VISIONARY
DYNAMIC
INNOVATIVE
CONNECT:
THE 6TH INTERNATIONAL
SYMPOSIUM ON GREEN MINING

24-26 NOVEMBER 2013
WOLLONGONG, AUSTRALIA
<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
<th>Venue</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOVEMBER 24 2013</td>
<td>Welcome Reception &amp; Registration</td>
<td>Novotel Wollongong 2-14 Cliff Road Wollongong</td>
<td>6:30pm</td>
</tr>
<tr>
<td>SUNDAY</td>
<td>RECEPTION PROUDLY SPONSORED BY:</td>
<td></td>
<td>----------</td>
</tr>
<tr>
<td></td>
<td>RECEPTION PROUDLY SPONSORED BY:</td>
<td></td>
<td>----------</td>
</tr>
<tr>
<td>NOVEMBER 25 2013</td>
<td>Registration</td>
<td>UOW</td>
<td>8:00am</td>
</tr>
<tr>
<td>MONDAY</td>
<td>Symposiun Day 1 - Technical Presentation</td>
<td>UOW</td>
<td>9:00am</td>
</tr>
<tr>
<td></td>
<td>DINNER PROUDLY SPONSORED BY:</td>
<td>City Beach Function Centre 1 Marine Drive Wollongong</td>
<td>6:30pm</td>
</tr>
<tr>
<td>NOVEMBER 26 2013</td>
<td>Symposium Dinner</td>
<td></td>
<td>6:30pm</td>
</tr>
<tr>
<td>TUESDAY</td>
<td>Symposiun Day 2 - Technical Presentation</td>
<td>UOW</td>
<td>9:00am</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>----------</td>
</tr>
<tr>
<td>NOVEMBER 27 2013</td>
<td></td>
<td></td>
<td>----------</td>
</tr>
</tbody>
</table>
## PROGRAM | DAY ONE

Monday 25th November 8.00am – 5.00pm  
Lecture Hall 1 | Communication Centre, University of Wollongong

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Presentation Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>Delegation Registration</td>
<td></td>
</tr>
<tr>
<td>9:00</td>
<td>Official Opening</td>
<td></td>
</tr>
</tbody>
</table>
|       | **Professor Paul Wellings**  
Vice-Chancellor of the University of Wollongong | |
|       | **Professor Ge Shirong**  
President of China University of Mining and Technology (CUMT) | |

### SESSION 1 | MINE AUTOMATION AND INTELLIGENT SYSTEMS  
SESSION CHAIR | TING REN (UOW)

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Presentation Title</th>
</tr>
</thead>
</table>
| **Professor Ge Shirong**  
President of CUMT | Intelligent mining technology in coal mines of China |
| **Dr Hua Guo**  
Chief Research Scientist and Coal Mining Theme Leader CSIRO,  
Member, Coal Mining Abatement Technology Support Package Technical Advisory Committee | Addressing fugitive emissions at Australian coal mines |
| **Mr Joe Zhou**  
CEO, China Australia Mining Development Alliance (CAMDA) | Coal Mine Methane in China |
| **Dr Jonathon Ralston**  
CSIRO | The role of sensing in advancing mining automation technology |
| **Mr Steve Tonegato**  
State Operations Manager, Mines Rescue of Coal Services | Effective Mines Rescue Training – Integrating Virtual Reality |

10:40 - 11:00  
MORNING TEA BREAK  
COMMUNICATION CENTRE FOYER

### SESSION 2 | MINE GEOMECHANICS  
SESSION CHAIR | HUA GUO (CSIRO)

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Presentation Title</th>
</tr>
</thead>
</table>
| **Dr Winton Gale**  
Strata Control Technology | Development of mining geomechanics for strata control and roadway support in underground coal mine design - an Australian perspective |
| **Professor Tu Shihao**  
CUMT | Layout optimization of the roadway in gas bursting thick single gassy coal seam face |
| **Professor Zhou Hua-qiang**  
CUMT | On the development of paste backfilling technology in China’s coal mines |
| **Dr Tao Yu**  
Associate Professor Alex Remennikov  
University of Wollongong | Novel hybrid FRP tubular columns for sustainable mining infrastructure: Recent research at UOW |
| **Professor Bai Jian-biao**  
CUMT | Research on overlying strata movement law for gob-side entry retaining and its engineering practices |
## PROGRAM | DAY ONE (Cont)

Monday 25th November 8.00am – 5.00pm
Lecture Hall 1 | Communication Centre, University of Wollongong

### SESSION 3 | MINE GEOMECHANICS
SESSION CHAIR | BAOTANG SHEN (CSIRO) & SHIHAO TU (CUMT)

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Presentation Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invited Presentation&lt;br&gt;Professor Dou Linming&lt;br&gt;Director of State Key Lab, CUMT</td>
<td>Forecasting Rock Burst by Using Computed Tomography in Coal Mines</td>
</tr>
<tr>
<td>Invited Presentation&lt;br&gt;Professor Zhang Nong&lt;br&gt;CUMT</td>
<td>Key technology and application of continuous destress mining for coal seams in deep coalmines</td>
</tr>
<tr>
<td>Dr Jan Nemcik&lt;br&gt;Mr Venticinque Gaetano&lt;br&gt;University of Wollongong</td>
<td>Development of a new numerical modelling approach to longwall fracture propagation simulation</td>
</tr>
<tr>
<td>Professor Xie Wen-bing&lt;br&gt;CUMT</td>
<td>Research on Rock Weakening Rule of Floor Roadway below Starting Cut</td>
</tr>
<tr>
<td>Professor Liang Weiguo&lt;br&gt;Taiyuan University of Technology, China</td>
<td>Experimental and theoretical study of in-situ property improvement mining, a green mining technology</td>
</tr>
</tbody>
</table>

3:10 - 3:30
AFTERNOON TEA
COMMUNICATION CENTRE FOYER

### SESSION 4 | COAL MINE METHANE AND OUTBURST
SESSION CHAIR | BOB KININMONTH (ILLAWARRA OUTBURST COMMITTEE) & LUKE CONNELL (CSIRO)

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Presentation Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invited Presentation&lt;br&gt;Mr Miles Brown&lt;br&gt;Drive Mining Pty Ltd&lt;br&gt;Mr Scott Hobden&lt;br&gt;Glencore Xstrata</td>
<td>Effective goaf gas capture design at ravensworth underground mine</td>
</tr>
<tr>
<td>Professor Zhou Fu-bao&lt;br&gt;CUMT</td>
<td>A novel technology to control the quality of pre-mining methane drainage</td>
</tr>
<tr>
<td>Dr Abouna Saghafi&lt;br&gt;Senior Principal Research Scientist, CSIRO</td>
<td>Greenhouse gas emissions from uncovered coal seams</td>
</tr>
<tr>
<td>Professor Zhang Hong-wei and Professor Li Shang&lt;br&gt;Liaoning Technical University, China</td>
<td>Research on high gas and low permeability coal seam protection mining in changping mine</td>
</tr>
<tr>
<td>4:45 - 5:00&lt;br&gt;Dr Wierzbiński Krystian&lt;br&gt;Central Mining Institute, Poland</td>
<td>Influence of geological disturbance zones on outburst hazard indices used in polish hard coal mines</td>
</tr>
</tbody>
</table>

6:30<br>DINNER<br>GUEST SPEAKERS:<br>Mr Jingcai Yang<br>Former Chief Engineer, Shenhua Group<br>Professor Joe Chicharo<br>Deputy Vice Chancellor (International) UOW<br>Professor Dou Linming<br>Director of State Key Lab, CUMT

CITY BEACH FUNCTION CENTRE
# PROGRAM | DAY TWO

Tuesday 26th November 9.00am – 5.00pm  
Lecture Hall 1 | Communication Centre, University of Wollongong

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Presentation Title</th>
</tr>
</thead>
</table>
| **SESSION 5 | COAL MINE METHANE AND OUTBURST RISK MANAGEMENT**  
SESSION CHAIR | LINMING DOU (CUMT) & JERRY TIEN (MONASH) |
| Invited Presentation  
Mr Ian Moore  
Manager of Mining Engineering  
Peabody Energy, Metropolitan Colliery | Low-level outburst event & improvements at metropolitan colliery |
| Dr Sheng Xue  
Team Leader and Principal Engineer, CSIRO | Status and prospects of gas content based outburst control technology in huainan |
| Professor Eugeniusz Krause  
Jacek Skiba  
Central Mining Institute (GIG), Poland | Formation of methane hazard in the longwall areas with increasingly higher output concentration |
| Professor Min Tu  
Anhui University of Science & Technology | Surface Well Drilling Technology for Extracting Gas in Low Permeability Coal Seams with Stress-relief Mining |
| Dr Luke Connell  
Stream Leader, CSIRO | Enhanced gas drainage for the management of coal seam gas during coal mining |
| 10:40 - 11:00  
MORNING TEA BREAK | COMMUNICATION CENTRE FOYER |
| **SESSION 6 | MINING SUBSIDENCE AND ENVIRONMENT**  
SESSION CHAIR | JAN NEMCIK (UOW) & HUAQIANG ZHOU (CUMT) |
| Invited Presentation  
Mr Ningbo Wang  
CEO, Shenhua Australia | The environmental impact assessment of an open cut coal mine and its technical mitigation - a case study in NSW |
| Dr Baotang Shen  
Senior Principal Research Scientist  
CSIRO | Investigation of overburden behaviour for grout injection to control mine subsidence |
| Dr Gang Li  
Principal Subsidence Engineer  
NSW Department of Primary Industries | On mining-induced horizontal shear deformation of the ground surface |
| Dr Gang Ren  
RMIT University | Mining subsidence factors in multiple seam longwall mining |
| Dr Shane Curry and Dr Lyndal Hugo  
BDM Resources | Agricultural productivity improvement in coal mining areas |
| 12:40 - 1:40  
LUNCH | COMMUNICATION CENTRE FOYER |
## SESSION 7 | COAL MINE METHANE AND VAM
**SESSION CHAIR | SHENG XUE (CSIRO) & IAN PORTER (UOW)**

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Presentation Title</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Invited Presentation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Mr Scott Adam</strong>&lt;br&gt;Program Leader - Underground Coal&lt;br&gt;CRC Mining</td>
<td>Step change approaches in coal technology and fugitive emissions research</td>
</tr>
<tr>
<td><strong>Professor Lin Bai-quan</strong>&lt;br&gt;China University of Mining and Technology</td>
<td>Theory and technology of gas extraction in coal mines with high gas contents and low permeability</td>
</tr>
<tr>
<td><strong>Mr Frank Hungerford</strong>&lt;br&gt;Global Technical Services Manager&lt;br&gt;Valley Longwall International</td>
<td>Directional drilling in unstable environments</td>
</tr>
<tr>
<td><strong>Mr David Cork</strong>&lt;br&gt;Technical Director and Principal Design Engineer&lt;br&gt;The Corky's Group</td>
<td>Validation of the VAM RAB® safety and process systems flow elements</td>
</tr>
<tr>
<td><strong>Neil Alston, Jafah Zanganeh and Behdad Moghtaderi</strong>&lt;br&gt;The University of Newcastle</td>
<td>An investigation of LEL in ventilation air methane</td>
</tr>
</tbody>
</table>

### 3:10 - 3:30

#### AFTERNOON TEA
**COMMUNICATION CENTRE FOYER**

## SESSION 8 | MINE SAFETY AND ENVIRONMENT CONTROL
**SESSION CHAIR | ALEX REMENNIKOV (UOW) & FUBAO ZHOU (CUMT)**

<table>
<thead>
<tr>
<th>Speaker</th>
<th>Presentation Title</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Invited Presentation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Professor Wang Demin</strong>&lt;br&gt;CUMT</td>
<td>Key technology and method of effective inhibitor for coal self-heating</td>
</tr>
<tr>
<td><strong>Zhenjun Shan and Ian Porter</strong>&lt;br&gt;University of Wollongong</td>
<td>Comparing the reinforcement capacity of welded steel mesh and a Thin Spray-on Liner (TSL) using large scale laboratory tests</td>
</tr>
<tr>
<td><strong>Dr Casey Slaughter and Professor Jerry C. Tien</strong>&lt;br&gt;Monash University</td>
<td>Reuse of treated mine water in underground mines in the US Western deserts</td>
</tr>
<tr>
<td><strong>Dr Brian Plush and Mr Ken Risk</strong>&lt;br&gt;3M Lab and Metropolitan Colliery</td>
<td>Development and quantification of a dust reduction program in longwall mining at metropolitan colliery – a case study</td>
</tr>
<tr>
<td><strong>Professor Qin Bo-tao</strong>&lt;br&gt;China University of Mining and Technology</td>
<td>The influence characteristics of gas extraction on coal spontaneous combustion in goaf and its application</td>
</tr>
</tbody>
</table>

### 5:00

**OFFICIAL SYMPOSIUM CLOSE**
**Professor Xu Jialin**<br>CUMT
SOCIAL PROGRAMS

WELCOME FUNCTION

VENUE | Novotel Wollongong Northbeach
ADDRESS | 2 - 14 Cliff Road North Wollongong 2500
TIME | Sunday 24th November 2013 at 6:30PM
COST | Complimentary for all delegates | Guests $50 per person

CONFERENCE DINNER

VENUE | City Beach Function Centre
ADDRESS | 1 Marine Drive Wollongong NSW 2500
TIME | Monday 25th November 2013 at 6:30PM
COST | Complimentary for all delegates | Guests $95 per person
GUEST SPEAKERS | Mr Jingcai Yang | Former Chief Engineer, Shenhua Group
Professor Joe Chicharo | Deputy Vice Chancellor (International) UOW
Professor Dou Linming | Director of State Key Lab, CUMT

POST CONFERENCE TOURS

COAL SERVICES MINE RESCUE STATION - VIRTUAL REALITY TECHNOLOGIES

DEPART | Wednesday 27th November at 9:00am | Novotel Hotel
COST | Free to all symposium delegates
NUMBERS | Maximum 20
BOOK | Please register online or contact 6th ISGM6 Secretariat
NOTE | Visit is subject to final itinerary which will be made available two weeks prior to the conference.
ADDRESS | Woonona NSW 2517

METROPOLITAN COLLIERY | PEABODY ENERGY

DEPART | Wednesday 27th November at 9:00am | Novotel Hotel
COST | Free to all symposium delegates
NUMBERS | Maximum 15
BOOK | Please register online or contact 6th ISGM6 Secretariat
NOTES | Visit is subject to final itinerary which will be made available two weeks prior to the conference.
CLOTHING | Participants to wear a long sleeved shirt, long pants and enclosed shoes
ADDRESS | Parkes St, Helensburgh NSW 2508