

A Celebration of Success: Meet the 2019 TMS Young Leaders

—Karin Galva



Far more than acknowledging a single achievement, the TMS Young Leaders Professional Development Awards confer a special kind of honor on young members of TMS. Individuals from each of the five technical divisions are recognized for their exceptional promise as materials science and engineering professionals and the potentiality of what their futures as TMS members and leaders may hold. The Young Leaders Professional Development Awards program provides financial assistance for attending the TMS annual meeting, where recipients have access to a variety of leadership development opportunities. By participating in activities like division council meetings, luncheon lectures, and a TMS Board of Directors meeting, these early career members gain new experiences that enable them to network with professionals at all stages of their careers and prepare them for future leadership roles within the Society.

Each of the 2019 Young Leaders introduced on the following pages received their awards at the TMS 2019 Annual Meeting & Exhibition (TMS2019), March 10–14, in San Antonio, Texas. Although TMS2019 is over, be sure to add them to your professional network as they continue to flourish as accomplished contributors to your professional community.



**Invest in the Future
of Your Profession**
***Give Back to the
TMS Foundation***

The opportunities outlined by the many young professionals in this article would not be available without the TMS Foundation and its commitment to developing the next generation of minerals, metals, and materials scientists and engineers. Visit www.TMSFoundation.org to learn more about the Foundation and to help continue its important work through an online donation. For questions or to talk to TMS Foundation staff personally, contact TMSFoundation@tms.org or call 1-724-776-9000.

2019 Young Leaders Professional Development Award Recipients

EXTRACTION & PROCESSING DIVISION (EPD)



Neslihan Dogan

Neslihan Dogan

“I would like to express my gratitude to the TMS Foundation for its generous support. This award will provide me recognition and visibility in my research community,” said Neslihan Dogan, assistant professor of materials science and engineering and Stelco Research Chair on Sustainable Steel Production at McMaster University. “I found new collaborations through networking opportunities in the meetings. I look forward to participating actively within the technical committees and working on my professional growth.” Dogan’s research focuses on the kinetics and thermodynamics of chemical reactions in steelmaking processes using modeling and high-temperature experimental techniques. She received her bachelor’s degree from Yıldız Technical University and her Ph.D. from Swinburne University of Technology. Before joining McMaster University, Dogan worked as a postdoctoral fellow at the University of Wollongong.



Leili Tafaghodi

Leili Tafaghodi

“I am delighted to have been chosen as one of the recipients of 2019 EPD Young Leaders Professional Development Award,” commented Leili Tafaghodi, an assistant professor and the extractive metallurgy research chair at the University of British Columbia. “I have greatly benefited from the events organized by TMS since I attended the TMS 2012 Annual Meeting & Exhibition as a Ph.D. student. TMS provides an opportunity to meet academic and industrial researchers and offers me a platform to present my research to the scientific community.” Currently, Tafaghodi’s research centers on sustainable high-temperature extraction and refining of materials. Her focus is on thermodynamics and kinetics of high-temperature materials processes and synthesis and refining of high-quality metals and alloys. Tafaghodi obtained her Ph.D. from the University of Toronto.

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—Leili Tafaghodi

FUNCTIONAL MATERIALS DIVISION (FMD)



Surojit Gupta

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“It is an honor to receive the 2019 TMS FMD Young Leaders Professional Development Award,” said Surojit Gupta, associate professor of mechanical engineering at the University of North Dakota (UND). “TMS membership helps me to connect with my fellow scientists. This award will help me to network and

be a part of an esteemed materials society for solving challenging engineering problems.” In his position at UND, Gupta teaches both fundamental and applied materials science and engineering courses. His research interests include sustainable materials, high-temperature ceramics and alloys, nanotechnology, additive manufacturing, and green manufacturing.

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—Surojit Gupta

Ning Zhang

“TMS has always provided me with excellent opportunities to connect with faculty, students, and researchers around the world. As a junior research faculty member, TMS allows me to interact closely with the top scientists and engineers in the materials field by co-organizing a symposium, guest-editing a special issue of *JOM*, and participating in technical committee meetings,” reflected Ning Zhang, research assistant professor in the Department of Mechanical Engineering at the Colorado School of Mines. “I have also benefitted a lot through presenting my work and communicating with researchers

in my field. I am grateful and proud to receive this award, which will encourage me to be more involved in future TMS events and activities.” Zhang received her B.S. in mechanical engineering from Dalian University of Technology, her M.S. in solid mechanics from Huazhong University of Science & Technology, and her Ph.D. in mechanical engineering from the University of Florida. With a diverse background in materials science engineering, mechanical engineering, and civil engineering, Zhang is currently interested in studying fundamental deformation/failure mechanisms and developing interatomic potentials for various materials.

**Ning Zhang****LIGHT METALS DIVISION (LMD)****Kristian Etienne Einarsrud**

“Since my first visit at TMS in 2011, I have always been inspired by the dedication from staff and volunteers, hosting a large event for a large audience,” recalled Kristian Etienne Einarsrud, associate professor in the Department of Materials Science and Engineering at the Norwegian University of Science and Technology (NTNU). “The diversity, both in subjects and in attendees, is one of my main motivations for attending the meeting—I always learn new skills and find new opportunities upon which I can continue to build my career and network. The high quality of TMS journals allows me to go into the depth of the topics introduced at the annual meeting, thereby serving my professional needs throughout the year.” Einarsrud earned both his M.Sc., in applied physics and mathematics, and Ph.D., in fluids engineering, from NTNU. His thesis work focused on CFD modeling of anodic bubble flow. Today, his main research topics include computational fluid mechanics, reactive multiphase flow and interface phenomena, process metallurgy, and electrochemistry.

Samuel Wagstaff

Currently a process scientist at the Novelis Global Research and Development Center, Samuel Wagstaff focuses on next generation alloy and research development. Wagstaff recalled “growing up” in the aluminum industry, helping his father with research work starting at the age of seven. “The TMS Foundation has been a source of inspiration to me for nearly my entire life. As I watched my father, Robert Wagstaff, prepare for presentations and publications it inspired me to dig deeper, and search further, throughout my entire education,” said Wagstaff. “As a TMS member myself now, I can take part in those same discussions, be a part of the greater scientific community, and draw inspiration from, and foster collaboration with my peers. TMS and the TMS Foundation have been one of the major catalysts in my career thus far. I look forward to the further collaborations, discussions, and discoveries that they will inspire in the years to come.” Wagstaff earned his B.S. in mechanical and aerospace engineering from Cornell University, and his M.S. and Ph.D. in materials science and engineering from the Massachusetts Institute of Technology.

**Kristian Etienne Einarsrud****Samuel Wagstaff**

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—**Kristian Etienne Einarsrud**

MATERIALS PROCESSING & MANUFACTURING DIVISION (MPMD)



Oliver Johnson

Oliver Johnson

“Being a member of TMS has provided a wide range of opportunities to contribute to and serve my professional community and for professional development,” noted Oliver Johnson of his membership with TMS so far. “I am grateful for the opportunity to meet, learn from, collaborate with, and serve with distinguished colleagues in my field. This award expands the scope of these opportunities, and I am grateful for that privilege. I look forward to many decades of participation as a member of TMS.” Johnson is currently an assistant professor in the Mechanical Engineering Department at Brigham Young University (BYU), where his research focuses on theoretical, computational, and experimental approaches to design and synthesize advanced materials. His other areas of interest include characterization and materials design for grain boundary networks, atomic and mesoscale characterization of grain boundary structure, experimental and theoretical methods for quantifying structure-property correlations, and synthesis of designed microstructures. Johnson earned his B.S. in mechanical engineering from BYU and his Ph.D. in materials science and engineering from the Massachusetts Institute of Technology



Srikanth Patala

Srikanth Patala

“I feel extremely honored to receive this award. TMS membership has provided me the opportunity to engage with leaders in the field who have positively impacted my career, both as a researcher and a teacher in materials science,” said Srikanth Patala, assistant professor in the Department of Materials Science and Engineering at North Carolina State University (NC State). “As a technical committee member, I was able to meet like-minded people with diverse sets of perspectives and ideas, co-organize symposia in areas close to my research interests, and form new collaborations through these meetings. I look forward to involving myself in a leadership role at TMS and engaging with young researchers and students who will shape the future of the Society.” At NC State, Patala’s research interests focus on developing analytical and computational tools for designing high-performance structural alloys, with a special emphasis on investigating and manipulating the properties of interfaces. He received his B.E. from the Indian Institute of Technology Madras and his Ph.D. in materials science and engineering from the Massachusetts Institute of Technology.

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STRUCTURAL MATERIALS DIVISION (SMD)



Andrew Baker

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Andrew Baker, a materials and process engineer in the Next Generation Metals Group of Boeing Research & Technology, serves as a subject matter expert on the structure-property relationships in additively manufactured titanium and related processes within Boeing. He has also worked as program manager of an effort to establish process-microstructure-property models and tools to speed up certification and qualification of additively manufactured components. Other positions at Boeing have included

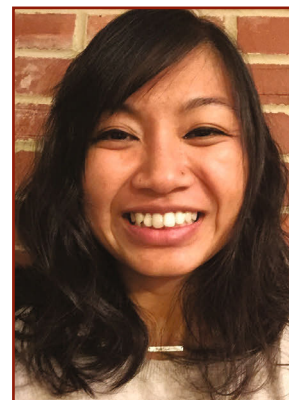
serving as principal investigator for efforts to improve fatigue models in aluminum and bring modern metallic alloys into production aerospace systems. “I am honored to receive the 2019 TMS SMD Young Leaders Professional Development Award,” Baker said. “TMS has provided significant opportunities and an inviting atmosphere to create, maintain, and foster key relationships between persons in the materials community for the benefit of the field and its membership. This award will allow me to continue serving on several committees to assist in executing

some of the TMS strategic goals such as advocacy for materials and manufacturing innovation, industrial engagement, and advancing diversity and inclusion in the minerals, metals, and materials profession.”

Lily Nguyen

“TMS has been incredibly important to my career. In addition to serving as a platform to present my research, it provides so many opportunities to network and engage with other scientists at all stages,” stated Lily Nguyen, a postdoctoral research associate at the U.S. Naval Research Laboratory (NRL). “It is a great resource and support system for me as I try to integrate materials science and engineering outreach efforts

to students and become more involved in policy. I am excited to learn more about the opportunities within TMS, so that I can better serve our community.” Her work at NRL focuses on developing an automated mechanical serial sectioning system to study the 3D microstructure of as-built additively manufactured materials. Nguyen earned her B.S. in metallurgical and materials engineering from the Colorado School of Mines, and her M.S. and Ph.D. in materials science and engineering from Carnegie Mellon University. During her thesis study, her work included the application of moment invariants to quantify microstructural evolution in materials systems.



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Are You A Young Leader?

TMS Young Leaders Professional Development Award recipients are dynamic individuals who are looking to become more involved in the minerals, metals, and materials community. They are linked by a common commitment to taking their leadership skills to the next level by being more active as TMS volunteers and helping to advance TMS’s strategic initiatives and impact on the profession.

If you feel that you, or someone you know, fit these



criteria, visit the TMS Honors and Awards website at awards.tms.org to learn more and download the application. Applicants must be TMS members in good standing who are age 40 or younger. Awardees must also demonstrate a desire to play an active role in TMS and the potential to advance to volunteer leadership roles with the Society. The deadline to submit applications for the 2020 Young Leaders Awards is **August 15, 2019**.

If you are interested in becoming more involved in TMS before awards applications are due, join the Young Professionals Committee. The committee is primarily focused on enabling networking, developing programming for young professionals and that addresses materials-based concerns, and fostering an appreciation and awareness of TMS activities. For more information on joining the TMS Young Professionals Committee, contact Bryn Simpson, TMS Membership & Volunteerism Program Manager, at bsimpson@tms.org. To learn more about this committee and other opportunities for early career members of the Society, visit www.tms.org/YoungProfessionals.

International Scholars Announced



Jennifer Carter



Fadi Abdeljawad



Sakiko Kawanishi

The TMS Young Leaders International Scholar program was established in 2006 as a collaboration between TMS and the Japanese Institute of Metals and Materials (JIM). In 2013 the program was expanded to include a second award conferred as a collaboration between TMS and the Federation of European Materials Societies (FEMS). Made possible by funding through the TMS Foundation, the TMS Young Leaders International Scholar Awards enable early career TMS members to travel to the JIM Annual Spring Meeting or EUROMAT meeting where they will present a paper and tour nearby universities, research labs, or industrial facilities. Additionally, JIM and FEMS each sponsor a young professional from their memberships to present a paper at a TMS annual meeting.

The 2019 TMS/FEMS Young Leaders International Scholar Award recipient is **Jennifer Carter**, an assistant professor at Case Western Reserve University. "TMS membership and the TMS Foundation have been instrumental in my success as a young leader and as a materials engineer and materials educator. The Society and the awards provided by the Foundation have allowed me to participate in and direct the technical discussions that impact our community," Carter noted. "When I look for mentors and collaborators, I look to my peers in TMS for support. I highly value the commitment that the TMS membership has made to my success and I recommend to all my students that they volunteer and get involved with TMS. It is during the discussions at the annual meetings and other TMS sponsored meetings that the future is discussed and brought one step closer." In 2014, Carter received the Structural Materials Division Young Leaders Professional Development Award. As a student member of Material

Advantage, she also received the American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME) Henry deWitt Smith Scholarship in 2012.

"TMS has always been a home for all my research and professional development needs. My participation at TMS has been instrumental in advancing my career," said **Fadi Abdeljawad**, the 2019 TMS/JIM Young Leaders International Scholar. "The TMS annual meetings have helped me grow professionally through formal presentations of my research work, participation in committees, organizing symposia, and establishing connections with the top researchers in the field, and involvement in young professional activities. I am very grateful to the TMS Foundation for funding the Young Leaders International Scholar Award." Abdeljawad is currently an assistant professor in the Department of Mechanical Engineering at Clemson University, where his research focuses on understanding materials microstructures and their formation and evolution, as well as quantitatively predicting their performance. In 2017, he received the Functional Materials Division Young Leaders Professional Development Award. He received his B.Sc. from North Carolina State University, and his M.A. and Ph.D. from Princeton University, where he also received the Francis Upton Fellowship.

The JIM Young Leader representing JIM at TMS2019 is **Sakiko Kawanishi**, an assistant professor at Tohoku University. Kawanishi presented her paper "An Approach for Solubility Measurement of SiC in Molten Silicon and its Alloy by Real-Time Interference Observation," on Tuesday, March 12, during the Advanced Real Time Imaging: Thermodynamic and Mechanical Properties session at TMS2019.

