

MINE VENT

2019

THE AUSTRALIAN MINE VENTILATION
CONFERENCE 2019

Program

PERTH
26-28 AUGUST 2019

#minevent2019



UNSW
SYDNEY



minevent.ausimm.com

Organising Committee

CONFERENCE CHAIR:

Duncan Chalmers MAusIMM,
UNSW Australia

DEPUTY CHAIRPERSON:

Dr. Guang Xu MAusIMM,
WA School of Mines, Curtin University

TECHNICAL COMMITTEE CHAIR:

Dr. Bharath Belle MAusIMM(CP),
Anglo American Metallurgical Coal

COMMITTEE MEMBERS:

Dr. Basil Beamish MAusIMM(CP),
CB3 Mining Services Pty Ltd

Dr. Rick Brake FAusIMM(CP),
Mine Ventilation Australia

Dr. Yingjiazi Cao AAusIMM,
Monash University

Wendy Harris MAusIMM,
Hatch Ltd

Johannes Holtzhausen MAusIMM,
Mine Ventilation Society Australia

Katie Manns MAusIMM,
BBE Consulting

Prof. Ting Ren MAusIMM,
University of Wollongong

John Rowland,
Dallas Mining Services

Michael Shearer MAusIMM,
Mine Ventilation Society Australia

Dr. Guangyao Si MAusIMM,
UNSW Australia

Craig Stewart MAusIMM,
CHASM Consulting

Prof. Jerry Tien,
Missouri S&T

Dr. Mick Tuck MAusIMM,
Federation University Australia

Leon van den Berg MAusIMM,
BBE Consulting



CONFERENCE VENUE:

Crown Perth

Great Eastern Hwy, Burswood WA 6100

Tel: 1800 556 688

Web: crownperth.com.au

About

REGISTRATION DESK:

The registration desk will be located in the Grand Ballroom Foyer and will be open during the following times:

Sunday 25 August	3:00pm – 6:00pm
Monday 26 August	7:30am – 5:00pm
Tuesday 27 August	8:00am – 5:00pm
Wednesday 28 August	8:00am – 1:00pm

CONFERENCE SESSIONS:

Room: Astral 1	
Monday 26 August	8:30am – 5:30pm
Tuesday 27 August	8:30am – 5:10pm
Wednesday 28 August	8:30am – 2:50pm

EXHIBITION HOURS:

Room: Grand Ballroom 2	
Monday 26 August	7:30am – 6:30pm
Tuesday 27 August	8:00am – 5:00pm
Wednesday 28 August	8:00am – 1:00pm

PRE CONFERENCE NETWORKING HOUR:

Room: Grand Ballroom Foyer
Sunday 25 August
Time: 5:00pm – 6:00pm

WELCOME RECEPTION

Room: Grand Ballroom 2
Monday 26 August
Time: 5:30pm – 6:30pm

CONFERENCE DINNER

Room: Astral 1
Tuesday 27 August
Time: 7:00pm – 11:00pm

DRESS CODE:

Dress code for the conference and social functions is smart business casual.

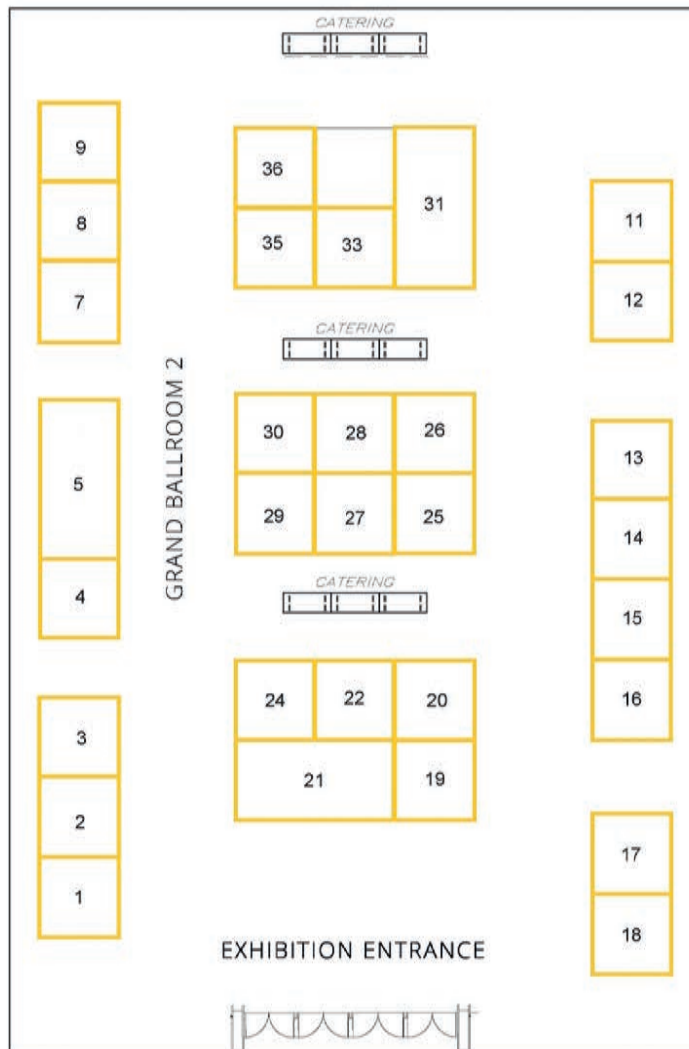
WAIVER OF LIABILITY:

AusIMM accepts no liability to any persons or body for any loss, injury or damage howsoever and whether directly from any action or cause whatsoever undertaken, organised or sponsored by AusIMM.

Sponsored by:



Floor Plan



Exhibitors



BBE Consulting
(Australasia)
Booth Number: 1



VUMA Software ADCO
Booth Number: 2



TLT-Turbo
Number: 3



Maestro Digital Mine
Booth Number: 4



Clemcorp Australia
Booth Number: 5



MacLean Engineering
Booth Number: 7



Mécanicad Inc
Booth Number: 8



Minetek
Booth Number: 9



Mammoth Equipment
& Exhausts
Booth Number: 11



Johnson Controls
Booth Number: 12



Plascorp
Booth Number: 13



MST Global
Booth Number: 14



OHMS Hygiene
Booth Number: 15



Polyline Industries
Booth Number: 16



AirEng Pty Ltd
Booth Number: 17



Wilshaw
Booth Number: 18

Exhibitors



Aletek Pty Ltd
Booth Number: 19



Zitrón Australia Pty
Limited
Booth Number: 20



Howden
Booth Number: 21



Pinssar
Booth Number: 22



Freudenberg Filtration
Technologies / Murray
Booth Number: 24



Gordon Brothers
Industries Pty Ltd
Booth Number: 25



Aggreko
Booth Number: 26



Minova
Booth Number: 27



Accutron
Instruments Inc
Booth Number: 28



Fleximake Industrial
Booth Number: 29



Encore Monitoring
Booth Number: 30



ABC Ventilation
Systems
Booth Number: 31



AC Industries
Booth Number: 33



Mine & Tunnel
Ventilation Pty Ltd
Booth Number: 35



APAC Services
Booth Number: 36

MINE VENT 2019 PROGRAM

DAY ONE

Session 1: Opening Plenary

Session Chairs: Duncan Chalmers MAusIMM & Dr. Guang Xu MAusIMM

8:30am – 8:40am	Welcome and OH&S: Duncan Chalmers MAusIMM Conference Chairperson, University of New South Wales
8:40am – 8:50am	AusIMM Welcome: Chris Davis FAusIMM(CP) Board Director, AusIMM
8:50am – 9:20am	Keynote Presentation: Ventilation, the future of possibilities Cheryl Allen, Vale North Atlantic
9:20am – 9:45am	Ventilation of waste and orepasses, tramming routes and drawpoints Dr. Rick Brake FAusIMM(CP), Mine Ventilation Australia
9:45am – 10:10am	Accuracy and confidence prediction in ventilation models Craig Stewart MAusIMM, Howden
10:10am – 10:35am	Ventilation planning considerations for the Carrapateena Sublevel Cave Katie Manns MAusIMM, BBE Consulting
10.35 am - 11.05 am	MORNING TEA AND EXHIBITION
	Session 2: Methane and Coal Dust Explosions Sponsored by:  Session Chairs: Kate Leahy & Dr. Yingjiazí Cao AAusIMM
11:05am – 11:35am	Keynote Presentation: The reasonable location of high drainage roadway to control gas exceeding and spontaneous combustion in goaf. Prof. Shugang Li , Xi'an University of Science and Technology
11:35am – 12:00pm	Ventilation and gas management strategies for re-entry to Pike River Mine Drift John Rowland , Dallas Mining Services
12:00pm – 12:25pm	Analysis of methane and coal dust explosion at two stage process using video and image processing - Ahmad Ihsan , Institut Teknologi Bandung
12:25pm – 12:45pm	International Mine Ventilation Congress Sydney, 2021; Industry Ventilation Issues; ACARP Research - Dr. Bharath Belle MAusIMM(CP), Anglo American Metallurgical Coal International Mine Ventilation Workshop Feedback - Prof. Fubao Zhou , CUMT
12:45pm – 1:45pm	LUNCH AND EXHIBITION
	Session 3: Coal Mine Ventilation Sponsored by:  Session Chairs: Keith McLean MAusIMM & Craig Stewart MAusIMM
1:45pm – 2:15pm	Keynote Presentation: Avoiding repeat incidents – learning the lessons of the past Bob Leeming , UK Health and Safety Executive
2:15pm – 2:40pm	Risk Analysis of Ventilation System Design Regulations for Mines Operating in Kazakhstan Dr. Sergei Sabanov , School of Mining and Geosciences, Nazarbayev University
2:40pm – 3:05pm	Ventilation control system multiphase implementation approach driven by safety and production - Hans Mohle , BBE Consulting (Australasia)
3:05pm – 3:30pm	Implementation of energy efficiency and ventilation on demand at the Aguas Teñidas mine Javier De Miguel Fuentevilla , MATSA
3:30pm – 4:00pm	AFTERNOON TEA AND EXHIBITION
	Session 4: Heat and Refrigeration Sponsored by:  Session Chairs: Wendy Harris MAusIMM & Katie Manns MAusIMM
4:00pm – 4:30pm	Keynote Presentation: Ventilation and workers health: A regulator's perspective Andrew Chaplyn , Department of Mines, Industry Regulation and Safety
4:30pm – 4:55pm	Effective temperature: is it an effective heat stress management index? Dr. Michael Tuck MAusIMM, Federation University Australia
4:55pm – 5:20pm	Predicting annual underground thermal flywheel effects Dr. Martin Griffith , Howden
5:20pm – 5:25pm	Presidential Address - Michael Shearer MAusIMM, Mine Ventilation Society Australia
5:30pm – 6:30pm	WELCOME RECEPTION Exhibition Hall - Grand Ballroom 2 Sponsored by: 

Save up to 50% on your energy costs

Find us at **Booth 21**



Introducing Howden Total Mine Ventilation Solutions (TMVS)

For more than a century we have supplied ventilation fans and equipment to every major mining company in the world. Today, we are able to build on this expertise by offering our customisable and integrated suite of products and services to deliver significant energy saving.



TMVS is an evolutionary leap forward in the concept, design, engineering, equipments and controls for mine ventilation. Our comprehensive range of products and services enables us to add value throughout the life-cycle of your mine; from concept to maintenance.

Watch our TMVS animation:
Search on YouTube,
'Total Mine Ventilation Solutions'



Make an enquiry:
sales@howden.com.au

Revolving Around You™

www.howden.com

©Howden Group Limited. All rights reserved. 2019.

MINE VENT 2019 PROGRAM

DAY TWO

Session 5: Health Hazard Management- Respirable Dust/Diesel Emissions
Session Chairs: Prof. Jerry Tien & Dr. Bharath Belle MAusIMM(CP)



8:30am – 8:35am	Day 2 Welcome and Opening Remarks: Dr. Guang Xu MAusIMM, Conference Deputy Chairperson, WA School of Mines
8:35am – 9:05am	Keynote Presentation: Reforming the Coal Mine Worker Health Scheme: the experience in Queensland and what we have learned - Dr. Heidi Roberts , DNRME, Queensland
9:05am – 9:30am	Robust control of diesel engine particulate emissions in underground coal mining Nick Coplin , Orbital Australia
9:30am – 9:55am	Psychrometric evaluation of workplace impacts upon change to battery mobile equipment from diesel - Chris McGuire , Hatch Pty Ltd
9:55am – 10:20am	Working toward a better understanding of diesel engine exhaust emissions for underground mines in Western Australia - Junior Oding , DMIRS (WA)
10:20am – 10:45am	Intelligent Mining at Huangling Mine, with Special Mention of Ventilation Safeguard System - Prof. Jerry Tien , Missouri S&T

10:45am – 11:15am MORNING TEA AND EXHIBITION

Session 6: Health and Safety Hazard Management
Session Chairs: Livio Salvestro MAusIMM & Leon van Den berg MAusIMM

Sponsored by:



11:15am – 11:45am	Keynote Presentation: Dust control in the construction of tunnels and coal mines under condition of positive pressure ventilation - Prof. Fubao Zhou , China University of Mining and Technology
11:45am – 12:10am	A Study on the Performance of Novel blast-proof door under Gas Explosion Rongkun Pan , Henan Polytechnic University
12:10pm – 12:35pm	Performance analysis of surface goaf hole gas drainage systems and use of CO triggers for spontaneous combustion risk management in Australian coal mines - Dr. Guangyao Si MAusIMM, University of New South Wales
12:35pm – 1:00pm	Tracer gas study of nano diesel particulate matter behaviour in secondary ventilation practices Dr. Silvia Black , Chemcentre
1:00pm – 1:25pm	A novel approach for predicting the incubation period of spontaneous combustion of coal based on thermogravimetric analysis - Prof. Xiaoxing Zhong , China University of Mining and Technology
1:25pm – 1:30pm	Safety Aspects of Ventilation Equipment – Both in Operation and Also Reliability for Personnel Working Environment - Livio Salvestro MAusIMM, Howden

1:30pm – 2:30pm LUNCH AND EXHIBITION | Mine Ventilation Society Australia AGM

Session 7: Health Hazard Management II
Session Chairs: Dr. Rick Brake FAusIMM(CP) & Dr. Guangyao Si MAusIMM

Sponsored by:



2:30pm – 3:00pm	Keynote Presentation: Underground mine fire extinguishment using aqueous foam that has high expansion, rapid coverage, and fast extinguishing effect - Prof. Qin Botao , China University of Mining and Technology
3:00pm – 3:25pm	The influence of atmospheric pressure change principles on gas sampling in mine closed fire zone - Dr. Baiwei Lei , China University of Mining and Technology
3:25pm – 3:50pm	Impact of where a measurement is taken on the value of a heat stress index Dr. Michael Tuck MAusIMM, Federation University Australia

3:50pm – 4:20pm AFTERNOON TEA AND EXHIBITION

Session 8: Detection and Control of Spontaneous Combustion & Diesel Emissions Control and Measurement
Session Chairs: Dr. Michael Tuck MAusIMM & Johannes Holtzhausen MAusIMM

Sponsored by:



4:20pm – 4:45pm	Mechanisms for spontaneous combustion events in low intrinsic reactivity coals and carbonaceous shales - Jan Theiler , Cb3 Mine Services Pty Ltd
4:45pm – 5:10pm	Investigation of combustion properties and burning behaviour of Australian Hunter Valley coal dust - Mohammed Al-zuraji , University of Newcastle

7:00pm – 11:00pm CONFERENCE DINNER – Astral Room 1

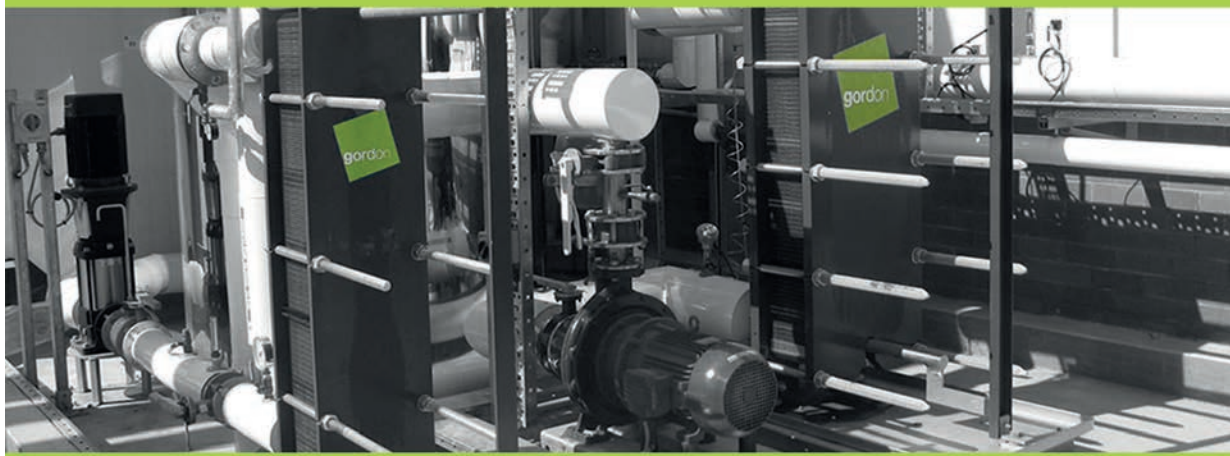
DAY THREE

Session 9: Ventilation Management
Session Chairs: Dr. Basil Beamish MAusIMM(CP)
& John Rowland

Sponsored by:



8:30am – 8:35am	Day 3 Welcome and Opening Remarks: Dr. Basil Beamish MAusIMM(CP) , Committee Member, CB3 Mine Services Pty Ltd
8:35am – 9:00am	Selection guide when considering rental or fixed mine cooling plants Leon van den Berg MAusIMM , BBE Consulting (Australasia)
9:00am – 9:25am	Calibrating model airway size and resistance with survey asbuilt data Dr Martin Griffith , Howden
9:25am – 9:50am	Using ventilation to drive mine productivity Javier Fernandez , Zitrón Australia
9:50am – 10:15am	Study on the effect of seasonal airflow on high temperature environment in deep mines and its prevention technology Li Zou , Xi'an University of Science and Technology
10:15am – 10:45am	MORNING TEA AND EXHIBITION
	Session 10: Case Studies Session Chairs: Dr. Guangyao Si MAusIMM & Michael Shearer MAusIMM
	
10:45am – 11:10am	Ventilation air methane: a simulation of an optimised process of abatement with power and cooling Francis Nadaraju , The University of Newcastle
11:10am – 11:35am	Risk assessment of spontaneous combustion of sulfide ores based on thermal analysis and AHP method - Zilin Chen , Sinosteel Corporation Wuhan Safety & Environmental Protection Research Institute
11:35am – 12:00pm	Study on turbulent dispersion simulation of concentrative methane emission in mine ventilation network Professor Chen Kaiyan , China University of Mining & Technology
12:00pm – 1:00pm	LUNCH AND EXHIBITION
	Session 11: Coal Seam Gas, Including Gas Drainage/Storage and Utilisation Session Chairs: Prof. Ting Ren MAusIMM & Duncan Chalmers MAusIMM
1:00pm – 1:25pm	Study on microstructure differences of coal samples before and after loading Liu Jiajia , Henan Polytechnic University
1:25pm – 1:50pm	Study on the heat removal efficiency of thermal probe on coal stockpile under different arrangement and ambient air velocity Gao-Ming Wei , Xi'an University of Science and Technology
1:50pm – 2:15pm	Study on distribution law of air leakage in gas drainage borehole Gao Jianliang , Henan Polytechnic University
2:15pm – 2:40pm	Study on coordinated control and intelligent regulation for the disaster smoke flow in coal mines - Prof. Kai Wang , China University of Mining & Technology
2:40pm – 2:50pm	Conference Wrap-up and Close: Duncan Chalmers MAusIMM Conference Chairperson, University of New South Wales



Gordon Brothers provides complete industrial refrigeration solutions, including design, construction and comprehensive servicing for a wide range of sectors including food, beverage, mining and chemical.

Our extensive experience allows us to engineer a customised solution to solve any problem.



www.gordonbrothers.com.au



www.zitron.com



*Ventilation that breathes –
Safety. Productivity. Reliability.*



MINE VENT

2019

MANAGING VENTILATION RISK

Perth | 26–28 August



GOLD - UNLOCKING SUSTAINED VALUE

Perth | 11–13 September

NEW
LEADERS

2019

BE THE CHANGE, LEAD THE WAY

Perth | 1–2 October

MINING
GEOLOGY

2019

INNOVATING THE MINE VALUE CHAIN

Perth | 25–26 November



UNDERGROUND
OPERATORS CONFERENCE
CREATING OPPORTUNITIES
IN THE NEW FRONTIER

Perth | 25–27 March 2020



LIFE OF MINE
CONFERENCE 2020

Brisbane | 26–28 August 2020

METPLANT

2019

SHOWCASING LEADING
PLANT DESIGN & OPERATION

Perth | 9–10 September

LEADERSHIP
SUMMIT

2019

LEADERSHIP OF THE FUTURE TODAY

Sydney | 17–18 September

FUTURE
MINING

2019

INNOVATING FOR A DIGITAL AGE

Sydney | 19–20 November



LUNCHEON SERIES



Adelaide, Brisbane, Melbourne, Perth, Sydney | 2–6 March 2020

MWT
MINE WASTE AND
TAILINGS

TOWARDS SAFE
MINE WASTE
MANAGEMENT

Brisbane | 28–30 July 2020

MO
MILLOPS

MILL OPERATORS
CONFERENCE 2020

Brisbane | 9–11 September 2020

THANKYOU TO OUR 2019 SPONSORS

Platinum Sponsor



Gold Sponsors



Education Sponsor



Silver Sponsors



MINE VENT
2019

minevent.ausimm.com