

# PUTTING MATERIALS SCIENCE **ON THE MAP**

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## 2022 ANNUAL REPORT



ASM MATERIALS  
EDUCATION FOUNDATION



# FROM THE LEADERSHIP

Another year has passed, and another cohort of teachers has learned valuable skills and content to share with students across the country. 2022 brought an important return to our in-person programming, offering ASM Materials Camps across the country. We were able to get the wheels turning again to share the blow torches, casting aluminum, and other great labs that we could not tackle online. But we continue to offer online programming for those who are unable to be in person.

The ASM Materials Education Foundation board and staff remain grateful for all of those donors, master teachers, volunteers, and others who helped to be sure that our programming continued though the pandemic and was able to come out strong on the other side. Thank you!!



**John Keough, FASM**

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*Chair, Board of Trustees*



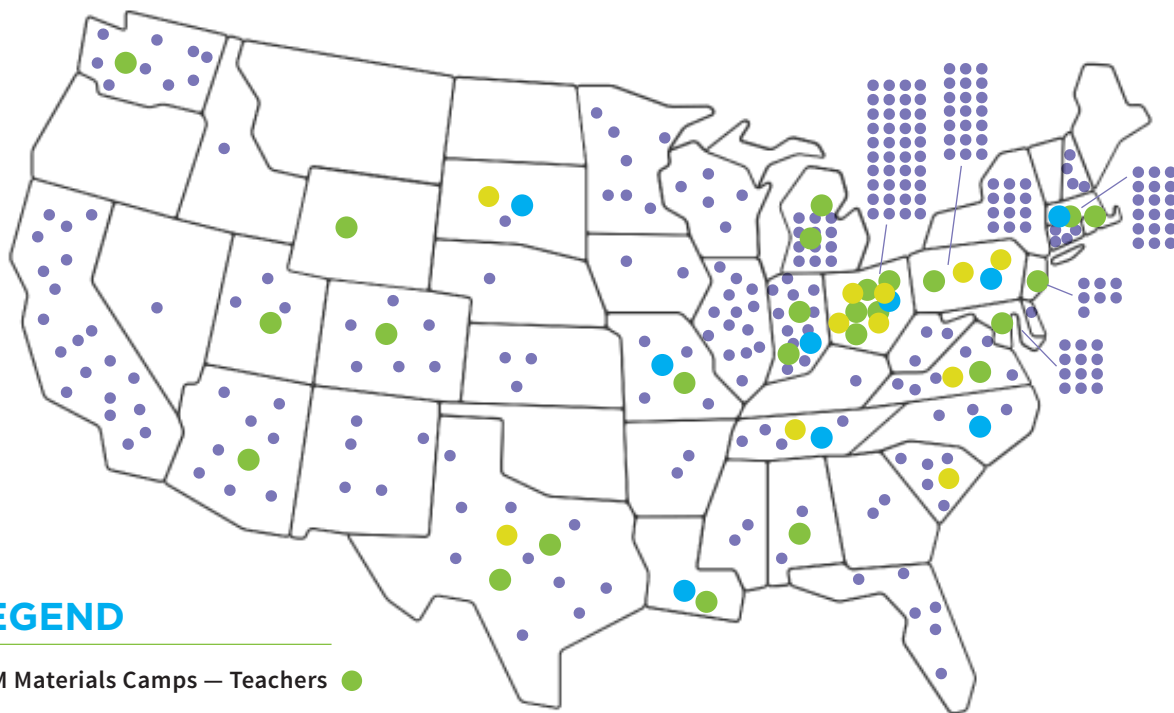
**Carrie Wilson**

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*Executive Director*

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## ASM MATERIALS EDUCATION FOUNDATION 2022 US LOCATIONS



### LEGEND

ASM Materials Camps — Teachers ●

ASM Materials Camps — Students ●

Donor Cities ●

Kailua, Hawai'i

Scholarship and Award Recipients ●



# PILLAR SOCIETY

The ASM Materials Education Foundation Pillars Society recognizes individuals who have committed to making a final gift to the ASM Foundation through their estate plans.

Dr. David “Dave” Krashes, FASM, 97, an ASM past president, died on September 30, 2022. Krashes worked as a professor and lacrosse coach at Worcester Polytechnic Institute for several years until founding Massachusetts Materials Research Inc. in 1961. Dr. Krashes led the company successfully before his retirement in 1998, a leader in showing that microscopy and electron microscopy were primary tools to use in evaluating failed products, and was a pioneer in techniques of failure analysis. In 1970, he was named to the first class of ASM Fellows and in 1981-1982, he served as president of ASM International. Dr. Krashes was a leader in both the ASM Materials Education Foundation’s “Pick up the Pace” fundraising campaign and the George Roberts Challenge. Dr. Krashes continued his legacy to the ASM Foundation as a Pillar Society member. He set up a trust to distribute his charitable wishes at his death; the ASM Materials Education Foundation was one of three charities to share the estate proceeds and received his generous gift before the end of the year. We are grateful to David Krashes and all Pillar Society members who have chosen to make the ASM Materials Education Foundation part of their final plans.

To make your own Pillars Society commitment, you may download a form from the ASM Foundation website or contact the ASM Foundation staff at [440-671-3800](tel:440-671-3800).

## PILLAR SOCIETY MEMBERS (AT TIME OF PRINTING)

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+ *Legacy Donors (Deceased)*  
• *As of April 30, 2023*



# THANK YOU TO OUR 2022 DONORS!

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\*In memory of Roger Fabian

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# AWARDS AND SCHOLARSHIPS

## PACESETTER AWARD — QUESTEK INNOVATIONS LLC

Questek Innovations, an industry leader in Integrated Computational Materials Engineering (ICME), has been both a financial and networking supporter of the ASM Materials Education Foundation for decades.



## KULKARNI AWARD — PRISCILLA OSHIKIRI

Mrs. Priscilla Oshikiri has been teaching materials science courses for 10 years and has been a master teacher with the ASM Foundation for 12 years. She has inspired countless students to pursue engineering careers and exposed many more to materials science & engineering.



## ROBERTS AWARD — ERIK MUELLER

Dr. Erik Mueller is a mentor for the ASM Eisenman Materials Camp, including serving as curriculum leader for several years. During 2020 and 2021, Dr. Mueller led the team that offered a student camp experience online, where they devised a new way of sharing materials science students across the country.



## ASM STUDENT CHALLENGE WINNERS

**1st Place:** The Science of Quenching, Alexander Azzolina, Ohio

**2nd Place:** Design and Build a Device to Test the Maximum Load a Material Can Withstand Before Falling, Kyle Purser and Aaron Brooks, Virginia

**3rd Place:** Electroplating with Conductive Filament, Christian Antaran and Owen Dorweiler, Michigan

## UNDERGRADUATE DESIGN COMPETITION WINNERS

**First Prize: Material Characterization, Modeling, and Optimization of Al-Ce-Mg Alloys for Extrusion**

Michigan Technological University



Team Members:

- Nick Hopp
- Jacob Klotz
- Jacob Longstreth
- Isabella Wakeham

Industry Sponsor: David Weiss-Eck Industries

Project Advisor: Dr. Paul Sanders

**Second Prize: Restoration of Musical Organs: Analysis of Rubber, Cloth, And Other Historical Materials**

University of Tennessee, Knoxville

Team Members:

- Charlotte Buchanan
- MacKenzie “Max” Camp
- Matthew Valderrama
- Christopher Webb

Faculty Advisor: Prof. David J. Keffer

**Third Prize: Printable GigaCasting Die Steel**

Massachusetts Institute of Technology

Team Members:

- Ian Chen
- Kyle Markland

Faculty Advisor: Prof. Gregory B. Olson



## K-12 TEACHER GRANT RECIPIENTS

Vida Cantieri, Which Materials Insulate Our Homes the Best?

Karen Conner, Reasons to Resin

Jason Kalls, Frost Science Museum: Big Astronomy: People, Places, Discoveries field trip

Eric McDowell, KHS Casting Project

Neil Reimer, Alloys and their Application to the Marvel Cinematic Universe

Alethea Setser, Young Jedi Materials Training

Rob White, Build a Brand New Metal Joining Lab

Dawn Wolf, Hands-On Science is the Way To Go

Pete Carpico, Examining and Producing Amorphous Solids

Curtis Davis, Concrete Shelter: How Much Pressure Can It Withstand?

Andrea Diamond, Space Bricks – The 3 Little Pigs Go To The Moon

Martha James, Glass, Glass, Everywhere!

Sheryl McCarthy, Metals and Me

Clintonia McNeal, Oh Dear, What Can The Matter Be?

Mary Montag, Enameling – Glass, Ceramics, and Metals

Scott Spohler, Science is Hot: Using a Kiln to Teach Science

Robert Wesolowski, Additive Manufacturing and Materials Science

Priscilla Oshikiri, 3D Printing & Creating Models to Make Science Visible in the Classroom

Michelle Robinson, Applied Clay Science – Clay Body Testing

## MATERIALS GENOME TOOLKIT WINNERS

### New Licenses

1. Purdue University
2. University of Arizona

### Renewed Licenses

1. Case Western Reserve University
2. Missouri University of Science & Technology
3. Oregon State University
4. University of California-Irvine
5. University of Illinois, Urbana-Champaign
6. University of Maryland

## UNDERGRADUATE SCHOLARSHIP RECIPIENTS

**William Park Woodside Founder's Scholarship:** Shane Gallagher, Rutgers University

**Lucille & Charles A. Wert Scholarship:** Liam Stack, South Dakota School of Mines & Technology

### George A. Roberts Scholarships:

- Emmie Benard, Arizona State University
- Brianna Hoff, South Dakota School of Mines & Technology
- Caleb Schenck, Colorado School of Mines
- Jordan Sweeney, University of Florida
- Irenaeus Wong, McMaster University

**David J. Chellman Scholarship:** Jennifer Johnson, South Dakota School of Mines & Technology

### Acta Materialia Scholarships:

- Ashlie Hamilton, University of Minnesota – Twin Cities
- Katherine Miller, University of Florida

**Outstanding Scholarship:** Adam Sipe, Pennsylvania State University

**Edward J. Dulis Scholarship:** Daniel Sims, Wayne State University



Materials science uniquely helped me understand not just how things work, but deeply why...The project-based learning style where I was able to learn engineering concepts and apply knowledge I had from physics and chemistry in new ways made my first year of college easier as well as preparing me for courses I had in grad school.

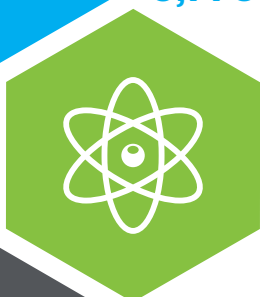
— Marie Vasek



## ASM MATERIALS EDUCATION FOUNDATION



Materials Camps have  
impacted the lives of  
**12,910** teachers and  
**5,778** volunteers



Since 2000,  
**\$2,217,991** awarded  
in scholarships



**\$240,095** in National  
Merit Scholarships  
awarded since 1964



**329** new Materials  
Science courses  
launched



**22 years** of student camps,  
hosting **18,425** future  
scientists and engineers



**\$267,400**  
distributed to **369**  
teachers to bring  
Materials Science  
into the classroom

**[asmfoundation.org](http://asmfoundation.org)**

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