





# Thank You!

- Germano Iannacchione – Division Director, DMR
- Alexios Klironomos – Deputy Division Director, DMR
- New PI Meeting Organizers: Thomas Epps and Gwendolyn Gregory, Delaware
- Former PI Meeting Organizers: Mark Hersam and William Kung, Northwestern
- Presenters: Vin Crespi, Mike Sailor, Erich Stach, Ram Seshadri, and Xiaoqing Pan
- And all MRSEC attendees!



# Leadership Transitions

Welcome

**Brandeis**



Aparna Baskaran

**Ohio State**



Joshua Goldberger

**UIUC**



Harley Johnson

Thank you



Seth Fraden



Chris Hammel




Nadya Mason



# 2023 MRSEC Competition



 [View image credit & caption](#)

NSF News


## **NSF invests \$162 million in research centers to accelerate materials science from lab to factory**

NSF backs nine Materials Research Science and Engineering Centers to create novel materials that can solve big challenges and enable the industries of tomorrow.



# 2023 MRSEC Competition



 [View image credit & caption](#)

NSF News

## **NSF invests \$162 million in research centers to accelerate materials science from lab to factory**

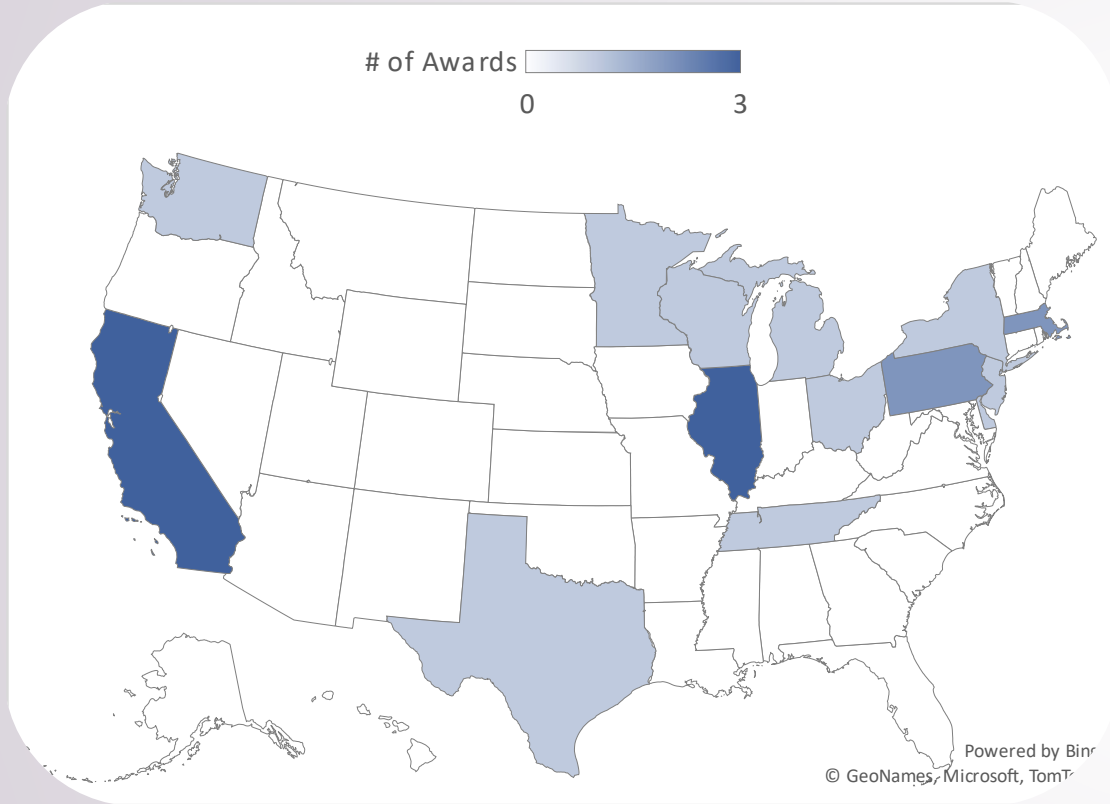
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In 2023:  
9 MRSEC awards  
20 total active MRSECs



# 2023 MRSEC Competition

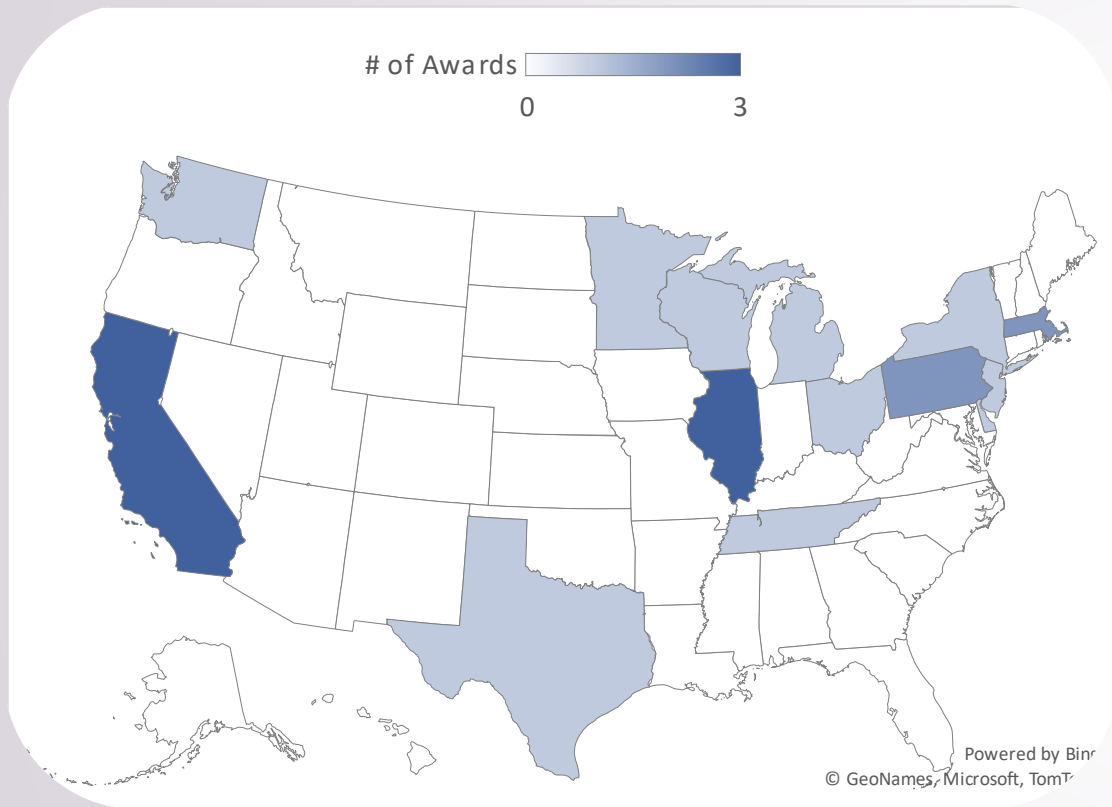
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**MRSECs -  
Geographical Distribution**



# 2023 MRSEC Competition

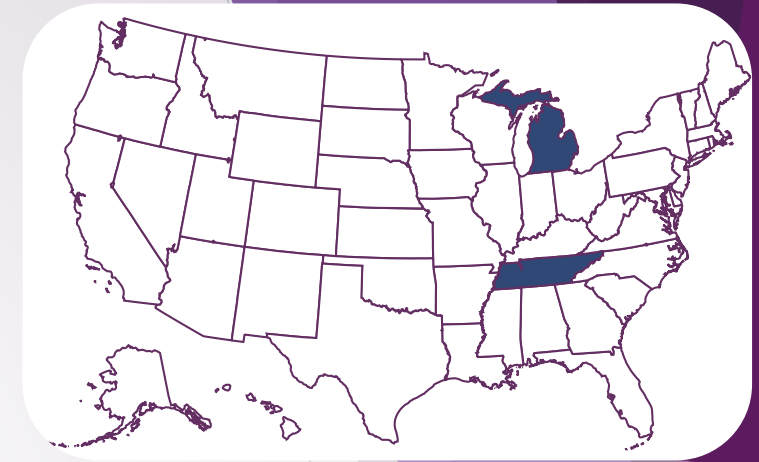


## MRSECs - Geographical Distribution

<p>2023</p>  <p>Northwestern University Materials Research Science and Engineering Center <b>NORTHWESTERN UNIVERSITY</b></p> <p>The Northwestern University Materials Research Science and Engineering Center (NU-MRSEC) advances world-class materials research, education, and outreach via active interdisciplinary collaborations within the Center and with external partners in academia, industry, national laboratories, and museums, both domestically and abroad.</p>	<p>2023</p>  <p>Materials Research Science and Engineering Center at UCSB <b>UNIVERSITY OF CALIFORNIA, SANTA BARBARA</b></p> <p>The NSF Materials Research Science and Engineering Center at UC Santa Barbara develops and sustains a productive, collaborative, and engaged community that drives a portfolio of transformative materials research and empowers a diverse workforce.</p>	<p>2023</p>  <p>Illinois Materials Research Science and Engineering Center <b>University of Illinois Urbana-Champaign</b></p> <p>The Illinois Materials Research Science and Engineering Center (I-MRSEC) has a mission to perform fundamental, innovative research that supports technological applications in areas of societal need, while promoting interdisciplinary materials-focused education and training of students.</p>
<p>2023</p>  <p>Center for Materials Innovation <b>UNIVERSITY OF MICHIGAN</b></p> <p>The Center for Materials Innovation establishes a transformative campus-wide eco-system to accelerate the design, discovery, and deployment of novel materials critical for the Industries of Tomorrow, including advanced manufacturing, clean energy/sustainability, artificial intelligence, and future semiconductors.</p> <p><a href="#">2023 REU final flyer_uk (1).pdf</a></p>	<p>2023</p>  <p>Materials Research Science and Engineering Centers (MRSEC) UPENN <b>UNIVERSITY OF PENNSYLVANIA</b></p> <p>The Laboratory for Research on the Structure of Matter (LRSUM) at the University of Pennsylvania is a center of excellence for materials research and education. It facilitates collaboration between researchers from different disciplines: physics, chemistry, engineering, and biology to advance transformative scientific projects and solve societal challenges.</p>	<p>2023</p>  <p>Center for Advanced Materials &amp; Manufacturing <b>UNIVERSITY OF TENNESSEE</b></p> <p>The Center for Advanced Materials &amp; Manufacturing (CAMM), a Materials Research Science and Engineering Center (MRSEC) at the University of Tennessee (UT), Knoxville, focuses on the exploration, discovery, and design of new materials with properties of critical societal importance for energy, transport, and security advancements.</p>
<p>2023</p>  <p>Center for Dynamics and Control of Materials: an NSF MRSEC <b>UNIVERSITY OF TEXAS AT AUSTIN</b></p> <p>The Center for Dynamics and Control of Materials: an NSF MRSEC brings together researchers from across science and engineering to create materials with new atomic-scale structures and functionalities, and to develop approaches for actively controlling and reconfiguring materials in real time.</p>	<p>2023</p>  <p>University of Washington Molecular Engineering Materials Center <b>UNIVERSITY OF WASHINGTON</b></p> <p>The University of Washington Molecular Engineering Materials Center, an NSF MRSEC, executes fundamental materials research that aims to push the frontiers of science and accelerates the emergence of future advanced technologies.</p>	<p>2023</p>  <p>Wisconsin Materials Research Science and Engineering Center <b>UNIVERSITY OF WISCONSIN</b></p> <p>The Wisconsin Materials Research Science and Engineering Center addresses grand challenges in two areas of materials science and engineering: (1) how atoms and molecules move in liquids and glasses and (2) developing new forms of magnetism using ultrathin, atomically perfect membranes.</p>



Rachel Goodman  
University of Michigan



Alan Tennant  
University of Tennessee, Knoxville





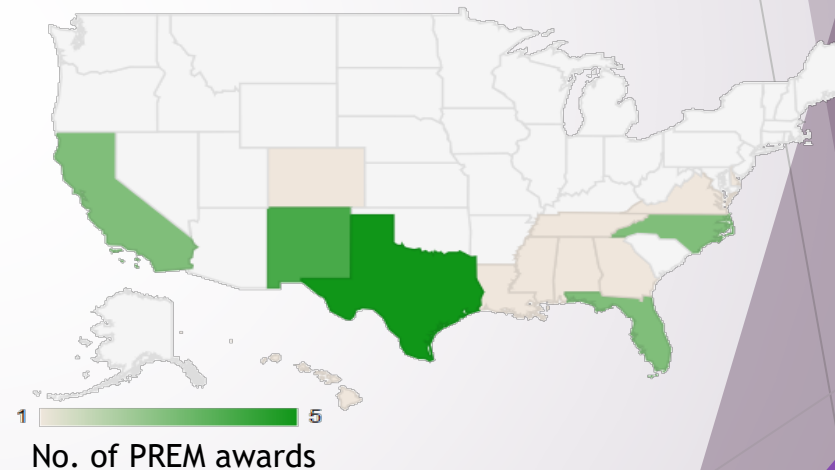


# MRSEC Program Details

## State of the Program (Data for 2022, 19 Centers)

Number of Centers	20
Senior Personnel	> 850
Post Docs	> 250
Graduate Students	> 750
Undergraduate Students	> 125
Other Personnel	> 225
Pre-College Teachers Impacted	> 700
Pre-College Students Impacted	> 70,000
REU Participants	> 150

## PREMs - Geographical Distribution



Solicitation is open  
NSF 24-512  
March 12<sup>th</sup>, 2024



# Upcoming Events, Deadlines and Reminders

- ▶ **Annual reports** are due **May 15, 2024**. Please follow reporting guidelines provided last year. Non-compliant reports will be returned for revisions.
- ▶ **Note: Our plan is to recommend all annual increments by June 20.** Late submission of annual reports will delay processing of increments.
- ▶ **Reminder:** Purchasing of equipment in the final year of an award is **NOT ALLOWED**. NSF may request funds be returned. Note: Spending down an award on student and postdoc support is allowed and encouraged.
- ▶ Eleven 4<sup>th</sup> year site visits, **in-person**, April – May 2024:  
**Hotel information due TOMORROW** (Please let us know if you need additional time or are running into issues.)  
**\*\*\*REQUEST \*\*\*:** Please send ADDRESS for site visit to [cfinta@nsf.gov](mailto:cfinta@nsf.gov) and [cboswell@nsf.gov](mailto:cboswell@nsf.gov)



# DMR: In The Know

The image shows the cover of the 'DMR NEWS BLAST' newsletter, Volume 1, Issue 4, dated October 2023. The cover features the NSF logo and the text 'Division of Materials Research, Directorate for Mathematical and Physical'. Below the title, it says 'A newsletter from the Division of Materials Research'. The 'IN THIS ISSUE:' section includes eight items: 'DMR by the Numbers', 'DMR Open Hour: MR BEC', 'Calendar of Upcoming Events', 'Updates from Around the Division', 'Congratulations', 'What We're Reading', 'Funding Opportunities', and 'From Germano's Desk'. A large 'DMR by the Numbers' section is also visible, featuring a colorful fractal-like pattern. At the bottom, there is a text box with statistics on research funded by the Division of Materials Research since 2014.

**NSF** Division of Materials Research  
Directorate for Mathematical and Physical

## DMR NEWS BLAST

VOLUME 1, ISSUE 4 OCTOBER 2023  
A newsletter from the Division of Materials Research

**IN THIS ISSUE:**

- DMR by the Numbers
- DMR Open Hour: MR BEC
- Calendar of Upcoming Events
- Updates from Around the Division
- Congratulations
- What We're Reading
- Funding Opportunities
- From Germano's Desk

### DMR by the Numbers

Photo Credit: Dean Smith, Nevada Extreme Conditions Laboratory, U. of Nevada, Las Vegas

Since 2014, research funded by the Division of Materials Research has resulted in 58 patents and 2,674 publications. These publications have been cited more than 134,000 times with a mean of 50 citations.

Here's where some of these publications have appeared:

- ▶ Send Research Highlights throughout the year!
- ▶ Let us know of notable publications (ideally) before release and we can work with NSF Public Affairs to potentially highlight the work!



# DMR: In The Know

## DMR Open Hour

Hosted by Germano Iannacchione; Generally, every 3<sup>rd</sup> Friday of the month at 11.00 AM ET

- ▶ May 19, 2023 - Faculty Early Career Development Program (CAREER) Solicitation
- ▶ June 16, 2023 - Broader Impacts
- ▶ July 21, 2023 - Data Management Plans
- ▶ August 25, 2023 - Topical Materials Research Programs (TMRP) and Condensed Matter and Materials Theory (CMMT) Solicitations
- ▶ September 22, 2023 - Materials Innovation Platforms (MIP) Solicitation
- ▶ October 27, 2023 - Materials Research Science and Engineering Centers Program
- ▶ November 17, 2023 - National Artificial Intelligence Research Institutes Solicitation
- ▶ December 15, 2023 - Annual and Final Project Reports
- ▶ January 12, 2024 - Partnership for Research and Education in Materials (PREM) Solicitation

Topics will be posted a few weeks before at: <https://new.nsf.gov/events>



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- ▶ October 20, 2023 - Faculty Early Career Development Program (CAREER) Solicitation
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**Tentative:**  
The February 16<sup>th</sup> DMR Open Hour theme will center around Supplements and especially those related to the MPS BP initiatives (MPS-HIGH).

Topics will be posted a few weeks before at: <https://new.nsf.gov/events>



# MRSEC-wide Activities

## Conference Across MRSEC- PREM Schools (CAMPS)



[Apply Here](#)

### Motivation

The Conference Across MRSEC-PREM Schools is a student-led initiative sponsored by University of California – Santa Barbara (UCSB) and The Ohio State University (OSU) MRSECs with the aim of taking advantage of the wide MRSEC-PREM network to benefit all participating institutes' students and faculty. The conference was founded as a result of a growing need to network with students from other institutions and learn about their work. Given the collaborative spirit that MRSEC instills in us, we found that it is imperative to expand upon this spirit to become cross-institutional and benefit from each other's knowledge, network, and industry connections.

## CAMPS - Conference Across MRSEC-PREM Schools

Stuart Rowan to update!



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## CAMPS - Conference Across MRSEC-PREM Schools

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## MRSEC - Website

Search this site...

Overview Centers Education **Research** Highlights News Events Facilities Industrial Interactions Other DMR Sites Contact

### Research Groups

Interdisciplinary research groups (IRGs) involve several faculty members and associated researchers, addressing a major topic or area, which may range from fundamental to applied research, in which sustained support for interactive effort by several participants with complementary backgrounds, skills, and knowledge is critical to progress.

The IRGs in a Center may be topically related, or they may address different topical aspects of materials research; they contribute to the synergy arising from the research and education activities of the Center and its common infrastructure, shared facilities and outreach programs. Thus, the Center as a whole is expected to be more than the sum of its parts.

Research Group Name

Research Fields

- Biomolecular/Biomimetic Mater
- Semiconductors/Photonics/Org
- Synthetic Materials Biology
- Soft Materials/Colloids
- Polymers
- Condensed Matter Phenomena
- Other
- Nanostructures/Nanoparticles
- Multiferroics/Magnetics/Spintro

Center:

MRSEC.org is being refreshed, updated, and is also migrating to a new and improved platform.

If you are planning on making changes to the website/MRSEC brochure - please coordinate with Ed Yu!



# MRSEC-wide Activities

## MRSEC Facilities

As you heard last year, DMR made an award to a team which intends to create a national tool of **federated data infrastructure** for DMR-funded materials research instrumentation - the **Facilities and Instrumentation for materials Research Search Tool (FIRST)**.

Update from Vin Crespi!





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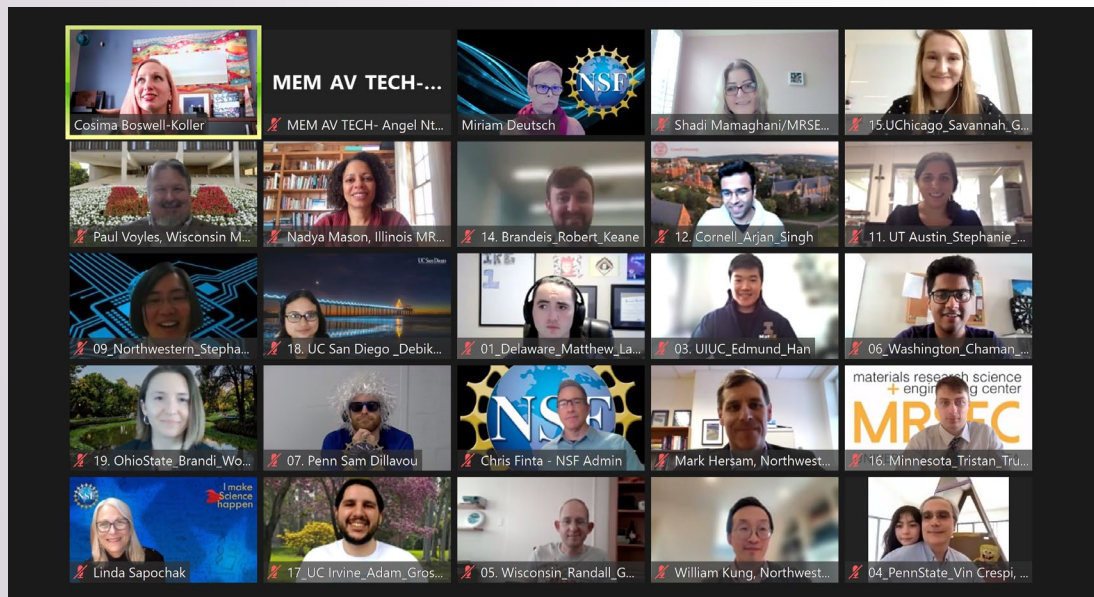
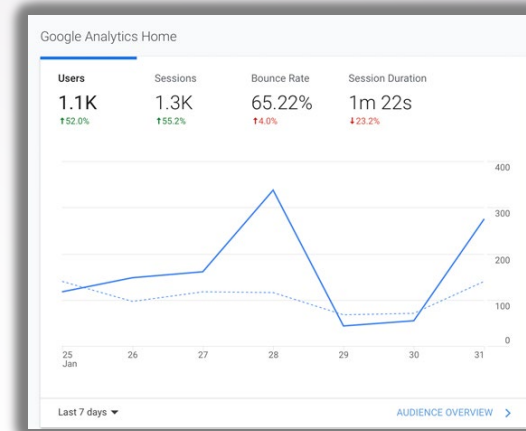
## Communications and Reporting

- MRSEC demographic survey just launched. **WE NEED ACCURATE DATA.**
- Changes to annual reporting guidelines were implemented in 2023. Our experience in reviewing annual reports was impacted positively, and machine-readable tables in Appendices were successful.
- We are happy to hear feedback. Want to make sure the questions are clear so there is no misinterpretation. Send email!



# MRSEC Science Slam, 1/28/2022

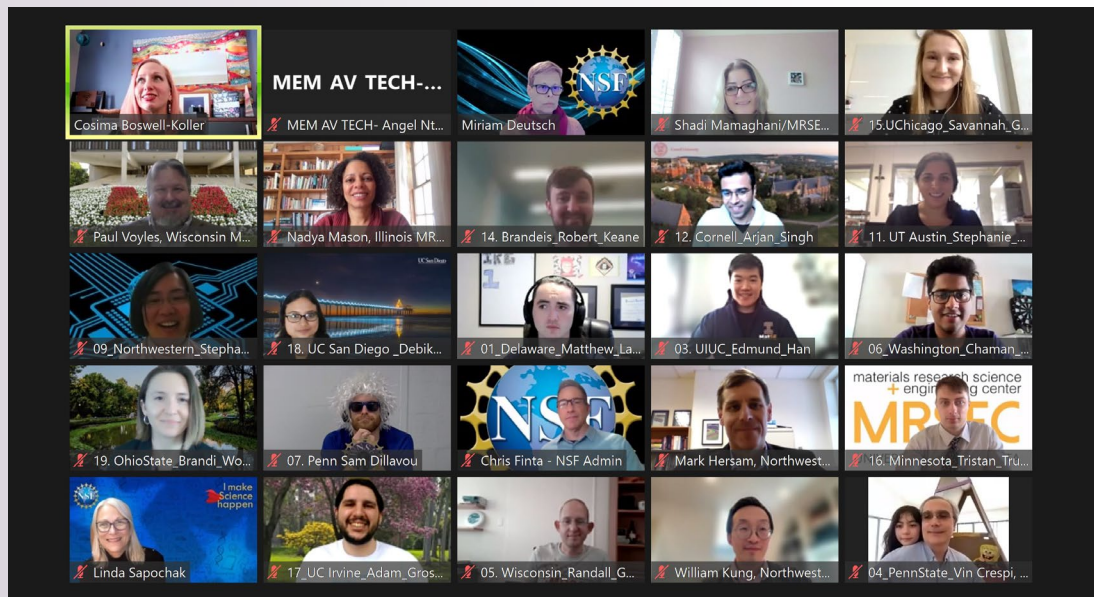
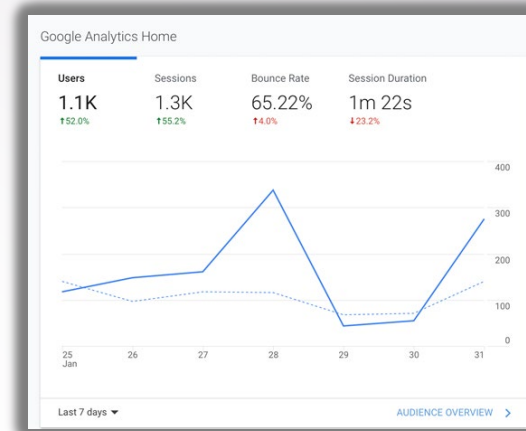
- 1783 registrants; 1308 unique attendees
- Attendees from 26 states, plus DC, PR
- 28 attendees from 16 countries outside the US
- Attendees from 14 non-academic institutions (industry, Nat'l Labs)
- Visits to [www.mrsec.org](http://www.mrsec.org) increased by 100s of %





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Next MRSEC Science Slam:

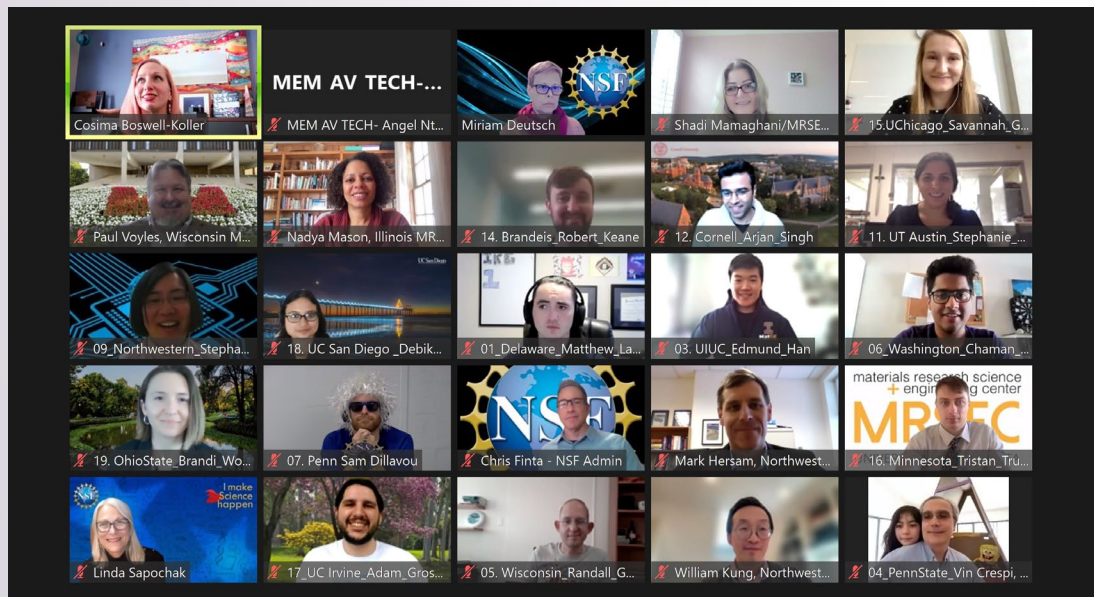
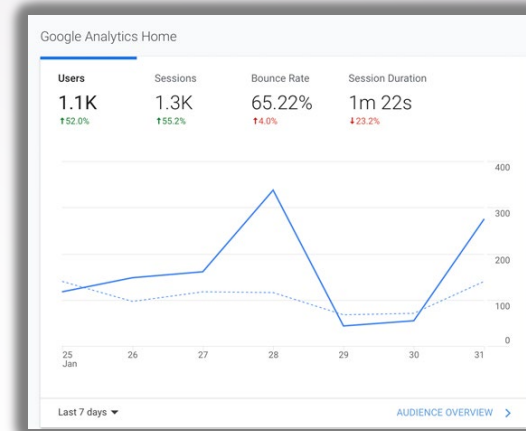
**2025!!!**

We plan for this to be **in person.**



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Next MRSEC Science Slam:

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NSF's  
75<sup>th</sup> Anniversary  
in 2025



# MRSEC Science Slam 2025

- Planning of the next MRSEC Science Slam will be **transitioned directly to the MRSECs.**
- Coming out of this meeting, we would like the **Education Working Group** (and others) to develop a plan for the next Slam.
- Is this an opportunity to **engage the MRSEC Education Directors?**
- In-person event: Should this be a **stand-alone** event or tied to a **Professional Society Meeting**? If so, which meeting? Other opportunities?
- How is this event **best advertised** to have the highest impact? Thoughts from the Communications Working Group?
- How might this tie to NSF's 75<sup>th</sup> Anniversary? We may expect more highlights and coverage from NSF. Special topics?
- Who will lead this effort? **Volunteer(s)**?



# MRSEC Staffing Changes



# MRSEC Staffing Changes



Miriam Deutsch

**Miriam Deutsch**

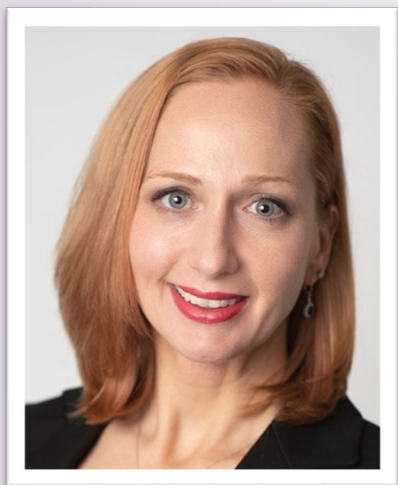
will be moving into the role of  
***DMR Deputy Division Director***  
effective in March 2024.

She will be away on training  
beginning February 4<sup>th</sup>, 2024.

**Congratulations and Thank You  
for your service to the  
MRSEC Program!**



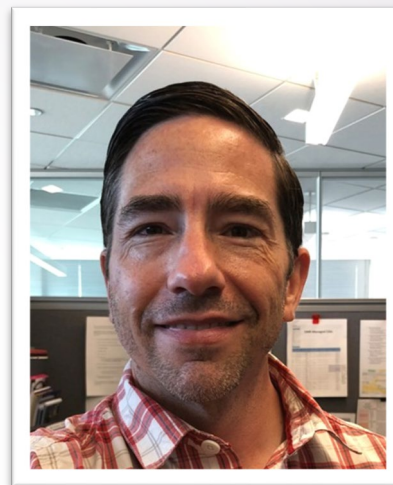
# MRSEC Staffing Changes



Cosima Boswell-Koller  
Program Director  
MRSEC, MIP



Serdar Ogut  
Program Director  
MRSEC, CMMT



Chris Finta  
Program Specialist  
MRSEC, SSMC





Thank You!

