

TMS MEMBER NEWS

Share the Good News!

Contact Kelly Zappas, *JOM: The Magazine* editor, at kzappas@tms.org to share your professional accomplishments. Please note that only news submitted by current TMS members will be considered.

Suresh Receives National Medal of Science

Congratulations are in order for TMS member **Subra Suresh**, one of nine 2023 recipients of the National Medal of Science. The highest recognition in the U.S. for scientists and engineers, the award was bestowed by U.S. President Joe Biden at the White House on October 24, 2023.

Since joining TMS in 1983, Suresh has been an active member of the Structural Materials Division (SMD). He has earned several of the Society's pinnacle awards, including the 2000 Fellow Award, the 2011 TMS/ASM Joint Distinguished Lectureship in Materials and Society Award, and the 2012 Institute of Metals/Robert Franklin Mehl Award. Additionally, Suresh has gained accolades for his innovative work from a number of organizations around the world. He is one of just a few individuals who have been elected to all three U.S. National Academies—Sciences, Engineering, and Medicine.

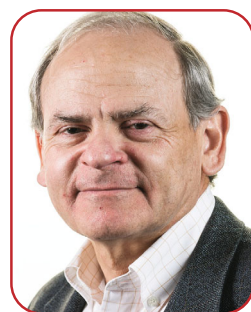
Suresh is currently professor at large in the Brown University School of Engineering and is the Vannevar Bush Professor Emeritus in the Department of Materials Science and Engineering at the Massachusetts Institute of Technology. Notably, he is the former director of the National Science Foundation and has served as president of Carnegie Mellon University and Nanyang Technological University in Singapore.

Suresh's citation reads: "For pioneering research across engineering, physical sciences, and life sciences. A transformative educator, he has advanced the study of material science and its application to other disciplines. His commitment to research and collaboration across borders has demonstrated how science can forge understanding and cooperation among people and nations."



Subra Suresh received the National Medal of Science, the nation's highest scientific honor, from U.S. President Joe Biden in October 2023. (Photo credit: Ryan K. Morris and the National Science & Technology Medals Foundation.)

Llorca Receives Spanish National Research Award



TMS member **Javier Llorca** has been honored with the 2023 Leonardo Torres Quevedo National Research Award in Engineering and Architecture by the Ministry of Science and Innovation of Spain. Llorca is currently the scientific director and leader of the bio/chemo/mechanics of materials research group

at IMDEA Materials Institute and a full professor at the Technical University of Madrid.

Spanish Minister of Science and Innovation Diana Morant announced the 2023 National Research Awards in September 2023. Llorca's citation reads: "For the pioneering nature and leadership of his research in the field of computational materials engineering, highlighting his contributions to development of novel multi-scale modeling strategies that have had a great

impact on different industrial sectors."

Since becoming a TMS member in 2014, Llorca has been actively involved in two signature TMS events as a member of the Organizing Committee or International Advisory Committee: the World Congress on Integrated Computational Materials Engineering and the International Congress on 3D Materials Science. In 2019 he received the TMS Structural Materials Division's (SMD) *JOM* Best Paper Award and in 2023 the SMD Distinguished Scientist/Engineer Award.

He has previously held positions as a visiting professor at Brown University, Indian Institute of Science, Shanghai Jiatong University, Central South University, and Yanshan University.

Llorca is considered by many to be among the fathers of computational materials engineering and is a highly cited researcher in the field of structural materials engineering, with more than 21,000 citations on his 350 publications to date.

Rodriguez Named HENAAC Scientist of the Year

TMS member Sal Rodriguez was named the 2023 Scientist of the Year from Great Minds in STEM (GMiS) during their annual Hispanic Engineer National Achievement Awards Conference (HENAAC). Rodriguez is currently a principal member of the technical staff in the Advanced Nuclear Concepts Group at Sandia National Laboratories and an associate professor at the University of New Mexico's (UNM) Nuclear Engineering Department.

Scientist and/or Engineer of the Year is not awarded annually, but only when the selection committee identifies a candidate from one of the professional awards categories whose achievements merit elevation to one of these special honors. Bestowed for both exemplary leadership and scientific achievement, this award recognizes individuals who "are meeting the demands of today's rapidly advancing technology and dynamic economic environment."

Among the attributes mentioned in Rodriguez's award citation, it is noted that: "His research resulted in many game-changing advances for modeling fluid dynamics, swirl, and turbulent flows which resulted in multiple patents and patents pending, including one for more efficient wind turbine blades that use turbulators and dimples for increased wind energy output."

Since joining TMS in 2022, Rodriguez has been active in the Functional Materials Division. He also participated

in the 3rd World Congress on High Entropy Alloys in 2023 as both a presenter and a session chair.



TMS member Sal Rodriguez, named the 2023 HENAAC Scientist of the Year, is shown here with a dimpled rocket that he helped to create. Photo credit: Sandia National Laboratories/photo by Jennifer Plante.

TMS at PRICM11

TMS members **George "Rusty" Gray III**, Los Alamos National Laboratory (LANL), and current TMS Functional Materials Division Chair **Saryu Fensin**, LANL, represented the Society at the 11th Pacific Rim International Conference on Advanced Materials and Processing (PRICM11) in November 2023. This long-standing event is jointly organized by the Chinese Society for Metals (CSM), the Japan Institute of Metals and Materials (JIM), the Korean Institute of Metals and

Materials (KIM), Materials Australia (MA), and TMS, and is hosted alternately among these five sponsoring organizations. The 2023 iteration was hosted by KIM and held in Jeju, South Korea.

For more than 30 years, PRICM has served as an international stage for the dissemination of current and emerging materials and processing knowledge. In the Society's non-hosting years, TMS members contribute to the planning and implementation of technical programming through the TMS Organizing Committee and the International Advisory Board. Onsite at PRICM11, Gray served as the TMS in-country representative while Fensin participated as one of the TMS organizing committee appointees. Gray was also honored as one of the three plenary speakers for the conference, presenting a talk entitled, "Dynamic Behavior of Additively Manufactured Materials."

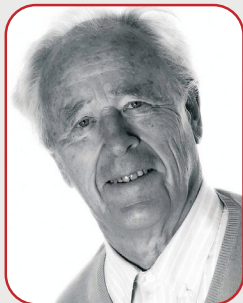
In addition to the programming efforts of Gray and Fensin, the following TMS members were involved in PRICM11: **Nikhilesh Chawla**, Purdue University; **Paul R. Ohodnicki Jr.**, University of Pittsburgh; **Elizabeth A. Holm**, University of Michigan; 2022 TMS President **W. Jud Ready**, Georgia Institute of Technology; and **Dan J. Thoma**, University of Wisconsin-Madison.

Although details for the next PRICM conference have not yet been announced, you can explore additional TMS events at www.tms.org/Meetings.



George "Rusty" Gray and Saryu Fensin represented TMS at PRICM 11 in Jeju, South Korea.

A Tribute to Professor Emeritus Thorvald Abel Eng



Thorvald Abel Eng passed away on December 22, 2023, two weeks before his 90th birthday. Thorvald was an active TMS member for 50 years. He presented many insightful papers and assisted in TMS short courses on aluminum refining. At the TMS 2017 Annual Meeting & Exhibition,

he and Christian Simensen were honored for their technical contributions in a special Light Metals Division symposium, The Science of Melt Refining.

Thorvald began his studies at the Norwegian Institute of Technology (now the Norwegian University of Science and Technology, NTNU) in Trondheim, Norway, receiving a master's degree in physics in 1958. He worked for five years as an associate engineer for process control at an IBM Laboratory before returning to Trondheim and earning his Ph.D. in chemical engineering in 1966. As a lecturer in the Chemical Engineering Department, Thorvald received a travel scholarship which enabled him to work with John F. Elliott at the Massachusetts Institute of Technology (MIT). In 1970 he worked at the Metallurgical Research Plant in Luleå, Sweden, and later that year became a lecturer in the Department of Ferrous Metallurgy at the Royal Institute of Technology in Stockholm, Sweden. In 1971 he became an associate professor of metallurgical engineering at NTNU and remained on the faculty until his retirement as emeritus professor in 2004.

While on sabbatical leaves throughout his career, Thorvald worked with Carnegie Mellon University and the Alcoa R&D Center, both in Pittsburgh, Pennsylvania; the University of Melbourne in Australia; Drexel University in Philadelphia, Pennsylvania; and the Research Institute for Advanced Materials Processing, Tohoku University, in Sendai, Japan.

Thorvald began in the theoretical sciences of physics and mathematics, but after working in industry decided to apply his skills to solving practical problems, for which he brought an intense desire to know and understand. In his modelling of metallurgical processes, he did not resort to computers to solve complex differential equations. Instead, he produced exact mathematical solutions. Sometimes his mathematical analyses produced important dimensionless numbers, which characterized the kinetics of the process.

Thorvald always had a unique way of seeing things and his viewpoint was usually insightful. He had a lively sense of humor and a sharp wit. We will miss our many interesting and useful conversations with Thorvald, but we will not miss his knowledge. His last act, and gift to us, was to detail his life's research. He also convinced 20 colleagues to contribute their knowledge to his book, *Principles of Metal Refining and Recycling*. Read it for yourself, and you will soon feel the force and depth of his unique personality and come away with a deeper understanding of metal refining and recycling.

*Contributed by **Geoffrey K. Sigworth**, a consultant with GKS Engineering Services and a TMS member since 1981, and **Anne Kvithyld**, a research scientist with SINTEF and a TMS member since 2002.*

In Memoriam

TMS offers its condolences to the families, friends, and colleagues of the following members:

Rodney "Rod" R. Boyer, known to many in the community as the "Ti Guy," passed away on November 16, 2023. Throughout the course of his career, Boyer consulted for NASA, Lockheed Martin, and TIMET. A TMS member since 1977, Boyer was always active in the Structural Materials Division's Titanium Committee, serving as the committee's secretary, vice chair, and chair in the 1990s. In 2020 he received the Society's highest honor, the Fellow Award, "for exemplary and sustained leadership in the growth of understanding and application of Ti alloys in commercial aircraft. For exceptional service to our profession." Recently, the American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME) captured an interview with Boyer for its Oral Histories project, which can be found at www.tms.org/OurHistory. Boyer earned the "Ti

Guy" nickname due to his significant contributions to the titanium research and the aerospace industry. He has given more than 300 technical presentations around the world and co-edited more than seven books, most notably *Titanium Alloys Metals Properties Handbook*.

John Edward Litz passed away on December 28, 2023. Specializing in developing processes for the recovery of metals from ores, concentrates, and recyclable materials, Litz was active in the TMS Extraction & Processing Division since joining TMS in 1992. Throughout his career, he worked at mining camps in Colorado and New York. Litz spent the latter part of his career self-employed as a metallurgical engineer at his company, J.E. Litz & Associates LLC.