

MAKING A MATERIAL DIFFERENCE

ANNUAL REPORT 2023



ASM MATERIALS
EDUCATION FOUNDATION

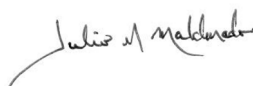


FROM THE LEADERSHIP

In 2023, the ASM Materials Education Foundation soared to new heights, celebrating great achievements and groundbreaking progress in the realm of materials science education. We held an unforgettable Eisenman Materials Camp for high school students, at the illustrious Dome. Through dynamic hands-on activities and the expert guidance of our mentors, we left an indelible mark on the young minds we inspired. We also joined forces to host a collaborative Materials Camp for teachers in Apple's cutting-edge facility in California. The engineers at Apple connected the important work that they do in their labs and correlated it into the camp curriculum. This helped our participants see the connections to spark excitement in their students.

The IMAT conference wasn't just an opportunity for us, it was a testament to our dedication to top-notch education. Amidst the energy of this conference, one moment stood out like a beacon: 'Ignite the Night'. It was a wonderful gathering of excitement and purpose, marking the launch of our groundbreaking Making a Materials Difference Campaign. Our vision? Nothing short of transformative—to empower and inspire through the expansion of ASM Materials Camps, igniting curiosity and shaping futures worldwide. As the night unfolded, passion and innovation reverberated through the air, forging connections, and sparking enthusiasm among our esteemed guests. By the end of the night, we knew we were on a journey of something extraordinary.

We extend heartfelt gratitude to our board members, volunteers, and master teachers, whose dedication ensures the continued success of the Foundation. As we continue to champion educational excellence, we're collectively shaping the future of materials science education and empowering the next generation of STEM leaders. Together, we're making a material difference.



Julio Maldonado

Chair of the ASM Materials Education Foundation



PILLAR SOCIETY

The ASM Pillars Society, a platform designed to honor and acknowledge donors during their lifetime, is a society that celebrates individuals who support the ASM Foundation through charitable bequests, life income gifts, and trusts. As a member of the ASM Pillars Society, you'll receive recognition in our annual report and other publications, ensuring your legacy is known and appreciated.

We invite you to become a part of this esteemed society and leave a lasting legacy in materials science. To discuss your planned gift arrangement in detail, please contact: Kristie Maravalli at 440.671.3813 or kristie.maravalli@asminternational.org.

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FOUNDATION BY THE NUMBERS



Materials Camps have
impacted the lives of
13,491 teachers and
6045 volunteers



23 years of student camps,
hosting **19,065** future
scientists and engineers



358 new Materials
Science courses
launched



Since 2000,
\$2,574,956
awarded
in scholarships



\$279,900 distributed
to **393** teachers to
bring Materials Science
into the classroom



Since **2007** more
than **\$100,000**
awarded to the
Undergraduate
Design Winners

THANK YOU TO OUR 2023 DONORS!

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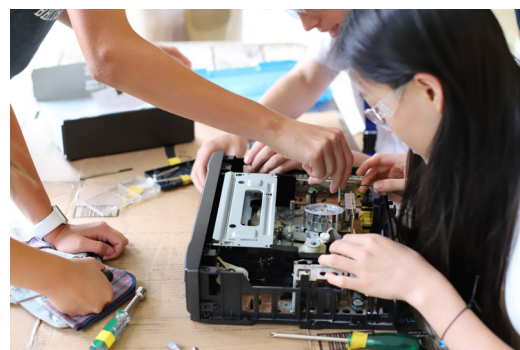
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"This is the best PD I've ever participated in. The master teachers were so knowledgeable and personable. The content specific material has reenergized my excitement for teaching science. The camp was all so helpful. I appreciated the hands-on labs, the explanation of what we saw, and the discussion of how to apply this into my curriculum."

—Jill, South Hills Middle School
A Teacher's Perspective

AWARDS AND SCHOLARSHIPS

PACESETTER AWARD — THE CLEVELAND CLIFFS FOUNDATION

The Cleveland-Cliffs Foundation has a strong focus on community engagement. There are several Cliffs employees that are ASM members particularly in Cincinnati where their research & development facility is located. The ASM Materials Camp for Teachers in Cincinnati toured the facility last summer.



KISHOR M. KULKARNI AWARD — REBECCA S. HECKMAN

Ms. Rebecca Heckman is an exemplary teacher who has high standards for her students and is passionate about helping them achieve those standards. She established a new materials science course at Princeton High School, and as a result, helped many students pursue a career in Materials Science, including her own daughter.



GEORGE A. ROBERTS AWARD — ROBERT L. HANLIN

Robert Hanlin played a crucial role in expanding our ASM Materials Camp for Teachers program and rejuvenated the Kansas City ASM Chapter. He established graduate credit opportunities, provided technical guidance, and served on the Action in Education Committee for over 40 years. His dedication has introduced numerous teachers and students to Materials Science and Engineering, for which we are deeply thankful.



UNDERGRADUATE DESIGN COMPETITION WINNERS

FIRST PRIZE: Massachusetts Institute of Technology
“Multi-Objective Design of an Ultra-High Strength AL Plate Alloy”

Team Members:

- Louise Anderfaas
- Darshdeep Grewal

Faculty Advisor: Dr. Gregory Olson

SECOND PRIZE: Purdue University
“Optimization of Hot Flattening Procedure in AL 7050 Forgings”

Team Members:

- Cameron Hillsman
- Megh Kansara
- Junjie Li
- Zach Logar
- Aleena Masaengny
- Regina Park

Faculty Advisors: Dr. Michael Titus and Dr. Kevin Trumble

THIRD PRIZE: Michigan Technological University
“Mitigation of Boron Impurities from Recycled Steel in Cast Iron”

Team Members:

- Andrew Walch
- Abigail Armstrong
- Sophia Brylinski
- Trent Graham
- Mary Schafer

Faculty Advisors: Dr. Walter Milligan and Dr. Paul Sanders

ASM STUDENT CHALLENGE WINNERS

Chase Bonfiglio and Cade Martinez

Create a material testing device capable of testing the compressive and tensile strength of household objects.

School: Advanced Technology Center, Virginia Beach

K-12 TEACHER GRANT RECIPIENTS

Bernoli Baello, St. Augustine Preparatory Academy, WI
Predicting Properties of Geranium and Flerovium

Elizabeth Belcher, Kensington Woods Schools, MI
Designing a Minergie House

Todd Bolenbaugh, Tolles Career & Technical Center, OH
Materials Science Saturdays at Tolles

Vivian Brownlow, F.I.R.S.T. School, OH
Knowing What Matters

Dennis Bushong, Chillicothe High School, OH
Testing the Strength of Ceramics for Applied uses in Construction

Lonnie Dusch, Princeton High School, OH
Coldworking Metals

Simon Escalada-Mastick, Ha:san Preparatory &
Leadership School, AZ
Traditional Native American Materials Applied to Materials
Science

Toni Frallicciardi, Surf Skate Science, FL
Exploring Material Science and STEAM through Action Sports:
Unveiling the Secrets of Performance

Anne Kavicky, St. Paul's Lutheran School, WI
Biopolymers: Plants or Plastic?

Deborah Luff, Whitehall Copley Middle School, PA
Exploring Material Science Through Glass and
Metal Manipulation

Sandra Mikesell, Eaglecrest, CO
Metal Casting / Foundry in a Bucket

Samantha Neas, Whitehall Copley Middle School, PA
Crystal Growth Structures in Chemical Replacement Reactions:
The Use of Thermoplastics and polymers in Everyday Life

Michelle Orta Salazar, Mesa Middle School, NM
Used Cement Pucks and Compare Cement to Concrete to
Determine the Benefits of Composites

Sarah Patch, Southwest Preparatory School NW Campus, TX
Supporting General Education Teachers as a Special Education
Teacher: A Middle and High School Perspective

James Roy, St. Mary Catholic High School, Ontario, Canada
Created a new course devoted to "Materials Science" to be able
to be delivered in the 2023-2024 school year

Lori Schaeffer, Lower Macungie Middle School, PA
Introducing Students to Science through the use of
everyday Materials

Valerie Stone, Tremper High School, WI
Metals and Alloys in Everyday Life

Renee Tahja, Eaglecrest High
School, CO
Ceramics and Fusible glass (COE)
Ornaments



Jeff Webb, Sidney High School, Sidney, OH
Manufactured Jewelry that Tells a Story

Robert Wesolowski, St. Joseph High School, PA
Student Summer Camp in Materials Science

UNDERGRADUATE SCHOLARSHIP RECIPIENTS

William Park Woodside Founder's Scholarship: Josh
Baston, University of Wisconsin-Madison

Lucille & Charles A. Wert Scholarship:
Shane Gallagher, Rutgers University-New Brunswick

George A. Roberts Scholarships:

- Jaclyn Grace, University of Connecticut
- Clara Kramer, University of Utah
- Steph Meikle, University of Florida
- Juvenal Rodela, University of Texas at El Paso
- Nina Tran, McMaster University

Acta Materialia Scholarships:

- Nicole Hudak, The Ohio State University
- Jakob Scroggins, University of Tennessee

David J. Chellman Scholarship:
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Outstanding Scholarship:

- Mary England, McMaster University
- Ashlie Hamilton, University of Minnesota-Twin Cities
- Irenaeus Wong, McMaster University

Edward J. Dulis Scholarship:
Andrew Jordan, The University of Alabama

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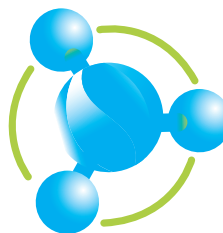
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MAKING A MATERIAL DIFFERENCE

ASM MATERIALS
EDUCATION FOUNDATION



The ongoing shortage of the talent pipeline in STEM fields is indisputably putting innovation, sustainability, and economic opportunity at risk. It's never been clearer-we must engage, inspire, and empower the next generation of STEM Professionals at an early age.

The Making a Materials Difference (MAMD) Campaign will broaden our reach by increasing the number of ASM Materials Camps and deepen our student engagement through innovative curriculum and classroom support.

PRIORITY 1:

Increase Materials Camps for Teachers to bring materials science and engineering into many more classrooms nationwide.

- Our vision will support 65 camps across all 50 United States and Canada, reaching over 1,600 teachers by 2030.
- By 2030, the Foundation will impact 4.1 million students with the cumulative reach of more teachers in more classrooms.

PRIORITY 2:

Deepen our engagement with students through enhanced curriculum, career exploration and classroom support.

- Launch a specialized 18-month program designed for teachers in under-resourced schools to effectively implement materials science curriculum with year-round classroom support.
- Endow the Materials Camp for Teachers in Detroit to recognize its historic significance as the first host site and further sustain our mission.
- Develop public policy and outreach efforts to encourage state departments of education and school administrations to integrate high school materials science & engineering courses in their districts.

The MAMD Campaign is possible through the generosity of the following donors and funders whose support launched this initiative. By accelerating the growth of the Foundation's proven programs, their foresight inspires thousands of young people to explore material science and pursue careers in science, engineering and technology.

THANK YOU FOR MAKING A MATERIAL DIFFERENCE!

LEADERSHIP GIFTS \$50,000+

(Gifts Received 2020-2023)

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