

2019 IMI Annual Meeting  
Technical Sessions Program

First Session – Wednesday, August 28: 10:30am-12:30pm

10:30-11:00 Henry A. Neicamp, Polaris Laboratories, LLC  
“Elevate Your Fluids Analysis Program – Move Beyond the Individual Oil Analysis Report”

11:00-11:30 Toby J. Cressman, Global R&P Product Manager, Komatsu Mining Corp.  
“Flexible Conveyor Trains (FCTs) in Gate Road Development”

11:30-12:00 Stephen C. Tadolini, VP Technology & Technical Services, Minova USA,  
“When Traditional Ground Support Techniques Aren't Enough – Chemical Injections Can Solve  
Complex Problems”

12:00-12:30 NP van Wyk, Smart Solutions Product Manager, Komatsu Mining Corp.  
“Using Machine Data to Improve Room-and-pillar Haulage Productivity by Optimizing and  
Tracking Travel Paths”

Second Session – Wednesday, August 8: 1:00-3:00pm

1:00-1:30 Steven R. Clark, Field Scientist Manager, EnviroTech Services, Inc.;30  
“Dust Mitigation through a Program-based Approach”

1:30-2:00 Jeff Taylor, President, Sauls Seismic, LLC  
“Remote Environmental Monitoring Solutions”

2:00-2:30 Gary Hartsog, President, Alpha Engineering Services, Inc.  
“The Practical Side of the Ethics Coin for the Mining Engineer”

2:30-3:00 Dena L. Kirk, Occupational Medicine & Rehabilitation Services, SIH  
“Managing the Health and Wellness of Today's Coal Miner”

## Abstracts for 2019 IMI Technical Program

1. Henry A. Neicamp, Technical Business Consultant, POLARIS Laboratories® LLC  
“Elevate Your Fluids Analysis Program – Move Beyond the Individual Oil Analysis Report”  
Determining how and when to take action on fluid analysis findings has never been easier than with today’s fluid analysis laboratories – or more helpful – than with their innovative and intuitive web-based applications via laptops, tablets and smart phones. The key to managing fluid analysis data, with the goal of positively impacting maintenance and reliability programs, is in what you do with the data. This presentation will talk about some of the things you can do with the data. Examining fluid sampling data helps maintenance programs discover the root cause for high severity reports, so the maintenance team can address issues before damage occurs to their unit. Examining the aggregate test data can reveal valuable information (i.e. common causes of wear and failures; contamination sources; optimal drain intervals; and equipment make/models that support operations best). In most instances, programs already have enough data today to drive changes, increase uptime, and reduce maintenance costs, and ultimately maximize profits with oil analysis. Maintenance Managers need to uncover the data trends and adjust their maintenance strategies in order to minimize wear and maximize savings!
2. Steven R. Clark PhD, Field Scientist Manager, EnviroTech Services, Inc.  
“Dust Mitigation through a Program-Based Approach”  
EnviroTech Services, Inc. has developed a program-based approach to mitigating dust in mining operations where water is used as the primary method of dust suppression. We understand that each project is distinctive, and as such requires a solution designed specifically for the project. Our program is designed to deliver a comprehensive strategy that provides the customer with a program that is effective and efficient, and completely within the user’s control.  
How the program works:
  - Define the goals
  - Understand shortfall of current practices
  - Gather baseline dust level data as a benchmark of performance
  - Develop a program using the specific historic climate conditions
  - Modify product formulations and application rates based on using the soil samples collected from the specific project site and evaluatedBenefits of the program:
  - Site specific and customized
  - Results-oriented and solutions-based approach
  - Reduced watering volumes and frequencies
  - Improved economic efficiencies
  - Increased safety and improved road conditions
  - Decreased costs associated with equipment damage

3. Stephen C. Tadolini, VP Technology & Technical Services, Minova USA, Georgetown, KY  
“When Traditional Ground Support Techniques Aren't Enough - Chemical Injections Can Solve Complex Problems”  
Broken and jointed ground is extremely hazardous and requires unique stabilization techniques to protect worker and critical entries. Bolting techniques, even the most advanced with pre-load to create roof compression, can leave large gaps of unconfined and separated roof. This roof can also be susceptible to water inflows which only exacerbates the support problem. These types of conditions existed on development slopes between two minable coal seams. The geotechnical assessment identified well defined jointing systems that also permitted water to flow between the roof separations, which “lubricated” the roof material and minimized any frictional advantages. Chemical injection of a Polyurethane material, Minova Carbopur WS, was placed beyond the bolted horizon to move the water to the rib lines and reinforce the fractured and broken roof. The injection material permitted the effective use of bolting patterns and helped ensure long-term stability of the critical entries. The paper describes the evaluation techniques, design patterns, basis for chemical selection and application, and results and recommendations.
4. Toby J. Cressman, Global Product Manager – Room and Pillar, Komatsu Mining Corp.  
“Flexible Conveyor Trains (FCTs) in Gate Road Development”  
As longwall systems continue to mine faster and faster, there is a growing demand to improve gate road development rates to match the pace of these systems. Komatsu Mining Corp. (KMC) has continued to develop the flexible conveyor train (FCT) and entry driver (ED) in the gate road development application to support the needs of the industry. This system provides a cut, bolt, and haul solution that can result in an increase of over 75% in advance rate over traditional batch haulage sections. As development of the products continues to move forward, there is a sustained focus on the delays associated with development sections to understand how these can be engineered out in future generations.
5. Gary M. Hartsog, President, Alpha Engineering Services, Inc.  
“The Practical Side of the Ethics Coin for the Mining Engineer”  
The Mining Engineer (or Surveyor) who holds a PE (or a PS) license carries a commitment and responsibility for having formally agreed to practice ethical behavior that the non-licensee does not formally carry. While the discussion and study of ethics for the PE or PS can be esoteric and sterile, this discussion will leave the theoretical discussion for others and focus on the practical side of ethical practice of the profession in the mining community. While there are always gray areas and there will always be differences in opinions of how a PE is to conduct oneself, the fact that such considerations must be made is not at debate. This presentation will discuss, from a practical standpoint, how ethical considerations might affect the PE or PS as they work in the mining industry as an employee of a mining company or as a consultant. We will examine case studies where the ethical considerations of the PE or PS could impact the individual's professional conduct.

6. Dena L. Kirk, Administrative Director, Occupational Medicine & Rehabilitation Services, SIH  
“Managing the Health and Wellness of Today's Coal Miner”  
Managing the health and wellness of today's workforce is challenging, as for the first time in US history there are 4 generations in the workplace. Dena Kirk will discuss the challenges of managing the different generations: traditionalists, baby boomers, generation Xers and the millennials. Success with utilizing occupational medicine to assist with developing strategies to keep the generations healthy, while reducing healthcare costs and work comp claims will be a top focus of discussion.
7. Jeff Taylor, President, Sauls Seismic, LLC  
“Remote Environmental Monitoring Solutions”  
A 24/7 pro-active approach to environmental monitoring and data collection is considered prudent in some situations. Technology allows for numerous options when monitoring environmental data, including recent improvements in the accuracy of remote sensors with continuous online data access and alarm notifications. This presentation covers various types of remote access environmental monitoring options such as rain gauges, weather stations and lightning detection/ tracking. Surface and/or groundwater related monitoring includes parameters such as flow levels or rates, pH, turbidity, conductivity, dissolved oxygen and temperature, etc. These systems help mitigate risk by continuous sampling and providing real-time electronic data, with email or text alarms sent immediately when specified parameters of concern are reached. All data is accessible online 24/7 and is easily downloaded to Excel spreadsheets for regulatory reporting or proprietary data review. The private data network is highly adaptable to specific client needs, and can be monitored, reviewed and reports downloaded in monthly, weekly, daily, hourly or via minute intervals. Email or text alerts can be sent immediately notifying an unlimited number of company personnel when specified parameters of concern are met or exceeded; be it rainfall amounts, wind speed/direction, pH levels, temperature, surface or groundwater flow rates or levels, conductivity, turbidity, barometric pressure, etc. Many entities are opting to use continuous remote monitoring for a consistent database of information and easy report downloading, and to be immediately alerted when environmental parameters reach levels of concern. This presentation provides information and details regarding options available to them.
8. NP van Wyk, Product Manager – Smart Solutions, Komatsu Mining Corp.  
“Using Machine Data to Improve Room-and-pillar Haulage Productivity by Optimizing and Tracking Travel Paths”  
Limited insight exist into the productivity of secondary production equipment, especially in room-and-pillar coal mining operations. Understanding bottlenecks and constraints can lead to better decision making. This paper shows how JoyConnect, developed by Komatsu Mining Corp., helps mining companies gain these insights and use advanced decision making tools to improve operations.