

## *Horizontal Drilling for Advance Exploration in Underground Mines*

Presenter: Dr. Pramod Thakur  
Firm/Organization: CONSOL Energy, Incorporated/J.H. Fletcher  
Phone: 304-983-3201  
Fax: 304-983-3209  
Email: PramodThakur@consolenergy.com  
Mailing Address: CONSOL Energy Inc.  
Attn: Dr. Pramod Thakur  
1027 Little Indian Creek Road  
Morgantown, WV 26501

### ABSTRACT

Twenty years ago, CONSOL Energy Incorporated completed the development of a horizontal drilling technology for de-gasification of underground coal mines. The system can drill precisely controlled, horizontal boreholes up to 3000 feet long and stay in the coal seam. Besides de-gasification, these boreholes can be used to de-water the mines or do advance exploration in areas where an active mine is approaching old mine workings. This technology can also be used to measure coal seam thickness and to map a sand channel intrusion in the coal seam. The engineering details of the drilling rig and techniques of advance exploration shall be discussed.