

Building Capacity to Meet Current and Future Challenges and Needs Facing the U.S. Mineral Resources Workforce: A Workshop

Committee

Eric M. Riggs

Chair

Eric M. Riggs is Dean of the College of Natural Resources and Sciences and Professor of Geology at Cal Poly Humboldt. He previously served as Associate Dean for Diversity and Graduate Affairs in the College of Geosciences and was Professor of Geoscience Education in the Department of Geology & Geophysics at Texas A&M University. Riggs has also served in faculty and administrative roles at Purdue University and San Diego State University. Riggs' scholarship is focused on many related aspects of teaching, learning, and cognition in the geosciences through the lens of embodied cognition, culture, and diversity. He is a Past-President of the American Geosciences Institute (AGI) and the National Association of Geoscience Teachers (NAGT). He is a Fellow of the Geological Society of America (GSA) and is a professional member of GSA, NAGT, and the American Geophysical Union (AGU). Riggs received a Ph.D. in geological sciences from the University of California, Riverside. He has contributed to three prior NASEM workshops and reports related to the future of the earth science workforce. He served on the Executive Committee of the American Geosciences Institute from 2015-2017 and participated in activities advocating for increased development of the Earth Science workforce.

Antonio Arribas

Member

Antonio Arribas is a professor and the inaugural Kenneth F. and Patricia Clark Distinguished Chair in the Department of Earth, Environmental and Resource Sciences at The University of Texas at El Paso. He is an independent member of the Board of Directors of Tier One Silver and Copernico Metals and an advisor to the Board of Torq Resources. Previously, he taught at Akita University (Japan) and worked for two decades with the mineral exploration industry, including Vice President Geoscience (BHP), Senior Manager Geosciences (Newmont), and Exploration Manager South America (Placer Dome). Antonio conducts research in geology and geochemistry of mineral deposits and is also interested in the history and teaching of economic geology and exploration. Arribas is a member of numerous professional societies, including the National Association of Geoscience Teachers, Society of Resource Geology, Société Géologique aux Gites Minéraux, and the Society of Economic Geologists (SEG). He was SEG's Vice President Regional Affairs, inaugural Chair of the Education and Training Committee, and President. Arribas was SEG-Thayer Lindsley Lecturer and co-recipient of the 2023 Brian J. Skinner Award. He received a B.Sc. and M.Sc. from the University of Salamanca, Spain, and Ph.D. from University of Michigan. He has published on the teaching of economic geology, including Making the Case for More, and More Practical, Economic Geology Education and Appreciating and Teaching Economic Geology for the Society of Economic Geologists and National Association of Geoscience Teachers, respectively.

Kwame Awuah-Offei

Member

Kwame Awuah-Offei is the Union Pacific/Rocky Mountain Energy Professor in Mining Engineering and chair of the Department of Mining & Explosives Engineering at Missouri University of Science and Technology. He has served as a mining engineering academic fellow for the U.S. Securities & Exchange Commission and an alternate member of the Department of Interior's Royalty Policy Committee. His research revolves around improving our understanding the effects of mining on the environment and society in order to develop sustainable mining practices. He is a fellow of the West African Institute of Mining, Metallurgy, and Petroleum, the recipient of the 2023 environmental distinguished service of the Society of Mining, Metallurgy and Exploration, and a past Carnegie African Diaspora Fellow. He holds Ph.D. and B.S. degrees in Mining Engineering from the Missouri University of Science & Technology and University of Mines & Technology, respectively.

Saskia Duyvesteyn

Member

Saskia Duyvesteyn is the Chief Advisor of Research and Development at Rio Tinto Copper product group. She manages the portfolio of innovation projects across the entire value stream including ore body knowledge, underground & surface mining, mineral processing, and metallurgy, and tailings and digital projects. She has worked in several commodities in the mining industry, including copper, gold, silver, borates, molybdenum, and other critical minerals. Before working in industry, she was an Assistant Professor in the Metallurgical Engineering Department at the University of Utah. Her research areas included ion exchange & carbon adsorption, bioleaching, flotation and on-line education. She is the holder of three patents in precious metal processing. Saskia received a B.S. in materials science and engineering from the Massachusetts Institute of Technology, and an M.S. in minerals engineering and Ph.D. in extractive metallurgy and mineral processing from the University of California, Berkeley.

Simon Jowitt

Member

Simon Jowitt is the tenured Director of the Ralph J. Roberts Center for Research in Economic Geology and the Arthur Brant Chair of Exploration Geology at the University of Nevada, Reno. He was previously an associate professor of economic geology at the University of Nevada, Las Vegas and a research fellow and lecturer at Monash University. His research focuses on the use of geochemistry to unravel geological processes to understand mineralizing systems, petrology, mineral exploration, global tectonics, and the links between magmatism and metallogeny. He has also undertaken research on mineral economics, global metal resources, the security of supply of critical elements, the “economic” side of economic geology, the environmental impact of mining, and the potential uses of mining and other wastes for metal production and CO2 sequestration. He is currently the Vice-President for Student Affairs for the Society of Economic Geologists (SEG) and was awarded the SEG’s Waldemar Lindgren Award in 2014. He was an Entrepreneurial Faculty Scholar in 2022-2023 at UNLV, was awarded the Distinguished Lecturer Award by the AusIMM Geoscience Society in 2022 and was the Rocky Mountain Federation of Mineralogical Societies Honorary Scholarship Awardee in 2022. Jowitt received a B.Sc. (Hons) degree in geology from the University of Edinburgh, an M.Sc. in Mining Geology from the Camborne School of Mines, and a Ph.D. from the University of Leicester. Simon served as an invited expert for a National Academies of Science, Engineering and Medicine Meeting of Experts on Critical Minerals in 2023.

John Metesh

Member

John Metesh is the Director and State Geologist of the Montana Bureau of Mines (MBMG). He was previously a Research Hydrogeologist and Assistant Director/Research Division Chief for the MBMG. His 32-year association with the MBMG and the Montana University System has provided opportunities to explore groundwater-surface water management under a wide variety of hydrogeologic settings. He has published more than 50 reports, articles, and abstracts related to hydrogeology and geochemistry as well as many unpublished reports relied upon for critical decisions related to legislation, natural resource damages, mine permitting/reclamation, and water rights. Metesh is a Registered Professional Geologist (Wisconsin) and is presently President of Association of American State Geologists (2023-24). He received an M.S. in geological engineering from Montana College of Mineral Science and Technology and a Ph.D. in geology from The University of Montana.

Priscilla P. Nelson

Member

Priscilla P. Nelson is a professor of mining engineering at the Colorado School of Mines. Her work focuses on geological, civil, and tailings engineering. She is a Distinguished Member of the American Society of Civil Engineers (ASCE), former president of the Geo-Institute of ASCE, a lifetime member and first president and Fellow of the American Rock Mechanics Association, a Mole, and a Tau Beta Pi Eminent Engineer. She received the Kenneth Andrew Roe Award from the AAES, and the Henry L. Michel Award from ASCE. She was named a Global Inspirational Woman in Mining (by Women in Mining UK) and received the Outstanding Educator award from Underground Construction Association of Society for Mining, Metallurgy and Exploration. In 2020, she founded the Tailings Center as a collaboration with Colorado School of Mines, Colorado State University, and the University of Arizona. Nelson received a B.S. in geology from the University of Rochester, master's degrees in geology from Indiana University and structural engineering from the University of Oklahoma, and a Ph.D. from Cornell University.