ASM MATERIALS EDUCATION FOUNDATION

2017 Annual Report & Path Forward
Dear Friends,

For the ASM Foundation, 2017 and 2018 have been about looking forward. As the board and staff have embarked on and worked through our strategic planning process, we have been energized by the possibilities before us to continue expanding our reach to K-12 students and teachers while continuing to provide scholarships and other opportunities for undergraduate students.

Because forward thinking has been such a big part of our past year, we are providing you with a slightly different annual report. In addition to the traditional retrospective of 2017, we are including a short prospective section on our plans for 2018 and beyond through a summary of our strategic plan.

Last year in this space, I pledged to ensure we had a sustainable business model for our programs and create a fundraising plan to support the programs now and into the future. Our strategic plan addresses both of those issues and provides promise for the Foundation’s future. This is why I am so excited to share our plan with you.

Sincerely,

[Signature]

This is our blueprint for the next few years, which we will execute with your support and the volunteer leaders

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**LETTER FROM THE CHAIR**

**Sincerely,**

[Name]

[Title]

[Institution]
The Pillars Society represents the four pillars of the ASM Materials Education Foundation’s purpose: Education, Knowledge, Leadership, and Service. The Society recognizes and appreciates donors who have made end-of-life commitments to the Foundation during their lifetime. These ultimate gifts are greatly appreciated as they express the donor’s strong commitment to excite young people in materials, science, and engineering careers.

Do you want to leave a legacy for tomorrow’s youth and your own field? To become a member of this elite Society, simply contact the ASM Materials Education Foundation and provide a declaration of your intentions to remember the Foundation in your will or trust.

Pillars Society members at time of printing:

Riad I. Asfahani
Dr. and Mrs. Azz I. Asphahani
Don and Meredith Blickwede +
Richard D. Brasms +
Dr. and Mrs. Spencer H. Bush +
Wilford H. Couls Jr. +
W. Raymond Cribb
Mary and Ray Decker
Dr. Daniel P. Dennies
Mr. and Mrs. W. William + Dyarkac
Mr. and Mrs. William Hunt Eisenman +
Mr. and Mrs. Arthur E. Focke +
Gordon and Ann Geiger
R. G. “Gill” Gilliland
Diane Goldin
Maryella and Robert D. Halverstadt +
Mr. and Mrs. Walter C. Hollandier +
Mr. and Mrs. Ashok Khare
Mr. Fred Kisslinger
William P. Koster +
Edward H. Kottcamp +
William and Barbara Krashes
Dr. George Krauss
Warren H. Krogsdor +
William D. Manly +
Warren H. Krogstad +
Edward H. Kottcamp +
William J. Parham +
Kenton B. Wright
Michael Wylie
C. F. Tolkin
Barbara Young
Laurene A. Zeis

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Bhakti B. and Sushama +
Rath
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George A. Roberts +
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Karen Sabo
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Lyle H. Schwartz and Celesta S. Jurkovich
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Simon Edward E. Slower +
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Luis J. Turk +
Mr. and Mrs. Kent R. Van Horn +
Dr. Christopher Viney and Dr. Lisa Gilliland-Viney
Dr. and Mrs. Charles A. Wert +
+ Legacy Donors (Deceased)
EXPENSES

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials Camps</td>
<td>($617,214)</td>
</tr>
<tr>
<td>Other Programs</td>
<td>($96,061)</td>
</tr>
<tr>
<td>Scholarships</td>
<td>($104,506)</td>
</tr>
<tr>
<td>Fundraising</td>
<td>($119,560)</td>
</tr>
<tr>
<td>Administrative</td>
<td>($248,184)</td>
</tr>
<tr>
<td>Governance</td>
<td>($105,419)</td>
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</tbody>
</table>

TOTAL EXPENSES $1,290,944

REVENUE

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributions</td>
<td>($734,658)</td>
</tr>
<tr>
<td>Investment Income</td>
<td>($694,777)</td>
</tr>
</tbody>
</table>

TOTAL REVENUE $1,429,435

FINANCIALS

STATEMENT OF FINANCIAL POSITION (PRE-AUCTION)
December 31, 2017

ASSETS

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash and short-term investments</td>
<td>$27,128</td>
</tr>
<tr>
<td>Accounts Receivable</td>
<td>89,241</td>
</tr>
<tr>
<td>Prepaids</td>
<td>39</td>
</tr>
<tr>
<td>TOTAL CURRENT ASSETS</td>
<td>116,408</td>
</tr>
<tr>
<td>Investments at market value</td>
<td></td>
</tr>
<tr>
<td>CAMP 1 Funds (fixed interest)</td>
<td>96,143</td>
</tr>
<tr>
<td>CAMP 2 Funds (anchored to portfolio)</td>
<td>8,188</td>
</tr>
<tr>
<td>Balance of Funds</td>
<td>12,311,650</td>
</tr>
<tr>
<td>Total Portfolio At Market Value</td>
<td>12,415,981</td>
</tr>
<tr>
<td>Debt Owed by ASMI</td>
<td>140,774</td>
</tr>
<tr>
<td>Life Ins Cash Surrender Value</td>
<td>5,812</td>
</tr>
<tr>
<td>Fixed Assets – Fundraising Software</td>
<td>5,950</td>
</tr>
<tr>
<td>Accumulated Depreciation – Fundraising Software</td>
<td>(3,735)</td>
</tr>
<tr>
<td>Board Designated Restricted</td>
<td></td>
</tr>
<tr>
<td>Restricted New Assets</td>
<td></td>
</tr>
<tr>
<td>Temporarily Restricted</td>
<td>1,207,630</td>
</tr>
<tr>
<td>Permanently Restricted (Adjusted)</td>
<td>1,055,079</td>
</tr>
<tr>
<td>Total Restricted Net Assets</td>
<td>8,809,825</td>
</tr>
<tr>
<td>TOTAL ASSETS</td>
<td>$12,681,190</td>
</tr>
</tbody>
</table>

LIABILITIES AND NET ASSETS

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounts payable and accrued expenses</td>
<td>$9,711</td>
</tr>
<tr>
<td>Borrowing under the line of credit</td>
<td>752,159</td>
</tr>
<tr>
<td>Debt Owed to ASMI</td>
<td>0</td>
</tr>
<tr>
<td>TOTAL CURRENT LIABILITIES</td>
<td>761,870</td>
</tr>
<tr>
<td>Long-Term Liabilities</td>
<td></td>
</tr>
<tr>
<td>Restricted Foundation Funds</td>
<td>0</td>
</tr>
<tr>
<td>Deferred interest income</td>
<td>6,049</td>
</tr>
<tr>
<td>Net Assets</td>
<td></td>
</tr>
<tr>
<td>Unrestricted Net Assets</td>
<td>895,824</td>
</tr>
<tr>
<td>Operating</td>
<td>138,491</td>
</tr>
<tr>
<td>Unrealized gain (loss) on investments</td>
<td>2,069,130</td>
</tr>
<tr>
<td>TOTAL unrestricted net assets</td>
<td>3,103,446</td>
</tr>
<tr>
<td>Restricted New Assets</td>
<td></td>
</tr>
<tr>
<td>Temporarily Restricted</td>
<td>1,207,630</td>
</tr>
<tr>
<td>Permanently Restricted (Adjusted)</td>
<td>1,055,079</td>
</tr>
<tr>
<td>Board Designated Restricted</td>
<td>6,547,117</td>
</tr>
<tr>
<td>Total Restricted Net Assets</td>
<td>8,809,825</td>
</tr>
<tr>
<td>TOTAL LIABILITIES &amp; NET ASSETS</td>
<td>$12,681,190</td>
</tr>
</tbody>
</table>

"I truly loved this camp! I feel so inspired to teach this year because of it and feel like I have tools in my pocket to generate meaningful discussions and perform a spontaneous demo or lab anytime there are spare moments in class."

– Sarah Regli, St. John’s Kilmarnock, Ontario, Canada
ASM Materials Education Foundation provides materials science educational methods and resources to excite future generations about STEM learning and careers.

K-12

Materials Camps® for Students
Through hands-on learning principles, the camps offer a unique, team-based, problem-solving experience that explores materials science and engineering principles for high school juniors and seniors.

Materials Discovery®
Middle school students explore physical science concepts while learning to draw conclusions and apply basic engineering principles, focusing on common materials such as metals, ceramics, polymers, and composites found in everyday life.

UNDERGRADUATE

Materials Genome Toolkit
US undergraduate engineering programs compete for one of four free three-year licenses for a cutting-edge materials design software and database package.

Undergraduate Design Competition
This competition recognizes materials and related engineering department design curricula by teams of undergraduate students submitting design-focused projects from capstone courses or team projects.

Undergraduate Scholarships
ASM Materials Education Foundation has awarded more than $1 million in scholarships since 1953, annually awarding over 20 scholarships to undergraduate and community college students.

I cannot describe how grateful I am for this eye-opening and educational experience. This camp was not only fun, but also helpful in deciding my future down the road. Thanks to you, I was able to attend.

– David Hale, Detroit, MI

TEACHERS

Materials Camps® for Teachers
Professional development workshops for middle and high school teachers held throughout the US, Canada, and Brazil utilizing hands-on, minds-on activities to provide NGSS-Aligned content knowledge.

Living in A Material World:
K-12 Teacher Grants
Grants awarded annually to help K-12 teachers bring the real world of materials science into their classrooms.

I came to the camp and had the time of my life. To have the chance, the opportunity, the experience to be here and working with such amazing and high quality resources is amazing. I’m so blessed to be able to experience that...Thank you so much for giving this opportunity to me and other aspiring engineers!

– Alicia Tang, Acton, MA

Kishor M. Kulkarni Distinguished High School Teacher Award
Awarded annually to a US or Canadian high school science teacher who has demonstrated a significant and sustained impact on pre-college age students.

2017 KISHOR M. KULKARNI DISTINGUISHED HIGH SCHOOL TEACHER OF THE YEAR
WINNER Todd Bolenbaugh
Teacher, Materials Science & Physics, Tolles Career & Technical Center, Ohio

This award was established in 2007 through a generous donation by Dr. Kishor M. Kulkarni, past trustee of ASM International, and his family to recognize the accomplishments of one US or Canadian high school science teacher who has demonstrated a significant and sustained impact on pre-college age students.
**Materials Choice Awards**

The Materials Choice Award is the go-to competition for students to showcase their knowledge of “cool” materials and applications! Focused on new, cutting edge materials, applications, and products, the competition allows students to demonstrate why they are passionate about a specific material.

2017 Materials Choice Awards Winners

**High School Division**

1. *Nethol* - Washington High School; Washington Court House, OH
   Team Adeptus Mechanicus: Chance Oyer, Gage Summers, Kayla Kimmeth, Weston Smith; Teacher Briana Richardson

2. *Titanium Foam* - St. Paul of the Cross School; 8th grade; Chicago, IL
   Team Microlettuce: Michael LaSusa, Joseph Nowak, Matthew Coyle, Matthew Marogil; Teacher Christine Stykpa

3. *Microlettuce* - Saint Joseph High School, PA
   Team Microlettuce: Adhitya Jayasinghe, Kevin Nelson

4. *Woodside Founders’ Scholarship* - University of Florida
   Team Members: Jonathan Geiser, John Mortimer, Roman Palvanov

**Middle School Division**

1. *Additive Manufacturing* - Robert Wesolowski, Saint Joseph High School, MO
   Teacher Eileen Heit

   Teacher Eileen Heit

3. *Outstanding Scholars* - University of Florida
   Team Members: Jonathan Geiser, John Mortimer, Roman Palvanov

4. *Ladish Co. Foundation Scholarships* - University of Wisconsin-Milwaukee
   Team Members: John Mortimer, Roman Palvanov

5. *Ladish Co. Foundation Scholarships* - The Ohio State University
   Team Members: John Mortimer, Roman Palvanov

6. *Lehigh University* - Pennsylvania State University
   Team Members: Adhitya Jayasinghe, Kevin Nelson

7. *Michigan Technological University* - The Ohio State University
   Team Members: John Mortimer, Roman Palvanov

8. *Northwestern University* - The Ohio State University
   Team Members: John Mortimer, Roman Palvanov

9. *University of Akron* - The Ohio State University
   Team Members: John Mortimer, Roman Palvanov

10. *University of Wisconsin-Madison* - The Ohio State University
    Team Members: John Mortimer, Roman Palvanov

11. *University of Wisconsin-Milwaukee* - The Ohio State University
    Team Members: John Mortimer, Roman Palvanov

12. *University of Pittsburgh* - The Ohio State University
    Team Members: John Mortimer, Roman Palvanov

13. *Virginia Polytechnic Institute and State University* - The Ohio State University
    Team Members: John Mortimer, Roman Palvanov

14. *Pennsylvania State University* - The Ohio State University
    Team Members: John Mortimer, Roman Palvanov

15. *The Ohio State University* - The Ohio State University
    Team Members: John Mortimer, Roman Palvanov

Materials Choice Award Winners

1. *Titanium Foam* - St. Paul of the Cross School; 8th grade; Chicago, IL
   Team Microlettuce: Michael LaSusa, Joseph Nowak, Matthew Coyle, Matthew Marogil; Teacher Christine Stykpa

2. *Additive Manufacturing* - Robert Wesolowski, Saint Joseph High School, MO
   Teacher Eileen Heit

   Teacher Eileen Heit

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    Team Members: John Mortimer, Roman Palvanov

13. *University of Pittsburgh* - The Ohio State University
    Team Members: John Mortimer, Roman Palvanov

14. *Virginia Polytechnic Institute and State University* - The Ohio State University
    Team Members: John Mortimer, Roman Palvanov

15. *Pennsylvania State University* - The Ohio State University
    Team Members: John Mortimer, Roman Palvanov

Materials Genome Toolkit Competition Winners

1. *University of Florida*
2. *University of Pittsburgh*
3. *Wright State University*
Pacesetter Award
Awarded annually to an organization or corporation that has demonstrated a strong commitment to the mission and work of the ASM Materials Education Foundation.

**2017 ASM MATERIALS EDUCATION FOUNDATION PACESETTER AWARD WINNER**
LIFT – Lightweight Innovations For Tomorrow

LIFT is a Detroit-based public-private partnership founded in 2014 with three missions – to enable lightweighting solutions through applied research and development; to transition those new technologies into the marketplace; and to develop an educated and skilled American workforce, confident in using those new lightweighting technologies and processes. They support ASM Materials Education Foundation’s Materials Camps for teachers, one of LIFT’s first education and workforce development investments. It has invested in over 40 education and workforce initiatives around the country, linking and leveraging existing local resources to ensure those initiatives are not just having an impact in that local area, but that they can be replicated and scaled in other regions.

George A. Roberts Award
Awarded annually to an individual who has made a significant impact to reach students and teachers, in efforts to increase awareness of materials and applied science careers.

**2017 GEORGE A. ROBERTS AWARD WINNER**
Mr. Thomas K. Glasgow, FASM
Manager (Retired), Microgravity Materials Science Research, NASA Glenn Research Center, Cleveland, Ohio

This award was established by the ASM Materials Education Foundation in 2003 to highlight the importance of educational outreach and is presented annually to an individual who has made a significant impact to reach students and teachers, in efforts to increase awareness of materials and applied science careers.

Mr. Thomas Glasgow began his career at NASA in 1968, where he was first engaged in powder metallurgy and superalloys. This led to development of a process for producing silicon nitride adopted by industry and in work with INCO leading to the launch of a dispersion strengthened nickel base alloy. Work with rapid solidification technology led to the identification of a new alloy for hydrogen-oxygen engines such as those used on the Space Shuttle. Glasgow spent a decade at NASA Glenn spent managing the Microgravity Materials Science Laboratory. His interaction with leading scientists from around the world performed ground-based research and prepared for Space Shuttle and Station flight experiments.

Glasgow now teaches several classes for the ASMI education program and works with the Foundation’s Materials Camps programs, both teachers and students when time permits. He has served in numerous ASMI committees as member and chair, generally those involved with student outreach. He became a Fellow of ASMI in 1992. He initiated the ASMI teacher grant program, now administered through the Foundation.

The ASM Materials Education Foundation (the Foundation) is embarking on a new strategic plan through 2021. This plan lays the groundwork for expansion and enhancement of programming and products by putting the Foundation on solid footing through funding and staffing capacity. The Foundation will be expanding its ways of providing content to students and teachers in order to truly excite and inspire students. And, as always, the Foundation will continue to work together with ASM International to be sure our work is aligned and complementary.

The Foundation began in 1952, initiated by ASM International to distribute scholarships to students pursuing materials science majors and careers. The Foundation has been operating programming beyond scholarships since 2000, seeking to reach the greatest number of individuals possible. New ideas have sparked new programming throughout the past two decades, all using materials science to provide STEM education.

ASM Materials Education Foundation wants to see students get excited about all STEM subjects and see where their creativity can take them. Materials provide a theme for STEM education by tying together concepts from chemistry, physics, mathematics, life sciences, and engineering, as well as bridging the gap between abstract concepts and real-world experiences. The science and engineering of materials lends itself to hands-on learning with many engaging and low-cost demonstrations and experiments to bring active learning into the classroom.

All ASM programming can be seen as points on a continuum in sharing materials science with individuals along an age spectrum. While the Foundation provides information to students and their teachers in grades K-12, and sometimes 16, its parent organization, ASM International, provides information to college students and professionals in their materials science, engineering, and related careers. In this age of technology and information sharing, this strategic plan addresses the need for increased fundraising at the same time as exploring new ways to share the Foundation’s incredible content, all with the goal to reach as many students as possible with the excitement of materials science as the gateway to STEM fields.

A wide variety of organizations now provide STEM programming in the K-12 space. One of the Foundation’s strengths is the hands-on nature of the materials science curriculum for both students and their teachers. Throughout the duration of this strategic plan, the Foundation will further define our programming, its strengths and unique qualities, and how it impacts students.

One piece we are always looking to add to our work is YOU. We are happy to talk with YOU about how YOU can be a part of our progress. Open the door for the Foundation to potential funders. Provide funding yourself. Mentor teachers or students. Connect the Foundation to new ways of reaching students or teachers.

Thank YOU for all that you do for ASM International and the Foundation. We are excited to forge ahead in our new direction, with your support.
VISION STATEMENT
A leading provider of inspirational materials science educational resources to excite future generations about STEM learning and careers.

MISSION STATEMENT
Develop and deploy materials science content and hands-on, minds-on instructional strategies to inspire, engage, and empower future generations to create STEM solutions for 21st century challenges.

Initiative I
Improve fundraising methods and results

Goal A  Develop and utilize board participation structure to make contact with individual and corporate prospects and donors

Goal B  Increase the number of personal contacts with donors and prospects made by both board and staff

Goal C  Develop improved materials and mailings

Initiative II
Create staffing plan through 2022

Goal A  Determine full scope of needs for Foundation and how to best serve those needs

Goal B  Create plan for transitioning away from current staff retiring and develop new position(s) to support current and anticipated future needs

Initiative III
Become a premier source of Materials Science education through a comprehensive continuum of resources across K-16, consisting of in-school and out-of-school resources

Goal A  Strong Data Collection and Evaluation processes in place across all programs

Goal B  All curriculum for camps and training, as well as classroom resources is copyrighted/owned by ASM MEF

Goal C  Develop teacher camps and Materials Discovery program models into a more cohesive program of training education providers through different venues and at different grade bands

Goal D  Ensure that all program models are able to serve underrepresented groups and expand focus to ensure those students are being reached

Goal E  Seek opportunities for programming to produce revenue to help offset program costs

Goal F  Explore possible partnerships with organizations serving complementary missions

Initiative IV
Improve cooperation and connection with ASMI board, HQ staff, and ASM chapter members

Goal A  Develop ways for ASM chapter members to connect with ASM MEF programs (mentoring teachers and students through new Materials Camp model)

Goal B  Continue to improve communication with ASM chapter members through a variety of methods

Goal C  Continue to work with ASM staff on joint projects

Goal D  Expand communications with ASMI and affiliate boards to increase awareness of ASM MEF programs to benefit programs and fundraising through increased participation

Goal E  Assist ASMI in crafting ASMI – ASM MEF master service agreement
ASM Materials Education Foundation Board of Trustees  
As of April 1, 2018

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Dr. David B. Spencer, Immediate Past Chair  
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Ms. Carrie Wilson, JD, Secretary

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Ginny Shirk, Executive Administrative Assistant  
Carrie Wilson, Executive Director

www.asmfoundation.org  
440.338.5151

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Materials Park, OH 44073-0002