

THE HISTORY OF THE TMS FOUNDATION

25 MILESTONES TO CELEBRATE 25 YEARS

Kaitlin McMahon

If you haven't already heard the news, the TMS Foundation is celebrating 25 years of growing our professional community in 2018. A theme running through this year's celebration is the crucial role that mentors play in the development of young scientists and engineers, connecting them to new colleagues, learning experiences, and future leadership opportunities. That's why an effort to collect mentor and mentee names for a "TMS family tree" kicked off the anniversary year at the TMS 2018 Annual Meeting & Exhibition (TMS2018), March 11–15, in Phoenix. (If you were not able to attend the meeting, look for a future *JOM* article about this initiative.) A family tree icon and the theme, "Celebrating 25 years of Growing the Minerals, Metals and Materials Community," will highlight other anniversary activities planned for the coming months.

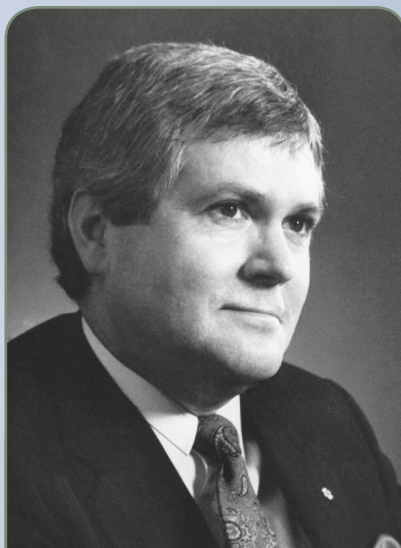
Much of the Foundation's work in the past few years has centered on increasing general fundraising and the donor base to augment and secure its portfolio of programs. However, another important undertaking has focused on cultivating a sense of philanthropy and reacquainting members with the Foundation's purpose and mission.

To fully understand the Foundation today, *JOM* has compiled a list of 25 milestones in TMS Foundation history. Browse the stories and pictures on the following pages to see exactly how the TMS Foundation came to be and to get some insights on where it will be heading.



Garry W. Warren, TMS Foundation Board of Trustees Chair and Gold Society member, points to a leaf on his branch of the "TMS family tree" during TMS2018. This activity celebrating mentoring relationships kicked off the Foundation's 25th anniversary.

1993: HUMBLE BEGINNINGS



J. Keith Brimacombe

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The TMS Board of Directors meets during the TMS 1993 Annual Meeting & Exhibition (TMS1993) in Denver, Colorado, to institute an Ad Hoc Foundation Formation Committee. 1993 TMS Vice President Lionel C. Kimerling, current Titanium Society member, serves as the committee chair and spearheads the search for the first Foundation Board of Trustees, along with 1993 TMS President J. Keith Brimacombe.

As stated in the 1993 *JOM* article “Annual Meeting Review,” the original mission of the committee is “to engage the finest young minds in pursuit of the design, development, and applications of materials for sustainable global prosperity by stimulating the dynamic evolution of our educational and professional infrastructures.”

During the June 1993 TMS Board of Directors meeting, the TMS Foundation is officially established as a separately designated fund within TMS. The Board of Trustees is created to govern the organization, while a dedicated Fundraising Committee handles fundraising issues and solicits funds. J. Keith Brimacombe serves as the first Foundation President. The first dedicated Foundation Board of Trustees is created and serves until 2001. From 2001 to 2013, the TMS Board of Directors Executive Committee oversees Foundation activities.

Two of the Foundation’s first endeavors include adding a contribution option to the TMS dues renewal bill, and creating a scholarship program for students. Its first financial goal is to raise \$100,000 by the end of 1994 in order to support scholarships, leadership development programs, and education.

HELP THE TMS FOUNDATION CONTINUE TO GROW

The TMS Foundation has accomplished much in its first 25 years, but there’s still more to do. You—TMS members and *JOM* readers—are the critical factor in enabling the Foundation to continue supporting students and young professionals in the minerals, metals, and materials community. Secure the future of your profession by making a donation to the TMS Foundation today.

**CELEBRATE THE
25TH ANNIVERSARY**
of the TMS Foundation
by making a donation
to ensure the future
of our professions.

**YOU CHOOSE
THE DECIMAL!**

\$25.00

\$250.00

\$2,500.00

?

HERE’S HOW YOU CAN HELP:

Donate Online: Visit www.TMSFoundation.org/Contribute.

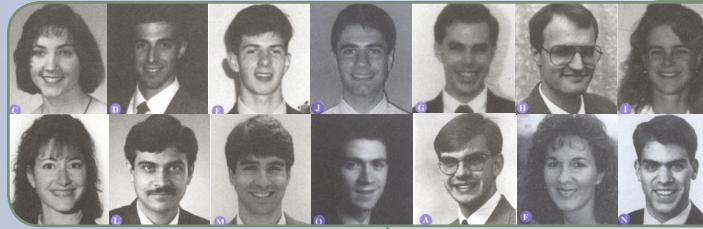
Mail a Check: Payable to the TMS Foundation at 5700 Corporate Drive Suite 750, Pittsburgh, PA 15237.

Employer Match: Register The Minerals, Metals & Materials Society for an employer match with your company.

Contact Us: Get in touch with TMS Foundation staff for questions or information on additional donation options by calling 1-724-776-9000 or e-mailing TMSFoundation@tms.org.

TMS (EIN: 25-1484913) is a qualified 501(c)(3) tax-exempt organization and donations are deductible to the full extent of the law in the U.S.

1994–1995: TMS MEMBERS RESPOND



The 1994–1995 class of TMS Scholars are recognized in the February 1995 issue of *Professional Preface* in *JOM*.

Donors of \$500 or More Listed on the 1993-94 TMS Foundation Honor Roll

CHARTER FOUNDERS (\$1,000 OR MORE)

Individual

Om P. Arora
J. Keith Brimacombe
Paul Campbell
Euel R. Cutshall
Joseph DeFilippi
Lester Engle
Martin E. Glicksman

J. Wayne Jones
Lionel Kimerling
Ken Kinsman
Alan Lawley
Ronald E. Miller
H.W. Paxton
George A. Roberts
V. Samarasekera

Jin Shimada
Dale F. Stein
Ellis D. Verink, Jr.
Milton E. Wadsworth
Robert Wagoner
Garry Warren
A.R.C. Westwood

Corporate

Alumax, Inc.
Aluminium Pechiney
AT&T Bell Labs
Cyprus Foote Mineral
Company
Mitsubishi Materials
Corporation

Olin Metals Research
Laboratory
Phelps Dodge Mining
Company
Sumitomo Metal Mining
Company, Ltd.
Wagstaff, Inc.

BUILDERS (\$500-999)

Individual

Sakichi Goto
Lawrence John
Hanschlar
W.J. Harris
Isabelle Ventre

Corporate

Bruce Wessels
Aimcor Carbon Products
Arco Aluminum, Inc.
Asarco, Inc.

Comalco Research and
Technology
Consolidated Ceramic
Products
Foseco, Inc.
Hatch Associates

Martin Marietta
Laboratories
Metallurgy Systems
Company L.P.
Reading Alloys
Seelec Corporation

Ambassadors (\$100-\$499) and Patrons (\$25-\$99) were also Listed.



The April 1996 issue of *Professional Preface* in *JOM* acknowledges the two student paper award winners for that year, Dave Mitlin of Rensselaer Polytechnic University, and Michael Glazov of the University of Pennsylvania.

3

The first donations to the TMS Foundation are received in 1994 and the first Honor Roll recognizing Charter Founders who donated \$1,000 or more, as well as all donors who contributed \$25 or more, is published in the January 1995 issue of *JOM*.

TMS members respond to the board's initial fundraising goal with great enthusiasm, raising a total of \$130,453.41 through individual and corporate gifts by the end of 1994. The board then identifies its next goal of raising \$2 million by the year 2000.

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The first TMS Technical Division Scholarships, funded through the TMS Foundation, are conferred in 1994 to student members of the Materials Processing & Manufacturing Division (MPMD). The Structural Materials Division (SMD), Light Metals Division (LMD), and Extraction & Processing Division (EPD) all add scholarships in 1995. The Electronic, Magnetic & Photonic Materials Division (EMPMD; now Functional Materials Division, FMD) adds the Gilbert Chin Scholarship in 1997. Inaugural scholarship recipients for each division are:

MPMD: 1994

David Cook, Northwestern University
Gregory Lewis, Northwestern University

EPD: 1995

Paul Cook, University of Utah

LMD: 1995

Patricia Adkens, Wayne State University
Bryan Dickerson, Virginia Polytechnic Institute and State University

SMD: 1995

Kelly Collins, University of Florida
Lourdes Dominguez, University of Texas
Marie-Claude Heuzet, École Polytechnique University
Douglas Noernerg, Case Western Reserve University

EMPMD (now FMD): 1997

Maura Jenkins, University of Wisconsin

5

The TMS Foundation begins to provide funding for the undergraduate and graduate student divisions of the TMS Best Paper Contest in 1995. For this award, students are encouraged to submit essays on global or national issues as well as technical research papers, relating to any field of metallurgy or materials science.

1996–1999: A FOCUS ON YOUNG LEADERS



The 1998 Class of TMS Young Leaders, as pictured in the September 1998 *JOM* article "1998 TMS Young Leader Interns Prepare for 1998 TMS Fall Meeting."

The 2017 MPMD Young Leaders receive their awards during the EPD/MPMD Luncheon held during TMS2017 in San Diego, California.



As pictured in the September 1996 *JOM* article "Foundation Board of Trustees Meets in Charleston," Board of Trustees members are: (front row, left to right) J. Wayne Jones, Paul Campbell, Joe Defilippi, Alexander Scott, and Dan Steighner; (back row, left to right) Charles O'Data, Keith Brimacombe, Robert Wagoner, Bruce Wessels, and Ellis Verink.



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The TMS Foundation offers the first Young Leaders Intern Awards in 1996. Now known as the TMS Young Leaders Professional Development Awards, these honors are conferred through each of TMS's five technical divisions to promising young members age 40 or under. The first Class of Young Leaders is:

EPD:

Garth Billings, Integrated Thermal Sciences
Suzann Nordwich, Montana Tech of the University of Montana

EMPMD (now FMD):

Lawrence Anthony, University of Toledo
Indranath Dutta, Naval Postgraduate School
Karen Harris, National High Magnetic Field Laboratory

LMD:

Per Bakke, Norsk Hydro Research Centre
Jennifer Lewis, University of Illinois

MPMD:

Joseph Dobmlesky, Marquette University
Jon Kellar, South Dakota School of Mines
Thomas Lillo, Idaho National Engineering Laboratory

SMD:

Gerhard Fuchs, Martin Marietta/Knolls Atomic Power Laboratory
Walter Milligan, Michigan Technological University
David Senior, Battelle Pacific Northwest National Laboratory

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Over the years, the TMS Foundation Board of Trustees continues to meet and discuss the "\$2 million by the year 2000" campaign, as established in 1994, to ensure the Foundation remains on track to meet this goal. Of this total, the Foundation plans to set \$1 million aside for endowing the student scholarships program. In 1999, the TMS Foundation is one year early in achieving its goal of a \$2 million capital base by 2000. By the end of 2000, the Foundation's total net assets reach over \$2.5 million.

2006–2014: YOUNG LEADERS PROGRAM EXPANDS



2017 JIM/TMS Young Leaders International Scholar Kinga A. Unocic, Oak Ridge National Laboratory, receives formal recognition at the 2017 JIM Annual Spring Meeting.



Kristen Persson, Lawrence Berkeley National Laboratory, speaks during the TMS Young Professional Tutorial Luncheon Lecture at TMS2017 as a part of receiving the 2017 Early Career Faculty Fellow Award.



The TMS contingent at the 2017 ELA program in Reston, Virginia.



2009 TMS President Ray Peterson (left) presents Zeljka Pokrajcic (right), WorleyParsons, with the first Vittorio de Nora Prize for Environmental Improvements in Metallurgical Industries. The award recognizes outstanding materials science research and development leading to the reduction of environmental impacts, particularly greenhouse gas emissions.

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In 2006, TMS begins a relationship with the Japan Institute of Metals (JIM) to offer a joint Young Leaders International Scholar Award. This collaboration provides the opportunity for award recipients from each society to present papers at international sessions.

In 2013, TMS expands its Young Leaders International Scholar Program and forges a relationship with the Federation of European Materials Societies (FEMS) to offer a similar joint exchange program.

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The Early Career Faculty Fellow award is established in 2007. This pinnacle TMS award recognizes an assistant professor for his or her accomplishments that have advanced the academic institution where employed, and for abilities to broaden the technological profile of TMS. In 2014, the Foundation expands this award to offer recognition to two professors each year.

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In 2007 the TMS Foundation begins sponsorship for young members to attend the Emerging Leaders Alliance (ELA) program, a unique leadership development program for scientists and engineers on track for upper-level management positions. Currently, the TMS Foundation covers registration fees for eight young professionals to participate in the ELA program each year.

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In 2009, the Vittorio de Nora Prize for Environmental Improvements in Metallurgical Industries is made possible by a generous endowment from the de Nora family through the TMS Foundation. Offered for five years, this award honors Vittorio de Nora, a pioneer in the materials processing field and one of the great Italian technologists of the 20th century. The prize aims to cultivate materials scientists and engineers under the age of 40 and comes with a \$20,000 cash prize and a presentation slot at the TMS Annual Meeting.

2017 TMS/FEMS Young Leaders International Scholar Mohsen Asle Zaeem (pictured right), Missouri University of Science and Technology, presents a plenary lecture at EUROMAT 2017.



2012–2013: LAUNCHING THE REVITALIZATION



As originally pictured in the December 2013 *JOM* article "Meet the 2014 TMS Scholarship Winners," the Revitalization Committee discusses how to "retain its focus on students and scholarships, while expanding its opportunities and programs for early and mid-career professionals."



Robert H. Wagoner



The TMS Foundation Board Revitalization Committee meets in 2013. Pictured, left to right: J. Wayne Jones, Jeff Wadsworth, Alexander Scott, Rob Wagoner, Tesa Pollock, Garry Warren, and Diran Apelian.

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Over the course of 2012–2013, TMS focuses a spotlight on the Foundation, noting its great potential with deserving programs for students and young professionals, but low annual average donation amounts (around \$10,000 total per year) and a low number of donors (about 200 members). At the TMS 2013 Annual Meeting & Exhibition (TMS2013) in San Antonio, Texas, the Foundation Board Revitalization Committee meets to discuss future directions, goals, and how to re-establish a culture of giving within TMS.

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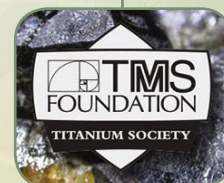
In 2013, a TMS Foundation Board of Trustees is created once again to oversee the growth of the Foundation, with Robert H. Wagoner, 1997 TMS President and current Platinum Society member, serving as its chair. The "new" Board of Trustees convenes for the first time at Materials Science & Technology 2013 (MS&T13) in Montréal, Québec, Canada. Along with its revitalization in 2013, the TMS Foundation rebranded itself with a new logo and redesigned website, including an online donation form.



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Three Lifetime Giving Honoric Societies—Silver, Gold, and Diamond—are created in 2013 to recognize those individuals who have made generous donations to the TMS Foundation over the course of a lifetime. In 2016, the TMS Foundation adds the Titanium and Platinum Lifetime Giving Honoric Societies into the mix.

- Silver:**
\$5,000 to \$9,999
- Titanium:**
\$10,000 to \$19,999
- Gold:**
\$20,000 to \$49,999
- Platinum:**
\$50,000 to \$99,999
- Diamond:**
\$100,000 or more



2014–2016: EXPANDING OPPORTUNITIES FOR RECOGNITION



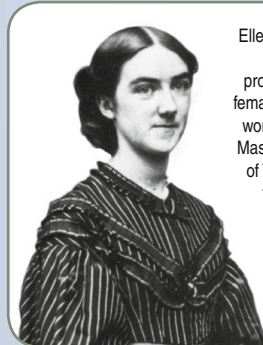
(Standing from left): Alexis Lewis, Ben Poquette, James Robinson, TMS Executive Director, and Robert Wagoner, TMS Foundation Board of Trustees Chair, offered their perspectives on the importance of the Foundation's work during the first donor appreciation event.

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At the TMS 2014 Annual Meeting & Exhibition (TMS2014), the first donor appreciation event is held to recognize the founding members of the Foundation's Lifetime Giving Honorific Societies and top donors from the Foundation's first year-end Annual Appeal campaign under the revitalization efforts.



Martin Glicksman (pictured left), 1994 TMS Fellow, and wife Lucinda Glicksman are honored as inaugural members of the Diamond Society during the TMS2014 event.



Ellen Swallow Richards was the first U.S. professionally degreed female scientist, the first woman admitted to the Massachusetts Institute of Technology, and the first female member of TMS' antecedent organization, AIME.

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The Ellen Swallow Richards Diversity Award is established in 2014, thanks to a generous donation from Diamond Society members Jeffrey Wadsworth and Geraldine McCulley Wadsworth made through the TMS Foundation. This award recognizes an individual who, in the remarkable pioneering spirit of Ellen Swallow Richards, has helped or inspired others to overcome personal, professional, educational, cultural, or institutional adversity to pursue a career in minerals, metals, and/or materials.

Viola L. Acoff (pictured right), Silver Society member, receives the inaugural Ellen Swallow Richards Diversity Award from Jeffrey Wadsworth at the First TMS Summit on Creating and Sustaining Diversity in the Minerals, Metals, and Materials Professions (DMMM1), held in Washington D.C. in 2014.

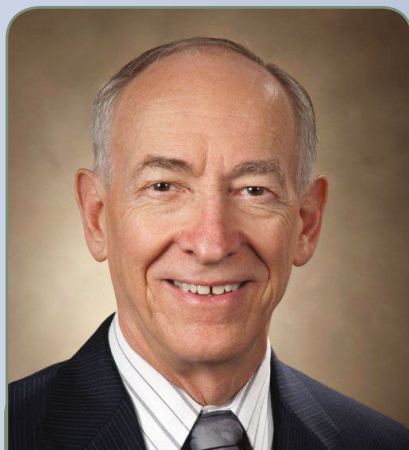




Larry Kaufman, an active TMS member for more than 50 years, was the 2002 William Hume-Rothery Award recipient, and founder of the CALPHAD technique and CALPHAD Inc.

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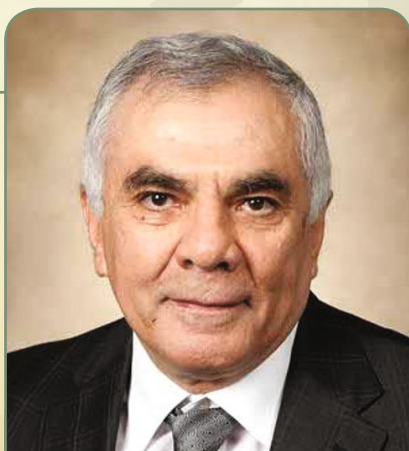
The TMS Foundation adds two more awards to its portfolio in 2015—the Kaufman CALPHAD Scholarship and the Nagy El-Kaddah Award for Best Paper in MHD in Material Processing. The Kaufman CALPHAD Scholarship, supported through CALPHAD Inc., individual donors, and the TMS Foundation, recognizes the memory of Larry Kaufman for his contributions to computational thermodynamics and its applications. The Nagy El-Kaddah Award, conferred through the EPD, recognizes El-Kaddah's contributions in the field of magnetohydrodynamics (MHD) in material processing.



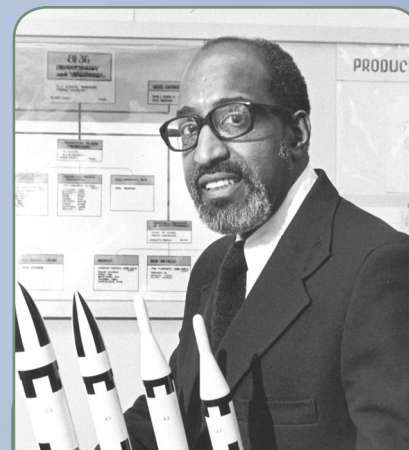
Garry W. Warren

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In 2016, Rob Wagoner's term as TMS Foundation Board of Trustees Chair ends and Garry W. Warren, 2011 TMS President and current Gold Society member, begins his services as current Chair of the Board of Trustees.



Nagy El-Kaddah, a TMS member for more than 30 years, taught at the University of Alabama's College of Engineering, where his work led to three patents on melting processes that allow metals to melt while suspended midair by electromagnetic fields.



Frank Crossley, a long-time TMS/AIME member, whose accomplishments had a significant technical impact in his field (notably titanium and aerospace), was the first African American to earn a Ph.D. in metallurgical engineering.

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A second diversity award is added to TMS's society level awards through another generous donation from Jeffrey Wadsworth and Geraldine McCulley Wadsworth in 2016. The Frank Crossley Diversity Award recognizes an individual who has overcome personal, professional, educational, cultural or institutional adversity to pursue a career in minerals, metals, and/or materials.

2017: A YEAR OF NEW INITIATIVES



Board of Trustees Chair Garry W. Warren (left) presents Martin and Lucinda Glicksman (center, right) with a certificate to honor their membership in the 1871 Legacy Circle.

Ed Herderick explains how the TMS Foundation supports students and young professionals early in their careers and why young members should contribute to the mission of the Foundation, too.

Battelle

The Business of Innovation

20

In June 2017, The TMS Foundation Board of Trustees establishes the 1871 Legacy Circle, a society recognizing individuals who have provided for the TMS Foundation through planned giving. The Foundation welcomes Diamond Society members Martin and Lucinda Glicksman as the first members of the 1871 Legacy Circle.



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In July 2017, the 40/40 Club is created. This new initiative by the TMS Foundation recognizes young members, age 40 or under, who give \$40 or more in one calendar year. TMS Foundation Trustee, Titanium Society member, and inaugural 40/40 Club member Ed Herderick is featured in a 40/40 Club video to educate younger members about philanthropic giving.



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The TMS Foundation establishes the Battelle Matching Scholarship Program and Battelle Materials Graduate Student Award in 2017. Thanks to the generous support of Jeffrey Wadsworth and Battelle, undergraduate student scholarships awarded by the five TMS technical divisions are matched, dollar for dollar, through the Battelle Matching Scholarship Program. The first Battelle Matching Scholarships are awarded with the 2018 TMS Technical Division Scholarships.

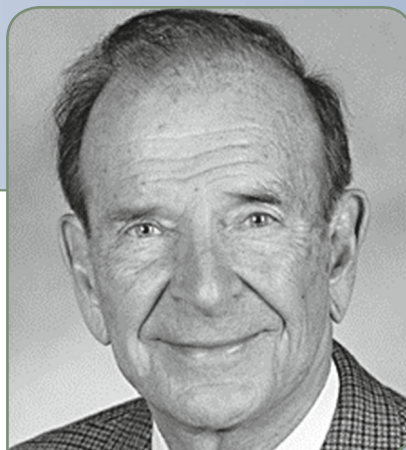
Every student who receives a Battelle Matching Scholarship will be awarded a Battelle Materials Graduate Student Award when the student matriculates to graduate school to continue studies in a materials-related field.



Julia and Johannes Weertman, both longtime TMS members, were instrumental in the emergence of materials science and engineering as a new discipline while simultaneously developing a rare synergy as a couple that still serves as an example for younger generations.

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In 2017, an award endowment through the TMS Foundation renames the Educator Award to the Julia and Johannes Weertman Educator Award, in honor of two distinguished TMS members for their individual and joint accomplishments. Support for the award is provided by colleagues and friends of Julia and Johannes Weertman, as well as the Department of Materials Science and Engineering and the McCormick School of Engineering and Applied Sciences at Northwestern University. The first award is conferred at the TMS 2018 Annual Meeting & Exhibition (TMS2018).



The Oleg D. Sherby Award memorializes groundbreaking contributions that Sherby made to the field of high-temperature deformation of complex materials.

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Through an endowment to the TMS Foundation from Jeffrey Wadsworth of Battelle, the Oleg D. Sherby Award is created in 2017. This award recognizes an individual or small group of collaborators who have made significant contributions to the understanding of the behavior of materials at high temperatures. The first award is conferred at TMS2018.



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In 2017, the TMS Foundation Board of Trustees formalizes the Foundation's financial support of *Materials Explorers*TM. This educational outreach initiative is designed to inspire high school students to pursue careers in the minerals, metals, and materials fields by connecting science and engineering concepts to the world they know and experience in a fun and compelling way.

Young visitors to the Arizona Science Center learned about the properties of solids and liquids, creating their own viscoelastic materials as shown here, during the *Materials Explorers*TM launch event held in conjunction with TMS2018.

