

Summit on Reasonable Expectations for Mine Closure
Colorado School of Mines
November 17, 2016
Organizers, Moderators and Speakers



As a Senior Policy Affiliate, **Bernie Buescher** brings his extensive experience as a policymaker, attorney, and respected leader to the Keystone Policy Center and its work. Bernie, who has served in numerous roles in the public and private sectors, has worked on some of the most important issues in recent Colorado history, including energy development, natural resource policy, election law, and health care issues. Bernie served as Colorado's Secretary of State from December 2008 until January 2011 and represented Colorado House District 55 from 2005 until 2008. Bernie also has served in a series of high-profile executive roles in the public and private sectors, including as president of West Star Aviation, Inc., and executive director of the Colorado Department of Health Care Policy and Finance under Gov. Roy Romer. Bernie is a 1974 graduate of University of Colorado Law School and a 1971 graduate of the University of Notre Dame.



geochemistry and mineralogy from Penn State University, and a Ph.D. in mineral economics also from Penn State.

Roderick G. Eggert is Viola Vestal Coulter Foundation Chair in Mineral Economics at Colorado School of Mines, where he has taught since 1986. He also is Deputy Director of the Critical Materials Institute, an energy innovation hub established by the U.S. Department of Energy in 2013, to accelerate innovation in energy materials. His research and teaching focus on mineral economics and public policy. He chaired the U.S. National Research Council committee that wrote the 2008 book *Minerals, Critical Minerals, and the US Economy* (National Academies Press) and served on the study committee that prepared the 2011 report *Energy Critical Elements: Securing Materials for Emerging Technologies* (American Physical Society and the Materials Research Society). He has a B.A. in earth sciences from Dartmouth College, a M.S. in



to environmental issues with the recognition of the need to minimize energy requirements and thus the

Linda A. Figueroa is a Professor of Civil and Environmental Engineering at the Colorado School of Mines. Her career has been developed to address the important role that environmental engineers play in society in addressing issues of sustainable development and complex/interdisciplinary problems. Environmental engineers need to have the knowledge and experience required to facilitate engineering solutions to the environmental interplay between food, energy, water within a sustainable community context. Linda has a broad range of experiences that she brings to address environmental issues that include design and analysis of water and wastewater treatment systems, application of molecular microbiology tools to nitrogen transformations and the biogeochemistry of metal and radionuclide immobilization. Her research is driven by microbial solutions

carbon footprint of the solution. Her approach is to partner with industry and government agencies to ensure that we are producing solutions that will be accepted and implemented. Her passion is in the linkage of fundamental microbial processes with geochemistry and modeling to create solutions of the future.

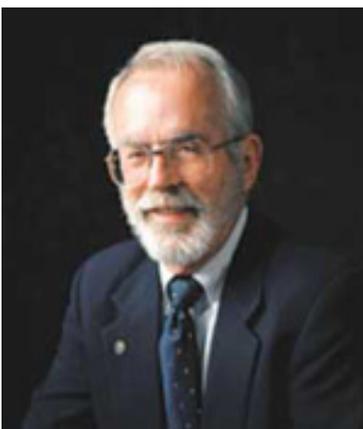


John Grubb has had a successful engineering career, spanning four decades and several continents. John has managed more than two dozen mines and overcome countless challenges. He retired from his position in industry and, although a 1969 BS graduate from Virginia Tech, Grubb began teaching at Colorado School of Mines when he enrolled in the doctoral program there in 2006. His mining engineering courses that he taught while in the PhD program were so successful that he was asked to stay on as an adjunct professor after he graduated. He accepted the job, but, after weighing the salary against other tax considerations, he took the position as a volunteer. John has since taught classes in mine ventilation, coal mining methods, mine management and mineral resource development.



J. David Holm is the Executive Director, Project Manager and Project Development Coordinator of the Clear Creek Watershed Foundation (<http://clearcreekwater.org/>), and co-creator of the Clear Creek Watershed Forum. The Clear Creek Watershed Foundation (CCWF) is a non-profit organization incorporated in 1997 that is dedicated to improving the ecological, aesthetic, recreational and economic conditions in the Clear Creek Watershed through many varied cooperative efforts with watershed stakeholders. The Foundation manages funds, projects and volunteer efforts and has been involved with numerous mine remediation projects, stream habitat restoration projects, sustainability initiatives, wildfire mitigation efforts, education & outreach activities, and overall promotion of a “culture of cooperation” toward the

restoration, protection and enhancement of the Clear Creek Watershed. Previous to his involvement at the Foundation, David was Manager of the Colorado Inactive Mine Reclamation Program, Director of the Water Quality Division of the Colorado Department of Public Health and Environment, and Manager of the water quality and environmental programs at Aurora Water. He holds a BS in Biology from U. Colorado Boulder, and MPH from U. Michigan, and graduate studies in water resources engineering at U.C. Denver.



Paul C. Jones has made a highly distinguished career in the mining industry. He currently serves as Adjunct Professor at the Colorado School of Mines, and is a principal of Sovereign Management Group, Ltd. His career includes service as President of the Northwest Mining Association in 2000, Co-Chairman of NWM's Public Lands Committee in 1998-9, and a Trustee of the organization from 1987-1990 and 1997-2003. He served as Executive Director of the Minerals Exploration Coalition, an advocate for exploration and development of mineral resources on public lands, until that organization was merged into NWMA in 1998. He is a past Chairman of the Board of Directors, a past member of the Executive Committee and a Director Emeritus of the Colorado Mining Association. Jones served as the industry representative on the Colorado Governor's Summitville Advisory Committee from 1993 through 1996 and in

numerous other roles associated with the public relations and governmental agency interaction with industry related to the Summitville Mine abandonment and subsequent cleanup. The Summitville Advisory Committee was as a group representing various local, state and federal agencies, the environmental coalition, general public and the mining industry. The Advisory Committee acted as a conduit of information on activities at Summitville to their respective constituencies and provided guidance to the Governor's Office on matters related to the reclamation and closure of the project.



Priscilla P. Nelson is Professor and Head of Mining Engineering at the Colorado School of Mines. She previously was Provost at the New Jersey Institute of Technology (NJIT), program director and senior advisor at the US National Science Foundation (NSF), and Professor in Civil Engineering at The University of Texas at Austin. She has been involved in the underground construction industry for over 35 years and has an international reputation in geological and rock engineering. She worked for the US DOE and the State of Texas on the Superconducting Super Collider project, and she has served two terms on the U. S. Nuclear Waste Technical Review Board, appointed by President Clinton. Dr. Nelson has published more than 150 technical and scientific publications, and 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, and Fellow of American Association for the Advancement of Science (AAAS). Dr. Nelson has received many honors and awards, including election to The Moles (1995), and induction into Tau Beta Pi as an Eminent Engineer (2007). In 2008 she received the Kenneth Andrew Roe Award from the American Association of Engineering Societies (AAES), and she was the 2011 recipient of the ASCE Henry L. Michel Award. In 2015 she was identified as one of the 100 Global Inspirational Women in Mining (by WIM/UK). She received her BS degree in geology from the University of Rochester (1970) and two master's degrees in geology (Indiana University, 1976) and structural engineering (University of Oklahoma, 1979). In 1983, she received her PhD degree in geotechnical engineering from Cornell University.



Julie Shapiro has more than 10 years of experience in the environmental and natural resource field as a facilitator, mediator, and educator. As a Senior Policy Facilitator at Keystone Policy Center, Julie works with diverse public, private and NGO stakeholder groups on topics including sustainable agriculture, sustainable beef production, honey bee health, landscape conservation, renewable energy standards, oil and gas development, forest health, carbon sequestration, mine reclamation, water quality, and biodiversity. Julie has designed and facilitated stakeholder dialogues, public engagement processes, and strategic planning processes on national, regional, state and local scales. Julie holds a Master's degree in environmental studies from the University of Colorado at Boulder and Bachelor's degrees in geosciences and English from Williams College. Prior

to joining the Keystone Policy Center in April 2008, Julie conducted water policy research and was a natural science educator.



Jessica M. Smith is Assistant Professor of Liberal Arts and International Studies at the Colorado School of Mines, where she also co-directs the Humanitarian Engineering program. She is an anthropologist with expertise in the mining and energy industries, with a focus on social responsibility. Her interest in mining and energy stems from her experience growing up in a mining family and mining community in Wyoming's Powder River Basin. Her research there provides the foundation for her book "Mining Coal and Undermining Gender: Rhythms of Work and Family in the American West" (Rutgers University Press, 2014), which was funded by a fellowship from the National Endowment for the Humanities and the National Science Foundation. She co-organized the 2016 Energy Ethics: Fragile Lives and

Imagined Futures conference at the University of St. Andrews. She is currently the PI for the \$500,000 NSF project "The Ethics of Extraction: Integrating Corporate Social Responsibility into Engineering Education." In 2016 the National Academy of Engineering recognized her Corporate Social Responsibility course as a national exemplar in teaching engineering ethics. She is a Faculty Affiliate of the Center for Science & Technology Policy Research at the University of Colorado. Professor Smith holds a PhD in Anthropology and a certificate in Women's Studies from the University of Michigan and bachelor's degrees in International Studies, Anthropology and Latin American Studies from Macalester College.



Nicole M. Smith is a Post-Doctoral Research Fellow in Humanitarian Engineering at the Colorado School of Mines. She is a cultural anthropologist with research interests in livelihoods, artisanal and small-scale mining, corporate social responsibility, indigenous peoples, community development, and engineering education. Prior to her fellowship at Mines, she was a research fellow at the Centre for Social Responsibility in Mining at the Sustainable Minerals Institute at the University of Queensland. Her work there focused on health and safety in artisanal and small-scale mining. She is currently the PI for a U.S. Department of State funded project and an EPA funded project; both of which address mercury use among artisanal and

small-scale gold miners in Latin America. Dr. Smith has a PhD in Anthropology and a certificate in Development Studies from the University of Colorado at Boulder where her research focused on Maasai gemstone traders in northern Tanzania. She holds a master's degree in anthropology from Colorado State University and a bachelor's degree in anthropology with a biology minor from the University of Minnesota.



Doug Young joined Keystone Policy Center in September 2014. He has been involved in major public policy decisions related to the environment, public lands, natural resources, energy and transportation over the past 25 years. He has worked to resolve controversies in these areas and strived to find common ground for the mutual benefit of the varied interests and the values they bring. Doug's work with many elected officials — at the federal, state, and local levels — has principally involved mediating disputes, addressing concerns and finding creative ways to accommodate all views within existing laws, regulations and policies. He has also helped draft these laws and policies, which require an understanding of the needs of communities and private interests, while protecting the values of a healthy, productive

environment and the full, robust, and active participation of citizens.