

Celebrating the 2021 TMS Young Leaders

Megan Enright



 **TMS**
FOUNDATION

Invest in the Future

Without the TMS Foundation, the opportunities highlighted by the young professionals in this article would not be available. The TMS Foundation is dedicated to the development of the next generation of minerals, metals, and materials scientists and engineers.

Visit www.TMSFoundation.org to learn more about the Foundation and make a donation. For questions or to talk to TMS Foundation staff, contact TMSFoundation@tms.org or call 1-724-776-9000.

The TMS Young Leaders Professional Development Awards honor the exceptional futures their recipients will have, both within TMS and as materials science and engineering professionals. These special honors for early career members are conferred by each of the five technical divisions of TMS. This program provides financial assistance to attend the TMS annual meeting, where recipients have access to a variety of leadership development opportunities. Recipients can participate in division council meetings, luncheon lectures, a TMS Board of Directors meeting, and more. At TMS annual meetings, these early career members gain new experiences that offer networking opportunities with professionals at all stages of their careers and prepare them for future leadership roles within the Society.

Each of the 2021 Young Leaders introduced on the following pages received their awards at the TMS 2021 Virtual Annual Meeting & Exhibition (TMS2021 Virtual), March 15–18. Although TMS2021 Virtual has concluded, recordings of the Division Award Ceremonies and the TMS-AIME Awards Ceremony are all available to view at awards.tms.org. Be sure to watch the presentations and add these young professionals to your network and your professional community.

2021 Young Leaders Professional Development Award Recipients

EXTRACTION & PROCESSING DIVISION (EPD)

Alexandra Anderson

“TMS has played an integral role in my professional development, from my experiences in Material Advantage as an undergraduate to my current roles on EPD technical committees,” said Alexandra Anderson, senior research and development engineer at Gopher Resource. “Membership in the Society has helped me grow my network, learn from world-class researchers, and communicate with leaders in my profession.” At Gopher Resource, Anderson directs the reverberatory furnace productivity program, encompassing all optimization and expansion projects related to the furnace, as well as burner technology implementation and computational modeling initiatives. She received her Bachelor of Science in mechanical engineering from Gonzaga University in 2013, continuing her education at the Colorado School of Mines where she earned both a Master of Science and a Doctor of Philosophy in metallurgical and materials engineering.

Joseph Hamuyuni

“I am thrilled and honored to receive this award,” commented Joseph Hamuyuni, a research metallurgist currently working at Metso Outotec Research Centre in Finland. “The TMS Foundation, through the Extraction & Processing Division, has afforded me many opportunities including a platform to network, learn, and exchange ideas with other researchers, for this I am profoundly grateful.” Currently, Hamuyuni’s primary role is in the research and development of projects that support smelting technology in the metals business area. He holds a Ph.D. in materials science from Aalto University and an M.Sc. Eng. in extractive metallurgy from Stellenbosch University.

“Membership in the Society has helped me grow my network, learn from world-class researchers, and communicate with leaders in my profession.”

—Alexandra Anderson



Alexandra Anderson



Joseph Hamuyuni

FUNCTIONAL MATERIALS DIVISION (FMD)

Yong Lin Kong

“I am very grateful for the opportunity and support from TMS,” said Yong Lin Kong, assistant professor of the Department of Mechanical Engineering at the University of Utah. “It has been an exciting and fruitful experience working together! I am very much looking forward to the opportunity to contribute back to the wonderful TMS community.” Kong’s research focuses on the additive manufacturing of nanomaterial-based functional devices and biomedical devices. He received his Ph.D. in mechanical engineering and materials science from Princeton University in 2016 and was a postdoctoral associate at the Massachusetts Institute of Technology from 2016 to 2017.

annual meeting in San Antonio) felt like a homecoming,” reflected Michael Cai Wang, an assistant professor in the Department of Mechanical Engineering at the University of South Florida.

“With this award, I look forward to the broader opportunities and platform it affords and hope to better contribute to the TMS community by assisting with more symposium activities and further engaging in technical committees.” Wang received his Ph.D. from the University of Illinois at Urbana-Champaign (2018) and his B.A.Sc. from the University of Toronto (2012), both in mechanical engineering.

“Although I was a latecomer to TMS, my first meeting experience...felt like a homecoming.”

—Michael Cai Wang



Yong Lin Kong



Michael Cai Wang

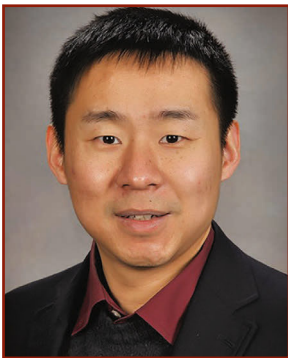
Michael Cai Wang

“Although I was a latecomer to TMS, my first meeting experience (the 2018

LIGHT METALS DIVISION (LMD)



Richard Otis



Kelvin Xie

Richard Otis

“My membership in TMS has led to many gratifying professional service opportunities, and the feeling that I am making a real impact, not only on the materials discipline but also on the national research enterprise,” recalled Richard Otis, a materials and manufacturing technologist at NASA’s Jet Propulsion Laboratory. “In my experience, TMS events and committee meetings are excellent for professional networking. I have been the beneficiary of excellent mentorship as a result of my Society involvement, and my priority moving forward is to use this recognition to continue paying it forward to the next generation of scientists and engineers through acts of service and volunteerism.” Otis received a Ph.D. in materials science and engineering from The Pennsylvania State University in 2016. Today, his main research interests include computational metallurgy, CALPHAD-based thermodynamics and kinetics, metal additive manufacturing, Bayesian uncertainty quantification, scientific software engineering, and high-performance numerical computing.

Kelvin Xie

“TMS is my home society. The TMS annual meeting is my home conference. I am honored to receive this award from TMS,” commented Kelvin Xie, an assistant professor in the Department of Materials Science and Engineering at Texas A&M University. “My experience at TMS was inspiring and fun as a graduate student. Now, as a junior-level faculty, I encourage my students to attend the TMS meetings every year, so they would meet other fellow students who share their passion.” Xie’s research focuses on understanding and designing lightweight structural materials (e.g., Mg alloys) at the nano- and atomic-scales using advanced microstructural characterizations (e.g., TEM and atom probe tomography). He obtained his Ph.D. from the University of Sydney, in the Department of Mechanical Engineering and the Australian Centre for Microscopy and Microanalysis.

“I have been the beneficiary of excellent mentorship as a result of my Society involvement, and my priority moving forward is to use this recognition to continue paying it forward...”

—Richard Otis

Are You A 2022 Young Leader?

TMS Young Leaders Professional Development Award recipients are innovative individuals who represent the future of the minerals, metals, and materials community. A common thread amongst these individuals is their dedication to advancing their professional careers and leadership skills, including being active as TMS volunteers and aiding in the facilitation of TMS’s strategic initiatives.

Do you, or someone you know, fit these criteria? Visit the TMS Honors and Awards website at awards.tms.org to learn more and apply. 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 2022 Young Leaders Awards is August 15, 2021.



MATERIALS PROCESSING & MANUFACTURING DIVISION (MPMD)

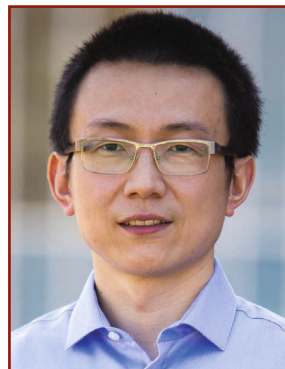
Liang Qi

“It is a great honor for me to receive this award. TMS membership always provides me tremendous opportunities to interact with top materials scientists and engineers with diverse backgrounds,” noted Liang Qi, an assistant professor in Department of Materials Science and Engineering at the University of Michigan. “During TMS annual meetings, many discussions granted me resources and catalysts for finding research ideas and building new collaborations. As a young faculty member, my professional career has also benefited from various TMS activities, such as serving technical committees, organizing TMS symposia, and being a *JOM* guest editor.” Qi studied materials science and engineering at Tsinghua University in China and earned his bachelor’s degree in 2003. He earned his master’s degree from the Department of Materials Science and Engineering at The Ohio State University in 2007 and his doctoral degree in

materials science and engineering from the University of Pennsylvania in 2009.

Yu Zou

“Over the past decade, TMS has been my community, where I met international leaders in my research field, attended student mixers and career events, and discussed with peers in poster or oral sessions,” said Yu Zou, an assistant professor and Dean’s Spark Professor in the Department of Materials Science and Engineering at the University of Toronto. “I am truly grateful for this recognition, especially because it comes from my professional society home. I look forward to further engagement in TMS and MPMD activities that are enabled by this award.” Zou received his master’s and bachelor’s degrees in materials science and engineering from McGill University and Beihang University, respectively. He received his Doctor of Science in materials from ETH Zurich in 2016.



Liang Qi



Yu Zou

STRUCTURAL MATERIALS DIVISION (SMD)

Joy Gockel

“TMS membership has provided me with a community of colleagues as well as opportunities for growth in both professional development and technical research. I am very honored to receive this award to enable increased participation in society activities,” said Joy Gockel, an assistant professor in mechanical and materials engineering at Wright State University. “I am very thankful for the support from the TMS Foundation and I am looking forward to increased involvement in TMS SMD activities through this professional development award.” Gockel’s research focuses on the understanding of additive manufacturing processing-structure-property-performance relationships through process modeling, in-situ monitoring, materials characterization, and mechanical testing. She earned her Ph.D. in mechanical engineering from Carnegie Mellon University, supported through a National Defense Science and Engineering Graduate Fellowship.

Chelsey Hargather

“I am honored to be recognized by the SMD at TMS for this award. Participating in the TMS annual meetings over the past five years has given me many opportunities to expand my professional network, share my research, and participate in the advancement of the materials science and engineering community,” stated Chelsey Hargather, an assistant professor of materials and metallurgical engineering at New Mexico Institute of Mining and Technology. “Being involved in the Diversity, Equity, and Inclusion Committee and the ICME Committee has given me the confidence to step into larger leadership roles within the committees and TMS. As a recipient of this award, I hope to serve as a role model to my current students on the benefits of engaging in and giving back to our professional societies.” Hargather received a B.S. in materials science and engineering from Virginia Polytechnic Institute and State University in 2008. She earned her Ph.D. in materials science and engineering from The Pennsylvania State University in 2012.



Joy Gockel

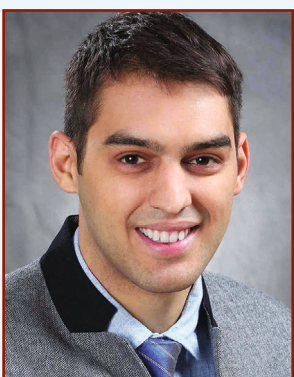


Chelsey Hargather

International Scholars Announced



Janelle Wharry



Stoichko Antonov



Takayuki Kojima

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 2021 TMS/FEMS Young Leaders International Scholar Award recipient is **Janelle Wharry**, an associate professor in the School of Materials Engineering at Purdue University and editor of *Materials Today Communications*. “Like many, I began giving technical talks at TMS meetings in graduate school, but the more I have embraced both the scientific and volunteer opportunities within TMS, the more my career has grown,” Wharry noted. “After every TMS meeting, I return to work motivated and reinvigorated—with many fresh ideas to explore, collaborations to initiate, and new opportunities to pursue. It is an honor to represent TMS and present my group’s recent work in irradiation effects on deformation-induced phase transformations at EUROMAT 2021.” Currently, Wharry is involved in projects on a variety of topics including nuclear structural and cladding alloys, structural materials produced by advanced manufacturing and joining methods, metal and oxide nuclear fuels, and electroceramic materials. She also previously served as the general chair of the inaugural TMS/American Nuclear Society Materials in Nuclear Energy Systems (MiNES) conference in 2019.

“I am very honored to receive this award and the opportunity to present my work at the JIM Spring Annual Meeting,” said **Stoichko Antonov**, the 2021 TMS/JIM Young Leaders International Scholar. “Over the years, TMS has provided me with tremendous opportunities to develop professionally, engage with fellow researchers and expand my network of friends and colleagues.” Antonov is currently an Alexander von Humboldt Fellow at the Max-Planck-Institut für Eisenforschung. His research mainly focuses on solving energy sustainability and manufacturing challenges in the air transportation industry by leveraging knowledge on the physical metallurgy of aerospace materials (superalloys, steels, and titanium alloys). He received his Ph.D. from the Illinois Institute of Technology in 2017, working on alloy design and development of Ni-based superalloys.

The JIM Young Leader representing JIM in 2021 is **Takayuki Kojima**, an assistant professor at Shinshu University. Due to travel restrictions from the pandemic, Kojima will attend and give a talk at the TMS2022 in Anaheim, CA.

