



**Society of Mining Professors (SOMP)**  
**Societät der Bergbaukunde**

## **27<sup>th</sup> SOMP Annual Meeting and Conference**



### **Final Conference Program**

**Liaison Capitol Hill, Washington, DC, USA**  
**September 21 – 24, 2016**

## SPONSORS



## Meeting and Conference Program

<b>Wednesday, September 21, 2016</b>	
10:00 am – 2:00 pm	WFEO Task Force on Mining and Sustainability
2:00 pm – 6:00 pm	Registration
2:15 pm – 4:00 pm	Council Meeting
4:00 pm – 5:30 pm	Education Committee Meeting
4:00 pm – 5:30 pm	Research Committee Meeting
4:00 pm – 5:30 pm	Members Development Committee Meeting
4:00 pm – 5:30 pm	Capacity Building Committee Meeting
5:30 pm – 7:30 pm	Pool Reception
<b>Thursday, September 22, 2016</b>	
7:30 am – 8:30 am	Registration
	<b>Session I: Opening</b>
8:30 am – 8:45 am	<b>Welcome</b> Vlad Kecojevic, 2015-2016 SOMP President, West Virginia University, USA
8:45 am – 9:00 am	<b>Welcome Address</b> The Honorable Senator Joe Manchin
9:00 am – 9:30 am	<b>Keynote Address</b> <b>Future of mine safety and health research and directions for the NIOSH program</b> Jessica E. Kogel, National Institute for Occupational Safety and Health (NIOSH), USA
9:30 am – 10:00 am	<b>Mining Engineering – thoughts and opportunities in the changing landscape of higher education</b> Michael Karmis, Virginia Tech, USA
10:00 am – 10:10 am	<b>SME and the PhD fellowship and career development grant program to fill the academic pipeline in US mining schools</b> John Hayden, Society for Mining, Metallurgy & Exploration (SME)
10:10 am – 10:30 am	<b>Coffee/Tea Break</b>
	<b>Session II: Business Session</b>
10:30 am – 12:00 pm	<b>SOMP Business Session</b> Bruce Hebblewhite, SOMP Secretary-General, University of New South Wales, Australia
12:00 pm – 1:00 pm	<b>Lunch and address by Bruce Watzman, National Mining Association (NMA)</b>
	<b>Session III: Research &amp; Industry I</b>
1:00 pm – 1:10 pm	<b>Introductory Remarks</b> Serkan Saydam, University of New South Wales, Australia
1:10 pm – 1:30 pm	<b>German coal-industry management and production systems and their future potential</b> Martin Junker, RAG Mining Solutions GmbH, Germany
1:30 pm – 1:50 pm	<b>Grand challenges for engineering in mining</b> Ismet Canbulat, University of New South Wales, Australia
1:50 pm – 2:10 pm	<b>Research visioning and collaboration opportunities with mining engineering programs in Turkey</b> Nuray Demirel, Middle East Technical University, Turkey

2:10 pm – 2:30 pm	<b>Challenges and opportunities with the rare earths industry</b> Baolu Zhou <sup>1</sup> , Qingxiang Cai <sup>2</sup> , Zhongxue Li <sup>1</sup> , Wei Zhou <sup>2</sup> , Yiqing Zhao <sup>1</sup> <sup>1</sup> University of Science and Technology Beijing, China <sup>2</sup> China University of Mining and Technology, China
2:30 pm – 3:00 pm	<b>Coffee/Tea Break and Poster Presentations</b>
	<b>Session IV: Research &amp; Industry II</b>
3:00 pm – 3:20 pm	<b>European Commission Joint Research Centre activities in support of the raw materials policy and circular economy</b> Gian Andrea Blengini, European Commission, DG JRC – Joint Research Centre, Italy
3:20 pm – 3:40 pm	<b>Stakeholder engagement as a facet in minerals education</b> Harmony Musiyarira <sup>1</sup> , Ditend Tesh <sup>1</sup> and Godfrey Dzinomwa <sup>2</sup> <sup>1</sup> Namibia University of Science and Technology, Namibia <sup>2</sup> Paasol Resources (Pvt) Ltd, Zimbabwe
3:40 pm – 4:00 pm	<b>Managing complexity in a changing world: a global perspective on corporate responsibility in mining</b> Aidan Davy and Tom Butler International Council on Mining and Metals, United Kingdom
4:00 pm – 4:20 pm	<b>Mine closure: environmental and safety challenges and research activities</b> Christoph Dauber, TH Georg Agricola, Germany
4:20 pm – 5:00 pm	<b>Research Open Discussion</b> Serkan Saydam, Chairperson, University of New South Wales, Australia
6:00 pm – 10:00 pm	<b>Potomac River Cruise and Dinner</b>

<b>Friday, September 23, 2016</b>	
	<b>Session V: Education I</b>
8:15 am – 8:40 am	<b>Introductory Remarks &amp; Survey Report</b> Oliver Langefeld, Technische Universitaet Clausthal, Germany Oscar Jaime Restrepo Baena, Universidad Nacional de Colombia, Medellin, Colombia
8:40 am – 9:00 am	<b>The role and application of Immersive technology in mining engineering education</b> Ronny Webber-Youngman, University of Pretoria, South Africa
9:00 am – 9:20 am	<b>Making mining engineering programs more resilient</b> Peter Knights, The University of Queensland, Australia
9:20 am – 9:40 am	<b>Communities of practice: A South African mining education case study</b> Clinton Birch <sup>1</sup> , Grzegorz Majewski <sup>2</sup> , Marija Jakovljevic <sup>3</sup> , Kelello Chabedi <sup>1</sup> <sup>1</sup> University Witwatersrand, South Africa, <sup>2</sup> Grabiz Solutions, South Africa; <sup>3</sup> University of South Africa, South Africa
9:40 am – 10:00 am	<b>Integrating the sustainability issues in mining engineering curriculum in Indonesia</b> Rudy Sayoga Gautama, Aryo Prawoto Wibowo and Budi Sulistianto Bandung Institute of Technology, Indonesia
10:00 am – 10:20 am	<b>Coffee/Tea Break</b>
10:20 am – 10:40 am	<b>Evaluating the effectiveness of the Mine Design Laboratory of the School of Mining Engineering at the University of the Witwatersrand, South Africa</b> Bekir Genc and Nonhlanhla Motanyane University of the Witwatersrand, South Africa

10:40 am – 11:00 am	<b>Applying mine planning in a university curriculum</b> Steven Rupprecht and Hennie Grobler University of Johannesburg, South Africa
11:00 am – 11:40 am	<b>Discussion</b>
	<b>Session VI: Education II</b>
11:40 am – 12:25 pm	<b>Innovative Teaching and Learning: Presentation, “Tim Shaw Innovation in Teaching and Learning Award”</b> Discussion
12:25 pm – 1:25 pm	<b>Lunch</b>
	<b>Session VII: Members Development</b>
1:25 pm – 1:45 pm	<b>Introductory Remarks</b> Emily Sarver, Virginia Tech, USA
1:45 pm – 2:10 pm	<b>Plenary</b> <b>A personal view on strategies for creating a competitive academic profile</b> Peter Dowd The University of Adelaide, Australia
2:10 pm – 3:25 pm	<b>Mentoring Workshop:</b> Effective approaches and tools for success
3:25 pm – 3:50 pm	<b>Coffee/Tea Break</b>
3:50 pm – 5:00 pm	<b>Discussion on Diversity:</b> What does the makeup of mining faculty of today mean for the mining engineers of tomorrow?
5:30 pm	<b>2016 SOMP Group Photo</b>
7:00 pm – 7:30 pm	<b>Awards Dinner Reception</b>
7:30 pm – 10:00 pm	<b>Awards Dinner</b>

<b>Saturday, September 24, 2016</b>	
	<b>Session VIII: Capacity Building</b>
8:30 am – 8:50 am	<i>Introductory Remarks/Plenary</i> Juergen Kretschmann, TH Georg Agricola, Germany David Laurence, University of New South Wales, Australia
8:50 am – 9:10 am	<b>Challenges of an effective international knowledge transfer from the perspective of South East Asian Mining Schools</b> Juergen Kretschmann <sup>1</sup> , Nga Nguyen <sup>2</sup> and Pinyo Meechumna <sup>3</sup> <sup>1</sup> TH Georg Agricola, Germany; <sup>2</sup> Hanoi University of Mining and Geology, Vietnam; <sup>3</sup> Chulalongkorn University, Thailand
9:10 am – 9:30 am	<b>A collaborative capacity building model for mineral education in emerging mining districts</b> Kwame Awuah-Offei and Samuel Frimpong Missouri University of Science and Technology, USA
09:30 am – 10:30 am	<i>Capacity Building Open Discussion</i> Juergen Kretschmann, TH Georg Agricola, Germany David Laurence, University of New South Wales, Australia
10:30 am – 11:00 am	<b>“Mines of the Future” Project Presentation &amp; Discussion (S. Saydam)</b>
11:00 am – 12:00 pm	<b>Session IX: Closing</b>
12:00 pm – 1:30 pm	<b>Lunch</b>
2:00 pm – 5:00 pm	<b>Tour of the Smithsonian Museum of Natural History (optional)</b>

## Poster presentations

Thursday, September 22, 2016 (2:30 pm – 3:00 pm)

### **Implementing social engagement across the mining project lifecycle**

Carvajal Gómez, Domingo and González Martínez, A.

Huelva University, Spain

### **Novel approach to predict and control ground vibrations from mine operations**

Jhon Silva-Castro

University of Kentucky, USA

### **Collaborative partnership strategy in providing the manpower needs of the extractive industry in Ghana – the case of UMaT, Tarkwa**

Peter Arroja Eshun

University of Mines and Technology, Ghana

### **Tenability analysis for improvement of firefighters' performance in a methane fire event at a coal mine working face**

Ali Haghighat, Brian Lattimer, Jensen Hughes and Kray Luxbacher

Virginia Tech, USA

### **A novel approach to the design and analysis of mineral processing circuits: fundamental considerations and applications**

Hassan Amini, Xue Zhai, Qingqing Huang and Aaron Noble

West Virginia University, USA

### **Experimental and numerical investigation of time-dependent behavior of coal and coal measures rocks**

Yuting Xue and Brijes Mishra

West Virginia University, USA

### **Education for mining policies in developing countries**

Erik R. Larsen<sup>1</sup>, Santiago Arango<sup>2</sup>, Patricia Jaramillo<sup>2</sup>, Yris Olaya<sup>2</sup>, Ricardo Smith<sup>2</sup>, Carlos Adrián Saldarriaga<sup>2</sup>, Jessica Arias-Gaviria<sup>2</sup>, Juan Felipe Parra<sup>2</sup>, Oscar Jaime Restrepo<sup>2</sup>

<sup>1</sup>Università della Svizzera Italiana, Switzerland; <sup>2</sup>Universidad Nacional de Colombia, Colombia.

### **Characterization of respirable dust in underground coal mines**

Cigdem Keles, Meredith Scaggs, Victoria Johahn, Kent Phillips and Emily Sarver

Virginia Tech, USA

### **Clean coal technology using captured carbon emissions for enhanced gas recovery: results from two pilot sites in Central Appalachia**

Ellen Gilliland, Nino Ripepi, A. Kyle Louk, Joseph Amante, Charles Schlosser, Casey Jennings, Cigdem Keles and Michael Karmis

Virginia Tech, USA

### **Operational considerations of through the earth communications for mine emergency response**

Steven Schafrik and Edmund Jong

Virginia Tech, USA

### **The Development of a Web- based Platform for Ground Control Applications**

Zach Agioutantis and Chris Newman

University of Kentucky, USA

### **Using Risk Assessment to Improve Regulation Compliance for enhancing Health and Safety in the Chinese Mining Industry**

Cong Zhang<sup>1,2</sup>, Zach Agioutantis<sup>1</sup> and Zhongxue Li<sup>2</sup>

<sup>1</sup>University of Kentucky, USA; <sup>2</sup>University of Science and Technology, Beijing, China