

hapter Micro-Examiner

MAY 2025

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Adventures from 30+ years of 3D surface Texture Measurement and Analysis

"God made the bulk; the surface was invented by the devil."

-Wolfgang Pauli

Exploring a surface at the microscopic level—within a 1 mm \times 1 mm area and height variations of $\pm 100~\mu m$ —reveals a world of complexity. From the supersmooth surfaces of disk drives and heart valves to the films on smartphone screens and automotive brake rotors, surface texture plays a critical role in friction, wear, appearance, and adhesion. These characteristics influence contact mechanics, fluid flow, light scatter, and other key

interactions. This presentation will review various surface texture measurement techniques, analysis tools, and the physical principles that connect surface texture to real-world performance.









Tech Chair
Dr. Ron
Radzilowski,
FASM
Founder and CEO
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Olivia Peleg is a junior at Wayne State University and is working towards a B.S. in metallurgical and welding engineering. She has been attending ASM meetings for the last year as a student, but has recently become a member. Olivia accepted the position of ASM Detroit Chapter intern and is helping the head admin with administrative duties. In her free time Olivia likes to make chain maille and plays the trombone with the Detroit Medical Orchestra. Feel free to contact Olivia with any questions, comments, or concerns at **asmdetroitchapterintern@gmail.com**.

Woodside Lecture Monday, May 12, 2025

Speaker: Donald K. Cohen, Ph.D., Michigan Metrology, LLC Topic: Adventures from 30+ years of 3D Surface Texture Measurement and Analysis

Location: Livonia Marriott

Social Hour 5:30pm • Dinner 6:30pm

Announcements 7pm • Speaker 7:15 – 8pm

\$20 a person with a Reservation (\$5 for Students)

For reservations **e-mail** to **AsmDetroitChapter@gmail.com before Thursday, May 8th.**



2024-2025 **ASM-Detroit Chapter Executive Board**

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Tristan Brohm Papers/Programs Co-Chair

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Peg Jones ASM Teacher's Camp

Chair's Note



Mark Harper ASM Detroit Chapter Chair, 2024-25

Wow! What an April! We had over 70 attendees at the April 7th meeting (and thanks to Element for sponsoring the social hour!). We also presented our annual Student Scholarship awards to Isabelle Holden from the University of Michigan, McKenzie Waddell from Wayne State, and Zachary Christiansen from Michigan State. Jame Boileau also presented Julie Nimer with the inaugural Cornerstone Award in recognition of her many years of service to the Chapter.

Dr. Wang then gave a very impressive talk on gigacastings, followed by great questions from the members. Since the meeting was held in Warren and Dr. Wang is with General Motors, we had a strong turnout from GM as well.

Now, moving on to May—our last meeting of the 2024-2025 year. Dr. Don Cohen (Don) will present the Woodside Lecture, titled "Adventures from 30+ Years of 3D Surface Texture Measurement and Analysis," aka "God made the bulk; the surface was invented by the Devil" (Wolfgang Pauli). For those unfamiliar with tribology or component surface analysis, and for those who may have seen Don's posts on LinkedIn, this meeting is a must-attend!

Speaking of May, this will be my last month as Chair of the ASM International Detroit Chapter. I would like to express my sincere gratitude to everyone, especially the Board members, for making this year a great success. We are truly fortunate to have such an active chapter—and that active chapter is all of you.

I'm looking forward to seeing you at the next meeting, and don't forget about the Golf Outing!

Thanks To Our Social Hour Sponsor, **Dubois Chemicals!**

We are pleased to announce DuBois Chemicals headquartered in Sharonville, OH will be sponsoring the social hour event for our March 11th meeting. We're thankful for their continued support. Park Chemical of Detroit, MI (founded by William Park Woodside) was acquired by Heatbath Corporation in 1992 and subsequently acquired by DuBois in 2015. Park was established in 1911 and DuBois in 1920 - collectively that's 219 years of commitment to the heat treating and metal finishing industries. In terms of innovation, integrity and service, DuBois is the undisputed leader. DuBois offers the widest selection of molten salt technologies, oil quenchants and polymer quenchants. Products include brazing salts, rubber curing salts, stop-offs compounds, quench & temper salts, etc. In addition, DuBois specializes in the manufacturing of metal finishing products including cleaners, black oxides, plating brighteners, phosphate coatings and rust preventatives for post heat treatment processes. Our experienced technical service professionals are dedicated to continuous improvement continued on page 3

Thank You to Our Dinner Meeting Sponsor, Bruker Nano Surfaces

Bruker Nano Surfaces is a division of Bruker Corporation. For more than 55 years, Bruker has enabled scientists to make breakthrough discoveries and develop new applications that improve the quality of BRUKER human life. In close cooperation with our customers, Bruker is enabling innovation, productivity and customer success in life science



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Meet the 25-26 ASM Detroit **Chapter EC Board Candidates**

It's that time of year to cast your votes for the ASM Detroit Chapter Board Officers for the 2025-2026 Chapter Officers, please click on the link below. You will be directed to the voting ballot on Survey Monkey. Please vote by May 31st. If you wish to receive a paper copy of the ballot to Mail-in, please email Julie at asmdetroitchapter@gmail.com. Survey: Click Here. Please note: you must be an ASM Detroit Chapter member in good standing to vote.

Election of One (1) New Officer



Yi Liu joined GM in 2022, and is currently a metallic materials technical specialist in Advance Materials Technology and Virtualization at General Motor. Before joining GM, Yi Liu spent eight and half years in Stellantis as production engineer, powertrain structural engineer, advanced CAE senior engineer, and later promoted to senior technical specialist in materials testing and planning. Yi has over 10 years of experience in material model calibration for finite element analysis, especially in low cycle and thermomechanical fatigue. Before working in the auto-

industry, Yi Liu spent 8 years as electron microscopy facility manager, director, and senior research scientist in several public universities, such as Wayne State, Oregon State and North Carolina State universities. During the period, he created training programs in electron microscopy for graduate students, and taught graduate course on Electron Microscopy at Wayne State and Oregon State Universities. His expertise focuses on materials microstructural characterization, mechanical behavior, and structural durability. Yi Liu received a Ph.D. in Mechanical Engineering in 2003 from Wayne State University, did postdoctoral research in the Department of Materials Science and Engineering, University of Michigan (main campus) and Case Western Reserve University during 2003-2006.

Dubois Chemicals (continued from page 2)

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Bruker Nano Surfaces (continued from page 2)

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For more information, please visit: www.bruker.com/nano.





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ASM Detroit Chapter 2024-2025 Program

May 12, 2025: Woodside Lecture

Donald K. Cohen, PhD, Michigan Metrology, LLC Adventures from 30+ years of 3D Surface Texture Measurement and Analysis Location: Livonia Marriott

August 8, 2025: ASM Detroit and DWAFS Golf Outing

Fellows Creek, Canton, Michigan







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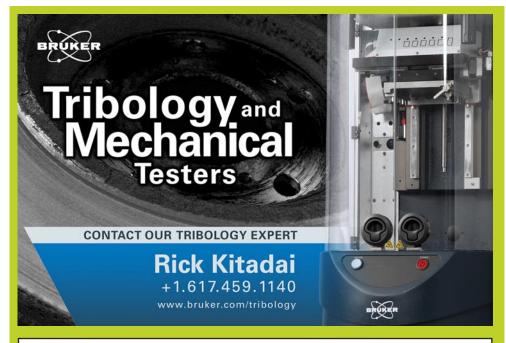
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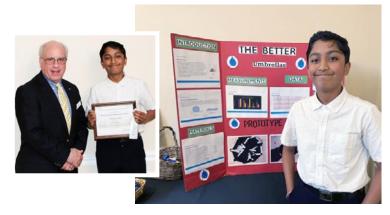
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April 7th Meeting



2025 ASM Detroit / Detroit Science Fair Award Recipient - Dr. James Boileau, FASM acknowledges Shreyas Jain, our 3rd place middle school award winner for Best Use of Materials in his project.



Dr. James Boilieau (ASM Detroit Chapter Board Member) awarded Julie Nimer (ASM Detroit Chapter Administrator) with the inaugural Chapter Keystone Award at the April 7th Dinner Meeting



Thanks to our speaker Dr. Qigui Wang at our April 7th Dinner Meeting. From LtoR: Mark Harper (24-25 Chapter Chair), Jason Coryell (April 7th Tech Chair), Dr. Qigui Wang (April 7th Speaker) and Jonathan Goettsch (DWAFS Chair)



Congratulations to the ASM Detroit Chapter Scholarship Winners! From L to R: Nikki Tiernan (24-25 ASM Detroit Chapter Young Members/Student Affairs Co-Chair), Isabelle Holden, Zachary Christiansen, Mckenzie Waddell, and Nicholas Lessnau (24-25 ASM Detroit Chapter Young Members/Student Affairs Co-Chair)



Congratulations to the DWAFS 2025 University Scholarship Winners From L to R – Dr. Kathy Hayrynen, (DWAFS Scholarship Chair), Emma Rutkiewicz, Riley Newbold, Gabe Gransden, Margaret Kwiencien, Olivia Peleg, Jenny Warner (FEF), and Jonathan Goettsch (DWAFS Chapter Chair)

2024-2025 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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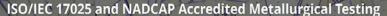
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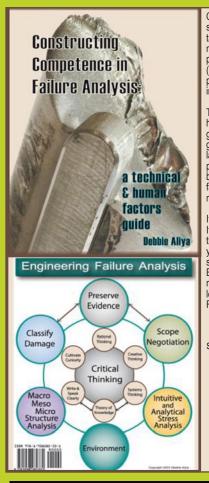
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TIME

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