UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

25th ANNIVERSARY

UNIVERSITY OF THE WITWATERSRAND JOHANNESBURG

Society of Mining Professors
Societät der Bergbaukunde

A Southern African Silver Anniversary

2014 SOMP Annual Meeting

26–30 June 2014

The Maslow Hotel, Sandton, Gauteng

Final Circular

A Southern African Silver Anniversary

26–30 June 2014 · The Maslow Hotel, Sandton, Gauteng

Invitation from the Organising Committee

Dear SOMP Member,



Prof. Ronny Webber-Youngman
President SOMP 2013/2014

It is with great enthusiasm and excitement that I welcome you to the Society of Mining Professors Annual Meeting (SAM) and Conference in South Africa. This is the 25th silver anniversary of SOMP and it is indeed a great pleasure for us to host it in South Africa, the first time of the SAM and Conference in Africa! The SAM and Conference for 2014 is co-hosted by the Department of Mining Engineering at the University of Pretoria and the School of Mining at the University of the Witwatersrand (Professor Fred Cawood),
under the guidance of our Secretary-General Professor Bruce Hebblewhite, University of New South Wales, Sydney, Australia.
A great programme has been planned and we are looking forward to five exciting days.

The partners' programme has been designed with lots of exciting activities. The Conference will be concluded by two mine visits on Monday 30 June 2014 (one visit to be chosen from the list) - a deep gold mine and an underground coal mine.

Please make the best of your visit to our beautiful country. Also please don't hesitate to approach me or any of my staff members for any assistance so as to make your stay a memorable one.

Glückauf

Organising Committee

Prof. B. Hebblewhite
Prof. R. Webber-Youngman
Prof. F. Cawood
Dr A. Dougall
Mrs D. Gudmanz
Mrs J. Webber-Youngman
Mr Raymond van der Berg
Mr Eugene Preis
Me Megan Neser

Paper Reviewers

Prof. Zach Agioutantis
Prof. F. Cawood
Prof. Monika Hardygòra
Prof. Bruce Hebblewhite
Prof. Vlad Kecojevic
Prof. Oliver Langefeld
Prof. David Laurence
Prof. Cuthbert Musingwini
Prof. Ronny Webber-Youngman

SAIMM Conference Secretariat

Raymond van der Berg, Head of Conferencing
The Southern African Institute of Mining and Metallurgy
P O Box 61127, Marshalltown, 2107, South Africa
Tel: +27 11 834 1273/7 · Fax: +27 11 838 5923 or 833 8156
E-mail: raymond@saimm.co.za · Web: http://www.saimm.co.za

Meeting venue

The Maslow is the ultimate business hotel in Sandton, providing an environment where individuals can reach their full potential by having the facilities, technology and intelligence in place to facilitate business. The Maslow's uncapped WiFi offering is without a doubt the fastest in Sandton.

Situated in the heart of Sandton's business district, home to top investment banks, financial institutions, the Gautrain station, and the Johannesburg Stock Exchange the

Maslow offers some of the best corporate services and facilities in Sandton, including free and unlimited WiFi connectivity throughout the hotel, in the 12 meeting rooms and the conference centre which includes a multi-divisible ballroom and auditorium. There is also a techno gym and an Africology Spa.

The Maslow hotel offers a complimentary scheduled return transfer service every 15 minutes to the Gautrain station and Sandton City. Guests may also make use of the Maslow's private chauffeur service.

For more information visit: www.suninternational.com/maslow

Registration

Registration fees include attendance at the technical sessions, all refreshments and lunches at the Conference, and attendance at the cocktail parties and social functions.

Registration fees

SOMP Members	R8 999
Young SOMP members (younger than 30 years)	R5 999
Retired/Emeritus SOMP Members	R5 999
Spouse fee/programme	R5 500

Registration fees does not include accommodation.
All prices include VAT. Tax invoices will be issued to all delegates.
Please note that delegates will be permitted to attend the meeting only if their registration fees have been paid.

Accommodation

The Maslow
Corner Grayston Drive and Rivonia Road
Sandton, 2146
Gauteng, South Africa
Central Reservations: +27 11 780 7000
Tel: +27 10 226 4600
www.suninternational.com/maslow
A block booking of 30 rooms have been reserved at the Maslow Hotel which is also the conference venue. In the event that you would like to make use of this booking kindly contact the hotel directly and quote the following reference: **SAIMMSL**

Balalaika
20 Maude Street
Sandown 2196, Sandton, Johannesburg, South Africa
Tel: +27 11 322 5000
Fax: +27 11 322 5023
www.balalaika.co.za <http://www.balalaika.co.za>

Garden Court Sandton City, Johannesburg
Corner West and Maude Streets
Sandown, Johannesubrg 2196
Tel: +27 11 269 7000
Fax: +27 11 269 7100
www.tsogosunhotels.com <http://www.tsogosunhotels.com>

Sandton Sun
Corner Fifth and Alice Streets
Sandton, 2196
Tel: +27 11 780 5000
Fax: +27 11 780 5002
www.tsogosunhotels.com <http://www.tsogosunhotels.com>

Meeting programme

Thursday, 26 June 2014—Maslow Hotel, Sandton

13:00–18:00	**SOMP registrations**
14:00–15:30	**Council Meeting**
15:30–16:00	**Tea/Coffee Break**
16:00–17:00	**Committee Meetings**
17:00–18:00	**SOMP registrations**
18:00	**Welcome cocktail function - host University of Johannesburg** **Dress code: smart casual**

Friday, 27 June 2014—Maslow Hotel, Sandton

07:00–08:30	**SOMP registrations**

A Southern African Silver Anniversary

26–30 June 2014 · The Maslow Hotel, Sandton, Gauteng

Session 1

08:30–08:45 **Welcome**
Prof. R. Webber-Youngman, *President of SOMP, Chairperson*

08:45–09:00 **Welcome Address**
Prof. C. de la Rey, *Vice Chancellor and Principal, University of Pretoria*

09:00–09:30 **Overview of Department of Mining Engineering, University of Pretoria**
Prof. R. Webber-Youngman, *President of SOMP*

09:30–10:00 **Tea/Coffee Break**

Session 2

10:00–11:30 **SOMP Business Session**
Prof. B. Hebblewhite, *Secretary General, SOMP*

11:30–12:00 **Industry Keynote**
R. Baxter, *Chief Operating Officer, Chamber of Mines*

12:00–12:30 **Network lunch**

Session 3

12:30–12:50 **Keynote: What the Universities will be like in 50 years' time with regard to mining education**
Prof. O. Langefeld, *Chairperson*

12:50–13:10 **Mining games: a key element to promote and develop essential skills for future mining engineers**
D.J.C. Gomez and K. Jürgen, *Huelva University, Spain and TFH Georg Agricola University of Applied Sciences, Germany* **(Presentation only)**

13:10–13:30 **An evaluation of the effectiveness of teamwork, with an emphasis on peer assessment and peer review in an introductory engineering course**
C. Daly, *University of New South Wales, Australia*

13:30–13:50 **The SASOL Engineering Leadership Academy (SELA)**
C. Knobbs, E. Gerryts, T. Kagogo, and M. Neser, *University of Pretoria, South Africa*

13:50–14:10 **Towards a structured PQM decision-making approach: rethinking the Mining Engineering PQM at an open, distance e-learning University**
W.P. Nel, *UNISA, South Africa*

14:10–14:20 **Comfort break**

14:20–14:40 **Mine disaster and mine rescue training courses in modern academic mining engineering programmes**
H. Mischo, J.F. Brune, J. Weyer, and N. Henderson, *Technical University Bergakademie Freiberg and Colorado School of Mines*

14:40–15:00 **New systems for geological modelling—black box or best practice?**
C. Birch, *University of the Witwatersrand, South Africa*

15:00–15:20 **The challenges faced by women in mining in Namibia and Zimbabwe**
G. Dzinomwa, H. Musiyarira, D. Tesh, D. Munyati-Nyamukapa and A. Mchibwa, *Paasol Resources, (Pty) Ltd, Harare, Zimbabwe, Polytechnic of Namibia, and UNDP Country Office, Harare, Zimbabwe*

15:20–15:40 **Educating future mine waste management professionals**
D. van Zyl, *University of British Columbia, Canada* **(Presentation only)**

15:40–16:00 **Training system of mining engineers in Russia—the current stage of development**
V. Petrov and J. Agafonov, *Moscow State Mining University, Russia*

16:00–16:20 **Tea/coffee break**

Session 4

16:20–17:20 **Education open discussion**
Prof. O. Langefeld, *Chairperson*

17:20 **SOMP 2014 group photo (Maslow Hotel)**

Free time

17:45 **Buses leave for evening event**
Welcome—Cultural evening event
Dress code: casual, (warm clothes, it is winter) African theme

Saturday, 28 June 2014—Host University of the Witwatersrand

Mine Design Laboratory: Chamber of Mines Building, Floor 4

07:00 **Hotel departure to the University of the Witwatersrand (Maslow hotel foyer)**

08:00–08:30 **Arrival tea/coffee/snacks**

Session 5

08:30–08:45 **Welcome**
Prof. F. Cawood, *Head of School of Mining Engineering, South Africa, Chairperson*

08:45–09:00 **Welcome Address**
Prof. A. Habib, *Vice-Chancellor and Principal, University of the Witwatersrand, South Africa*

09:00–09:30 **Industry Keynote**
N. Holland, *Chief Executive Officer, Gold Fields*

09:30–10:00 **Wits Mining Research Strategy**
Prof. F.T. Cawood, *Head of School of Mining Engineering, South Africa*

10:00–10:20 **Tea/coffee break**

Session 6

10:20–10:40 **Keynote: Research and Development**
Prof. M. Hardygòra, *Chairperson*

10:40–11:00 **Modelling and determining the technical efficiency of a surface coal mine supply chain**
M.D. Budeba, J.W. Joubert, and R.C.W. Webber-Youngman, *University of Pretoria, South Africa*

11:00–11:20 **Coal quality management model for a dome storage**
M. Badani, V. Kecojevic, and D. Bogunovic, *West Virginia University, USA and Liberty Mine, North American Coal Corporation, USA* **(Presentation only)**

11:20–11:40 **Development of an atmospheric data management system for underground coal mines**
Z. Agioutantis, K. Luxbacher, M. Karmis, and S. Schafrik, *Technical University of Crete, Greece and Virginia Center for Coal and Energy Research, USA*

11:40–11:50 **Comfort break**

11:50–12:10 **Can artificial intelligence and fuzzy logic be applied to virtual reality applications in mining?**
R. Mitra and S. Saydam, *University of New South Wales, Australia*

12:10–12:30 **Key performance indicators— a tool to assess ICT applications in underground coal mines**
C. Dauber and M. Bendrat, *Georg Agricola University of Applied Science, Germany*

12:30–12:50 **Geomechanics challenges of contemporary deep mining: a suggested model for increasing future mining safety and productivity**
F.T. Suorineni, B. Hebblewhite, and S. Saydam, *University of New South Wales, Australia*

12:50–13:30 **Lunch break**

Session 7

Welcome:
Prof. F. Cawood, *Head of School of Mining Engineering, South Africa, Chairperson*

13:30–13:50 **Energy-efficient ventilation and cooling of mines**
J.J.L. du Plessis, W.M. Marx, and C. Nell, *University of Pretoria, South Africa, BBE Consulting, and BBEnergy*

13:50–14:10 **Sustainability training in mining and metallurgical engineering in Colombia**
O.J.R. Baena and M.O. Bustamante, *Universidad Nacional de Colombia. Canada*

14:10–14:30 **Future Challenges of mining in Namibia**
H. Musiyarira, D. Tesh, and G. Dzinomwa, Polytechnic of Namibia and *Paasol Resources (Pty) Ltd, Harare, Zimbabwe, Namibia*

14:30–14:50 **Mining off-earth minerals: a long-term play?**
G.A. Craig, S. Saydam, and A.G. Dempster, *University of New South Wales, Australia*

14:50–15:10 **Open pit or block caving? A numerical ranking method for selection**
F. Rashidi-Nejad and F.T. Suorineni, *University of New South Wales, Australia and BBA Consulting Engineers, Canada*

15:10–15:30 **The presence of shear stresses in pillars and the effect on factor of safety in a room-and-pillar layout**
J.A. Maritz, *University of Pretoria, South Africa*

15:30–15:50 **Tea/coffee break**

Session 8

15:50–16:45 **R&D and Industry open discussion**
Prof. M. Hardygòra, *Chairperson*

16:45–17:30 **University of the Witwatersrand Campus tour**

17:30–18:00 **Buses departure back to Maslow Hotel**

18:00–19:30 **Free time**

19:30 for 20:00 **Gala dinner and ceremonies—Maslow hotel**
Dress code: jacket and tie

Sunday, 29 June 2014—Host University of Pretoria

07:00 **Hotel departure to the University of Pretoria (Maslow hotel foyer)**

08:00–08:30 **Arrival tea/coffee**

Session 9

Welcome
Prof. R. Webber-Youngman, *President of SOMP, Chairperson*

08:30–08:50 **Welcome Address**
Prof. R. Sandenbergh, *Dean, Engineering, Built Environment and Information Technology, University of Pretoria*

08:50–09:10 **Keynote: Members Development**
Prof. V. Kecojevic, *Chairperson*

09:10–09:30 **Keynote: Capacity building**
Prof. D. Laurence, *Chairperson*

09:30–09:50 **The SOMP Mining Engineering Education Resources Information Center MEERIC – a proposal to enhance capacity building**
J. Kretschmann, D.J.C. Gomez, and N. Nguyen,*University of Applied Sciences Georg, Spain, Germany* **(Presentation only)**

09:50–10:10 **Intervention for ensuring sustainability of the minerals education programmes at the Polytechnic of Namibia**
D. Tesh, H. Musiyarira, G. Dzinomwa, and H. Mischo
Polytechnic of Namibia, Namibia, Paasol Resources (Pty) Ltd, Harare, Zimbabwe, Freiburg University, Germany

10:10–10:30 **Development of a knowledge warehouse for building risk management capacity in the minerals sector**
Y. Zhao, X. Hu, Z. Li, H. Wang, Q. Gau, and C. Li, *University of Science and Technology, Beijing, China*

10:30–11:00 **Tea/coffee break**

Session 10

11:00–12:00 **Parallel breakaway sessions - members development and capacity building**

12:00–13:00 **Closing Session SOMP strategic planning**
Prof. B. Hebblewhite, *Secretary General, Chairperson*

Closing presentations USA 2016, Germany 2015, SOMP flag handover ceremony

13:00–14:00 **Lunch (delegates plus partners)**

14:00–15:00 **University of Pretoria campus tour**

15:00 **Departure from Tukkies and Pretoria sight-seeing (Union Building, Voortrekker Monument)**

Free evening

Monday, 30 June 2014

Mine visits (optional)

The conference will be concluded by two mine visits on Monday 30 June 2014 (one visit to be chosen from the list) - a deep gold mine and an underground coal mine.
Departure time: 05:30 at the entrance to the hotel.

Partners' programme

Thursday 26 June 2014

13:00–18:00 **SOMP accompanying partner registrations**

18:00 **Welcome cocktail function**
Dress code: smart casual

Friday 27 June 2014

09:00–12:30	**Cullinan Mine: diamond visit and shopping** **Dress code: casual**
12:30–13:30	**Lunch break at Cullinan town**
13:30–16:00	**Departure for Apartheid Museum (Maslow hotel foyer)** **Apartheid Museum—short tour** **Teatime at Museum**
16:00	**Departure back to hotel**
	Free time
17:45	**Buses leave for evening event** **Welcome—Cultural evening event** **Dress code: casual, African theme**

Saturday 28 June 2014

08:00	**Early departure for Lion and Rhino Park**
09:00–11:30	**Lion and Rhino Park**
11:30–13:00	**Departure to Hartbeespoort Dam**
13:00–14:00	**Arrival and lunchbreak at Hartebeespoort Dam**
14:00–16:00	**Curio shopping** **Tea garden visits** **Dress code: casual**
16:00	**Departure back to hotel and free time**
19:30 for 20:00	**Gala dinner and ceremonies—Maslow hotel** **Dress code: jacket and tie, ladies: smart casual**

Sunday 29 June 2014

08:00–12:00	**Partners' free morning**
12:00–13:00	**Travel to Pretoria from hotel. Join partners for lunch (Maslow hotel foyer)**
13:00–14:00	**Joint lunch**
14:00–15:00	**Joint Tukkies campus tour**
15:00	**Departure from Tukkies and Pretoria sight-seeing (Union Building, Voortrekker Monument)** **Dress code: casual**
	Free evening

General information

Banking / credit cards / foreign exchange

In all major centres in South Africa. Major credit cards are generally accepted throughout South Africa.

American Express Tel: +27 11 359 0200,
Diners Club Tel: +27 11 358 8400,
Master Card and Visa Card Tel: +27 11 498 4699.

The following banks offer foreign exchange services: ABSA, First National, Nedbank and Standard. Banks and ATM machines are found in every city and in most towns. Several international banks have branches in the main cities. Most commercial banks are open from 09:00 to 15:30 on weekdays and 08:30 to 11:00 on Saturdays.

Car rentals

Avis Rent a Car—Central Reservations
Tel. (Intl): +27 11 923 3500, Fax (Intl): +27 11 923 3683, Toll-free: 08 000 21111

Budget Rent a Car—Central Reservations
Tel. (Intl): +27 11 392 3929, Fax (Intl): +27 11 392 3900, Toll-free: 08 600 16622

Europcar Interrent—Central Reservations
Tel. (Intl): +27 11 396 9000, Fax (Intl): +27 11 396 1406, Toll-free: 08 000 11344

Imperial Car Rental—Central Reservations
Tel. (Intl): +27 11 453 0005, Fax (Intl): +27 11 453 6278, Toll-free: 08 610 13100
As a rule, hired cars may not be driven across the border to other African countries.

Climate

Winter in South Africa (May to July) is characterised as dry, with crisp sunny days and cold nights, sometimes with heavy frost. Temperatures may vary from as low as 4°C to a high of 17°C.

Currency

One rand (R) = 100 cents (c); Notes: R200; R100; R50; R20; R10
Coins: R5; R2; R1; 50c; 20c; 10c
You are permitted to take R500 in SA rand notes out of the country; a levy is charged on the additional amounts.

Electricity supply

The electricity supplied in South Africa is 220 to 240 V (50 Hz)—3 x round pin 15 amp plug. Hotels usually provide dual voltage 2-pin razor sockets (100–120 V and 220–240 V).

Flight information

International flight times are available from the Airports Company of South Africa under Flight Info. Tel: +27 (011) 921 6262 or Fax: +27 (011) 921 6385. Website: http://www.airports.co.za

Language

The language of the conference will be English.

Other accommodation

A National Accommodation Guide, available from SATour head office and most tourism associations, has been compiled in accordance with SATour's National Grading and Classification Scheme. The guide contains details of accredited guest and country houses, bed and breakfast accommodation, star-graded hotels, serviced self-catering accommodation, and private game lodges. In addition to the star grading allocation (one to five stars), exceptional services, hospitality, and other intangible benefits are awarded a bronze or silver classification. Tariffs range from as little as R120.00 to as much as R2 000.00 per person per day.

See also: http://www.wheretostay.co.za; http://www.sa-venues.com

Speed limits

Freeways—120 km/h, urban roads—60 km/h. Drivers and all passengers must wear seatbelts. Drivers must carry their drivers' licences at all times.

Standard time

Also known as Central African Time (CAT). There is no daylight saving in South Africa. Sunrise in October is 05:40 local time and sunset is at 18:15.
CAT = GMT + 2 hours, or CET + 1 hour, or EST + 7 hours.

Tipping

According to service, but as a guideline: restaurants and taxi drivers = 10%, porters = R5.00 per piece of luggage.

VAT

The present rate of VAT (value added tax) is 14%, which is included in the cost of most items. On their departure, overseas delegates can claim back the VAT paid on some purchases taken out of the country. You will be required to produce a VAT invoice for those items where VAT is to be claimed back, at the airport of departure.

Waiver of liability

The conference organisers have taken all reasonable care in making the arrangements for the conference and technical visits. The organisers do not accept liability for any loss or injury sustained, or for unforeseen changes to the programme. The Organising Committee reserves the right to cancel any tour or visit due to insufficient interest.

After SOMP vacation (not part of SOMP registration)

Please contact Chantelle du Preez (Travel with Flair) to arrange private holiday packages.
Email: chantelledp@twf.co.za
Tel: +27 12 436 9000.