

Looking Ahead to Significant Improvements in Mining Safety and Health through Innovative Research and Effective Diffusion into the Industry

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Description: Jeffery L. Kohler of the Pennsylvania State University examines how future innovation among experts and researchers within mine safety will make progress toward reducing health and safety risks and incidents, especially since regulatory enforcement's role in incident reduction has reached its maximum value.

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Article Abstract: “Mining safety and health improvements over the past decades are remarkable by many metrics, and yet the expectation of society, and the goal of the mining industry, is zero harm. If we examine the underlying enablers for the significant gains that have been achieved, the key role that research to help understand the causes of problems and to develop lasting solutions is clear. Many of the remaining challenges have been resistant to solutions by various approaches. Some, such as fatalities and injuries from ground control or powered haulage are prominent year after year. Different approaches are indicated and new solutions will be required if we are to achieve a goal of zero harm. These will originate with research, but into which topics, and what are some of these different approaches? This paper examines the current state of mine safety in the United States and highlights areas of significant opportunity for research that will lead to solutions. The likely direction of research that will enable realization of the ‘zero harm’ goal is described in terms of evolutionary and revolutionary approaches. Both are important, but the author’s view is that some of the largest gains will be made with trans-disciplinary approaches that break from the past. Topical areas of research are suggested and several research questions are given to illustrate the direction of future research in mining safety and health.”