## MINE VENT 2019 CONTENTS

### Keynotes

- Ventilation and workers health: a regulator’s perspective  
  *A Chaplyn*  
  page 2
- Avoiding repeat incidents – learning the lessons of the past  
  *J R Leeming*  
  page 3
- The reasonable location of high drainage roadway to control gas exceeding and spontaneous combustion in goaf  
  *S Li, P Xu, Y Ding and H Lin*  
  page 15

### Case Studies

- Study on turbulent dispersion simulation of concentrative methane emission in mine ventilation network  
  *K Y Chen, S G Li, F B Zhou, L J Wei and T Q Xia*  
  page 33
- Risk assessment of spontaneous combustion of sulfide ores based on thermal analysis and AHP method  
  *Z L Chen and H M Zhou*  
  page 44
- Study on distribution law of air leakage in gas drainage borehole  
  *J Gao, J Liu, J Zhang and M Yang*  
  page 53
- Ventilation air methane: a simulation of an optimised process of abatement with power and cooling  
  *F J Nadaraju, A R Maddocks, J Zanganeh and B Moghtaderi*  
  page 62

### Coal Mine Ventilation

- Ventilation control system multiphase implementation approach driven by safety and production  
  *E Acuña, C Visage, H Mohle and G Durandt*  
  page 81
- Implementation of energy efficiency and ventilation on demand at the Aguas Teñidas mine  
  *J de Miguel Fuentevilla and R Castro Pérez*  
  page 91
- Risk analysis of ventilation system design regulations for mines operating in Kazakhstan  
  *S Sabanov, Y Tussupbekov, A Karzhau and B Aldamzharov*  
  page 107

### Coal Seam Gas, including Gas Drainage / Storage and Utilisation

- Study on microstructure differences of coal samples before and after loading  
  *J Liu, J Gao, G Jia and M Yang*  
  page 118
- Study on the heat removal efficiency of thermal probe on coal stockpile under different arrangement and ambient air velocity  
  *W Gaoming, M Li, W Hu, L Yanfei and W Weifeng*  
  page 133

### Detection and Control of Spontaneous Combustion, and Diesel Emissions Control and Measurement

- Investigation of combustion properties and burning behaviour of Australian Hunter Valley coal dust  
  *M J A Al-Zuraiji, J Zanganeh and B Moghtaderi*  
  page 147
- Mechanisms for spontaneous combustion events in low intrinsic reactivity coals and carbonaceous shales  
  *J Theiler and B B Beamish*  
  page 160
Health and Safety Hazard Management

Tracer gas study of nano diesel particulate matter behaviour in secondary ventilation practices
S Black, S Wilkinson, L van den Berg and K Manns

Using ventilation to drive mine productivity
J Fernandez

The influence of atmospheric pressure change principles on gas sampling in mine closed fire zone
B W Lei, B Wu, H Y Wang and H Q Zhu

A study on the performance of novel blast-proof door under gas explosion
R K Pan, T Qiu, J Wang, L G Zheng, X B Zhang and M G Yu

Impact of where a measurement is taken on the value of a heat stress index
M A Tuck

A novel approach for predicting the incubation period of spontaneous combustion of coal based on thermogravimetric analysis
X X Zhong and F Hou

Health Hazard Management-Respirable Dust / Diesel Emissions

Robust control of diesel engine particulate emissions in underground coal mining
N Coplin

Psychrometric evaluation of workplace impacts upon change to battery mobile equipment from diesel
K Macdonald, C McGuire, W Harris and D Witow

Working toward a better understanding of diesel engine exhaust emissions for underground mines in Western Australia
J Oding

Study on coordinated control and intelligent regulation for the disaster smoke flow in the coal mines
K Wang, H Hao, S Jiang, Z Wu and H Shao

Intelligent mining at Huangling Mine, with special mention of ventilation safeguard system
Z Yan, J C Tien, Y Wang and X Chang

Heat and Refrigeration

Predicting annual underground thermal flywheel effects
M D Griffith and C Stewart

Effective temperature: is it an effective heat stress management index?
M A Tuck and B Belle

Methane and Coal Dust Explosions

Ventilation and gas management strategies for re-entry to Pike River Mine Drift
R Hughes, R Moreby, B Poborowski and J Rowland

Analysis of methane and coal dust explosion at two stage process using video and image processing
A Ihsan, N Priagung Widodo, B Sulistianto and D Agung Prata

Ventilation Planning and Management

Performance analysis of surface goaf hole gas drainage systems and use of CO triggers for spontaneous combustion risk management in Australian coal mines
B Belle and G Si

Ventilation of waste and orepasses, tramming routes and drawpoints
D J Brake
Ventilation planning considerations for the Carrapateena Sublevel Cave
  
  K Manns, J Holtzhausen, A Mooney and L van den Berg

Calibrating model airway size and resistance with survey asbuilt data
  
  F Michelin, C Stewart, M D Griffith and T Andreatidis

Accuracy and confidence prediction in ventilation models
  
  C M Stewart and M D Griffin

Selection guide when considering rental or fixed mine cooling plants
  
  L van den berg, J Raubenheimer, H Mohle and S Bluhm

Study on the effect of seasonal air-flow on high temperature environment in deep mines and its prevention technology
  
  X Yi, W Yu, L Ma, L Zou and G Wei