Improving fire life safety and asset loss control in mining: Evaluation and development of a video based fire detection system

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Traditional systems for detecting fires in underground mines rely on out-dated carbon monoxide gas monitoring technology, which is subject to sensor drift and susceptible to common mine pollutants. Considerably earlier and more reliable detection of underground conveyor belt fires using visual spectrum CCTV video technology has the potential to save lives and significantly reduce asset loss through earlier intervention. Significantly, an Australian methodology used for building and tunnel design had not previously been considered for mine application. This method has proved to be successful in this research for the design and performance assessment of fire safety in underground coal mines. The importance of this work is that it represents a considerably high safety and loss control benefit at a low cost for underground mines, especially if CCTV systems already exist, as it does in many cases.

Frank is a Part Time PhD candidate and Full Time Technical Director of Mining and Industrial Fire and Risk for WSP|Parsons Brinckerhoff. He is a Chartered Fire Engineer, Fellow and National President of the Institution of Fire Engineers. Holds a Masters Degree in Fire and Risk Engineering from Victoria University and a range of undergraduate engineering qualifications. He considers himself a ‘life long’ learner.

PUBLIC SEMINAR
Date: Thursday 20 August 2015
Time: 10:00am-11:00am
Location: Level 4 Seminar Room  
Sir James Foots Building (47A)  
Sustainable Minerals Institute

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