

# Society of Mining Professors 6<sup>th</sup> Regional Conference 2018 Preliminary Programme

## Day 1: Sunday, 11 March 2018

### Welcome Reception

17h00–19h00 **Cocktail/Registration**

## Day 2: Monday, 12 March 2018

### Official Opening

Session Chair: R. Mitra

07:00–08:00 **Conference Registration and Tea/Coffee**

08:00–08:10 **Welcome from Chair and OHS Briefing**

08:10–08:15 **Welcome from Vice Chancellor**  
*University of the Witwatersrand*

08:15–08:20 **Welcome from Dean**  
*FEBE, University of the Witwatersrand*

08:20–08:35 **General overview of SOMP**  
B. Hebblewhite, *Secretary General, SOMP*

08:35–08:50 **Welcome Address**  
S. Ndlovu, *SAIMM President*

08:50–09:20 **Keynote Address: A new dawn for the mining industry**  
L. Kgatle, *SASOL*

### Session 1: Research & Development

Session Chair:

09:20–09:40 **Development of wear- and corrosion-resistant coatings for pump sleeves in a copper mine**  
S.I. Hango<sup>\*\*†§</sup>, J.W. van der Merwe<sup>\*†§</sup>, L.H. Chown<sup>\*†§</sup>, F.P.L. Kavishe<sup>††§</sup>, and L.A. Cornish<sup>\*†§</sup>, *\*University of the Witwatersrand, South Africa, †DST-NRF Centre of Excellence in Strong Materials, hosted by the University of the Witwatersrand, ‡University of Namibia, Namibia, and §African Materials Science and Engineering Network (A Carnegie-IAS RISE Network)*

09:40–10:00 **Geological mapping and modelling in the University of the Witwatersrand mine tunnel, South Africa**  
C. Birch, *University of the Witwatersrand*

10:00–10:30 **Coffee and Tea Break**

10:30–10:50 **An evaluation of the economic viability of mining Bench 7B at Grootegeluk colliery**  
S. Mhlongo\* and C.K. Chabedi<sup>†</sup>, *\*The University of the Witwatersrand and †Exxaro, South Africa*

10:50–11:10 **Integrated phytomining and ethanol production in the Zambian Copperbelt to minimize mine decontamination costs and environmental and social impacts: a review**  
T. Sinkala, *University of Zambia, Zambia*

11:10–11:30 **Prediction of the spontaneous combustion liability of coal and coal-shale using statistical analysis**  
M. Onifade and B. Genc, *University of the Witwatersrand, South Africa*

11:30–11:50 **The costs of sampling errors and bias to the mining industry**  
R.C.A. Minnitt, *University of the Witwatersrand, South Africa*

11:50–12:10 **Effect of recycled bauxite grog addition on andalusite-containing refractory castables for tundish applications**  
S.L. Msibi<sup>\*†</sup> and E. Matinde<sup>†</sup>, *\*Scaw Metals Group, South Africa, †University of the Witwatersrand, South Africa*

12:10–12:30 **An evaluation index system for 'green' surface coal mining based on fuzzy theory**  
Q. Cai, W. Zhou, X. Lu, F. Liu, and L. Li, *China University of Mining and Technology, China*

12:30–13:20 **Lunch**

### Poster Presentations

13:20–13:25 **PESTLE and SWOT analysis of the potential for mining Zambia's low-grade copper ore deposits: the case of Kakosa South deposit**  
S. Kangwa and V. Mutambo, *University of Zambia, Zambia*

13:25–13:30 **Use of the attainable region approach for the determination of the run-of-mine size distribution for optimal downstream processing**  
F.K. Mulenga\* and A.M.M. Mwashit<sup>†</sup>, *\*University of South Africa, South Africa, †Kambove Concentrator, Democratic Republic of Congo*

13:30–13:35 **Coal as a strategic resource in South Africa**  
P. Dikgwatlhe, *University of South Africa*

13:35–13:40 **Factors influencing operational effectiveness in the Zambian copper mining industry**  
M.K. Banda\*, C. Sichinsambwe<sup>†</sup>, and J.M. Tembo<sup>‡</sup>, *\*School of Information and Communication Technology, †School of Business, and ‡The Copperbelt University, Kitwe, Zambia*

### Session 2: Sustainable Development

Session Chair:

13:40–14:10 **Keynote Address: Sustainability in mining – myth and reality**  
D. Naidoo, *Vedanta*

14:10–14:30 **Mining and metallurgical wastes: a review of recycling and re-use practices**  
E. Matinde, G.S. Simate, and S. Ndlovu, *University of Witwatersrand, South Africa*

14:30–14:50 **Limits to artisanal and small-scale mining: evidence from the first kimberlite mines**  
W.P. Nel, *University of South Africa, South Africa*

14:50–15:10 **Post-mining excellence: strategy and transfer**  
J. Kretschmann, *TH Georg Agricola University, Germany*

15:10–15:30 **Afternoon Tea**

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- 15:30–15:50 **Appropriate technologies for titanium extraction and processing for sustainable development of titanium-zirconium placers in the red sand floor area of Binh Thuan, Vietnam**  
N. Nguyen\* and G. Nguyen†  
\*Hanoi University of Mining and Geology and  
†National Institute of Mining-Metallurgy Science and Technology, Hanoi, Vietnam
- 15:50–16:10 **The role of mining heritage in society engagement**  
D.J. Carvajal, *University of Huelva, Spain*
- 16:10–16:30 **Wrap up Discussion and Closure**
- 17:30 **Bus leaves for dinner venue**
- 18:30–21:00 **Conference Dinner**

## Day 3: Tuesday, 13 March 2018

- 07:00–07:55 **Conference Registration and Tea/Coffee**
- 07:55–08:00 **Welcome and Safety Briefing**

### Session 3: Innovation in Teaching & Learning

#### Session Chair:

- 08:00–08:30 **Keynote Address: The importance of teaching mineral reporting and valuation codes in mine planning and valuation discourses within a mining engineering curriculum**  
C. Musingwini, *University of the Witwatersrand, South Africa*
- 08:30–09:15 **Panel Discussion: Mining Education of the Future**
- 09:15–09:35 **Mine Design course at the University of the Witwatersrand**  
B. Genc and R. Mitra, *University of Witwatersrand, South Africa*
- 09:35–09:55 **A review of work-integrated learning in South African mining engineering universities**  
L.A. Maseko, *University of South Africa, South Africa*
- 09:55–10:15 **Enhancing sustainability of minerals engineering programmes through the development of a Minerals Resource Centre**  
H. Musiyarira, T. Hollenberg, and P. Shava, *Namibia University of Science Technology, Namibia*
- 10:15–10:45 **Coffee and Tea Break**

### Session 4: Research & Development

#### Session Chair:

- 10:45–11:05 **Underground mine transportation and the mine of the future**  
S. Rupprecht, *University of Johannesburg, South Africa*
- 11:05–11:25 **A net smelter return model for a polymetallic deposit**  
P. Shava\* and C. Musingwini†, \**Namibia University of Science and Technology, Namibia* and †*University of Witwatersrand, South Africa*

- 11:25–11:45 **Using mine planning case studies for empirical estimation of the maximum number of criteria and alternatives for multi-criteria decision-making**  
M.J. Mahase, C. Musingwini, and A.S. Nhleko, *University of the Witwatersrand, South Africa*
- 11:45–12:05 **Digital transformation in mining**  
M. Woodhall and E. Strydom, *MineRP, South Africa*
- 12:05–12:25 **Optimizing the extractive capacity of the mining loading, and haulage fleet at Nchanga Open Pit mine, Zambia**  
G. Dembetembe\* and V. Mutambo†, \**University of Zimbabwe, Zimbabwe*, †*University of Zambia, Zambia*
- 12:25–13:30 **Lunch**

## Poster Presentations

- 13:30–13:35 **The influence of work pressure on worker attitudes towards health and safety in a platinum mining stope**  
P. Nelwamondo, M. Mpanza, and S. Rupprecht, *University of Johannesburg, South Africa*
- 13:35–13:40 **A safety and accident communication system for underground mines**  
B. Besa, S. Mulenga, and C. Mazimba, *University of Zambia, Zambia*
- 13:40–13:45 **Comparison of cut-off grade models in mine planning for improved value creation based on NPV**  
J. Githiria, C. Musingwini, *University of the Witwatersrand, South Africa*
- 13:45–13:50 **Selection of Zambia's optimal copper mining excess profit tax**  
W. Banda, *University of Zambia, Zambia*
- 13:50–14:00 **Tax relief for mining companies: the cart before the horse**  
K. Thambi, *University of Witwatersrand, South Africa*

### Session 5: Mining Schools/Programs

#### Session Chair:

- 14:00–14:15 **Presentation 1 (MEESA) - Prof Ronny Weber Youngman**
- 14:15–14:30 **Presentation 2 (Namibia) - Dr Harmony Musiyarira**
- 14:30–15:00 **Afternoon Tea**
- 15:00–15:15 **Presentation 3 (Zambia) - Dr Bunda Besa**
- 15:15–15:30 **Presentation 4 (Botswana) - Dr Raymond Suglo**
- 15:30–15:45 **Presentation 5 (MEA) - Prof Bruce Hebblewhite**
- 15:45–16:00 **Q & A Session**
- 16:00–16:10 **Wrap up session**
- 16:10–16:20 **Vote of Thanks**