Foundation which has played a

key role in raising \$1.25 million for making the Ann Arbor Materials Teachers Camp selfsustaining in perpetuity.

