Speaker Biography

Brent Slaker

Mining Engineer

National Institute for Occupational Safety and Health – Pittsburgh Mining Research Division

Dr. Brent Slaker has been a mining engineer in the Ground Control branch of the Pittsburgh Mining Research Division (PMRD) of the National Institute for Occupational Safety and Health (NIOSH) since 2015. The goal of the NIOSH Mining Program is to eliminate mining fatalities, injuries, and illnesses for mine workers through relevant research and impactful solutions.

Before joining NIOSH, Dr. Slaker received his B.S., M.S., and PhD in Mining Engineering from Virginia Polytechnic Institute and State University, where he researched passive seismic tomography for monitoring, verification, and accounting of CO_2 sequestration, and also LiDAR and Photogrammetry applied to monitoring underground mine movements.

In his time with NIOSH, Dr. Slaker has worked to improve ground control in underground coal and stone mines through various laboratory, field, and modeling studies. He currently serves as the Principle Investigator for a project investigating Pillar Stability for Underground Stone Mines in Challenging Conditions. This research has included wide-scale application of LiDAR, Photogrammetry, Seismic, and other instrumentation to monitoring rock masses and their response to different loading environments. Dr. Slaker has experience in the application of various applications of remote sensing to characterizing ground movements, including geotechnical evaluations of terrestrial tripod-based and mobile LiDAR. He also serves as a technical representative for contracts involving drone-based LiDAR and photogrammetric modeling. For more information related to the project work of Dr. Slaker and his fellow researchers, please see the NIOSH Mining webpage which contains publications and mission statements for their current work:

https://www.cdc.gov/niosh/mining/researchprogram/projects/project_UndergroundStoneMinePillaDesigninChallengingConditions.html