

September, 2024

Dear AVS members and friends,

The AVS-MI Chapter would like to share with you news about this year's activities and plans for the next year. Please see below.

1.-The Spring Symposium

2.- 2024 Science Teacher to the Science Educators Workshop

3.- MIPSE Graduate Student Symposium

3.- Next Year (2025) Activities

Chapter Officers Election

The Officers to be elected for the 2025 year are:

AVS Student Chapter

Chapter Scientific Focus

1.-The Spring Symposium

This year, the Spring Symposium of the AVS Michigan Chapter, took Place on June 5th, 2024 at the College of Engineering of Wayne State University. The theme of the Symposium was **Materials, Processes, and Devices for Novel Computing Hardware.**

The event was a remarkable success, drawing nearly 80 participants. The attendees included undergraduate and graduate students, local industry partners such as Ford and Applied Materials, and prestigious sponsors like UC Components, Angstrom Engineering, Lurie Nanofabrication Facility, and Hawk Semiconductors. The IEEE Region 4 and the Southeastern Michigan Section also provided substantial support for this event. The symposium featured an impressive lineup of distinguished speakers and cutting-edge topics.

Plenary speakers Michael Manfra, Professor at Purdue University and Scientific Director of Microsoft Quantum Labs, and Angela Wilson, Director of the Michigan State University Center for Quantum Computing, Science, and Engineering (MSU-Q), delivered engaging talks. Manfra's presentation on "Nanoscale electronic devices probe topology: Direct observation of anyonic braiding statistics" provided deep insights into the groundbreaking field of topological quantum computing. Wilson's talk, "Quantum Research and Opportunities in Michigan and Beyond," emphasized regional advancements and the future potential of quantum research.

Alexandre Bourassa, a leading expert from Google Quantum AI, highlighted advancements in quantum error correction in his presentation titled "Suppressing quantum errors by scaling a surface code logical qubit." Additionally, Cagliyan Kurdak and Yiyang Li from the University of Michigan, Jonas Becker and Bige Unluturk from Michigan State University, and Aaron Rury from Wayne State University, covered novel computing paradigms, underlying physics, and hardware requirements.

The symposium concluded with Tatjana Stone, an expert from Angstrom Engineering, who delivered an insightful talk on "System Configurations, Features & Trends in Quantum Device Fabrication Equipment," focusing on the latest trends and technologies in quantum device manufacturing.

The symposium also featured a poster presentation session, where 20 students showcased their research on novel computing hardware, processes, and materials. Among the participants, three students were honored with awards: first and second place, as well as a special AVS prize.

Some photos of the event:



General view of the auditorium,



The student poster winners, from the left: First Prize, Dongjiae Shin, University of Michigan Second Prize Logan Crooks, University of Michigan and AVS Prize Alireza Moazzeni, Wayne State University.



One of our Sponsors and Speaker, Tatjana Stone, Angstrom Engineering, and Gozde Tutuncuoglu, Symposium Chair.



Committee and speakers' after-dinner



Symposium Organizers: Hiroko Ohtani (board member), Kimberly Beers(Student's Chapter Chair), David Laleyan board member), Pilar Herrera-Fierro (Secretary/Treasurer), Gozde Tutuncuoglu (Chapter and Symposium Chair) Sergey Baryshev (Past Chair) and Sabrina Peczonczyk (board member.

Thank you to our sponsors!



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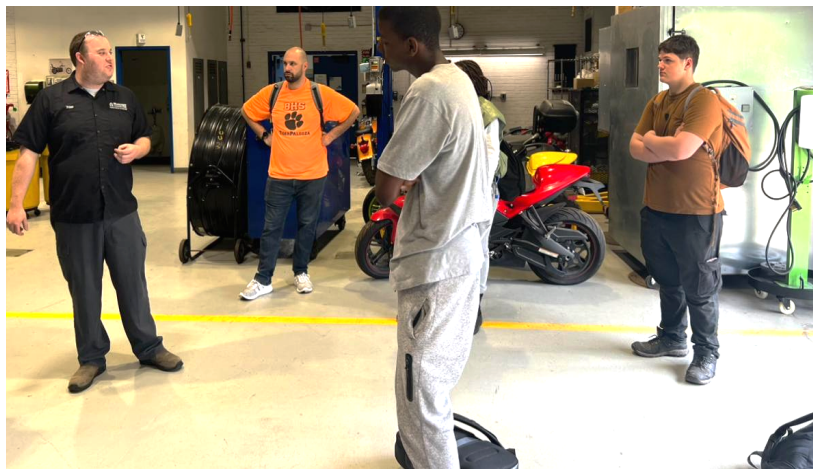


2.- 2024 Science Teacher to the [Science Educators Workshop](#)

The promotion of science and the support of science education is one of the Chapter's most important goals. This year the chapter is supporting **Nicholas Porambo**, a Math and Physics teacher at Belleville High School in Van Buren Township, MI.

[Belleville High School](#) is part of the Van Buren Public school system. As one of the larger schools in the area, it offers a wide variety of classes and opportunities for the students. From championship athletics to a high-ranking robotics team. Belleville High School also has one of the most diverse student bodies.

In the photo below is Mr. Porambo (in orange) at a field trip for an after school program to Washtenaw Community College in Michigan.



3.- MIPSE Graduate Student Symposium

The 15th Annual MIPSE [Graduate Student Symposium](#) will take place on Wednesday, **November 20, 2024** at the University of Michigan, Ann Arbor. The Symposium is an opportunity for students involved in plasma research, in particular, students pursuing the Graduate Certificate in Plasma Science and Engineering, to present the results of their investigations, learn about the research of their fellow students, and network with MIPSE faculty and staff.

[American Vacuum Society \(AVS\) Michigan Chapter](#) will sponsor this event. Participants in the MIPSE poster sessions will be eligible for the MI-AVS award if their poster crosses over any of the three major focus areas below:

1. Quantum science
2. Thin films and plasma science
3. Vacuum, power, and space electronics

3.- Next Year (2025) Activities

Chapter Officers Election

2025 is rapidly approaching which means the AVS Michigan Chapter needs to elect new Officers, complete the executive committee, and consolidate the activities calendar, which includes, mainly, the 2024 Spring Symposium. If you want to volunteer or propose a name please do so to the secretary's email: Pilar_Herrera-fierro@avs.org

The 2024 executive committee is;

Chair: Gozde Tutuncuoglo (gozde@wayne.edu)

Vice-Chair: Shannon Nicley (nicleysh@msu.edu)

Secretary: Pilar Herrera-Fierro (also acting Treasurer)

Past - Chair : Sergey Baryshev

Members at Large: David Laleyan

Hiroko Ohtani

Sabrina Peczonczyk

The Officers to be elected for the 2025 year are:

Vice-Chair (which will become 2026 chair)

Secretary

Treasurer

Members at large (3 needed)

To be an officer the [Chapter By-Laws](#) require AVS membership. See the benefits of being a member and how to become one [here](#).

Please help promote science by joining the AVS-MI Chapter by volunteering to any of these positions.

AVS Student Chapter

AVS Student Chapter of Southeast Michigan (SEMI)

All students welcome!

University of Michigan

Michigan State University

Wayne State University

Undergrad & Grad Students welcome!

- ★ Professional Development
- ★ Access to Job Postings
- ★ Leadership Development
- ★ Sense of Community
- ★ Networking Opportunities

Interested in joining?

Stay informed about future chapter events!



SCAN ME

After many, many years searching for a volunteer to organize a student chapter, Kimberly Beers from EECS Department of UofM has volunteered to work on forming a student Chapter. Professor Rachel Goldman (UofM) has graciously accepted the invitation to be the faculty adviser to this group. The student chapter has not yet been registered, and we are still trying to fill the treasurer/secretary positions. We have interested students but we don't have enough AVS student memberships to register at this time. We are hoping to be able to register the student chapter in the Fall semester. An AVS Student Chapter offers a collaborative learning environment, networking amongst fellow students and with industry professionals, professional development opportunities, and access to AVS resources. AVS Student Chapter membership benefits

include the participation in seminars, workshops, and conferences along with the potential for scholarship opportunities, student awards, and future job opportunities.

Chapter Scientific Focus

As a reminder to our members, the Chapter's Scientific and focus areas to promote these fields in the area:

- **Quantum Science** led by Shannon Nicley
 - AVS periodical <https://avs.scitation.org/journal/aqs>

- **Thin Films** led by Gozde Tutuncuoglu
 - AVS periodical <https://avs.scitation.org/journal/jva>
<https://avs.scitation.org/journal/jvb> <https://avs.scitation.org/journal/sss>
 - Note: Thin Films would include 1) plasma applications for synthesis, 2) structure-property, 3) surface and applied surface science

- **Vacuum, Power, Space Electronics** led by Sergey Baryshev
 - AVS periodical <https://avs.scitation.org/journal/jyb>
 - Note: Vacuum, Power, Space Electronics would include both vacuum and solid state electronics