



32ND SOMP

ANNUAL MEETING AND CONFERENCE

NAMIBIA UNIVERSITY OF SCIENCE AND TECHNOLOGY

8-11 SEPTEMBER 2022 TOURS AND TECHNICAL VISITS 12-14 SEPTEMBER 2022 CONFERENCE



NAMIBIA UNIVERSITY
OF SCIENCE AND TECHNOLOGY



SAIMM
THE SOUTHERN AFRICAN INSTITUTE
OF MINING AND METALLURGY

Final Programme

Wednesday, 7 September 2022

Delegates arrive in Windhoek
Check-in

Thursday, 8 September 2022

10:00–13:00 Drive to Otjiwarongo from Windhoek
13:00–13:30 COVID 19 Tests and security checks
13:30–14:30 Lunch
14:30–17:30 Time at Leisure
17:30 Game Drive Starts
19:00 Dinner

Friday, 9 September 2022

B2 Gold Mine Visit

07:00–08:00 Breakfast
08:00–10:00 Mine Tour
10:00–10:30 Refreshments
11:00–13:00 Crocodile Ranch
13:30–16:30 Drive back to Windhoek

Saturday, 10 September 2022—Windhoek Hotel and Casino Resort

10:00–12:00 Ministry of Mines and Energy Museum Tour
16:00–18:00 Early Registrations

Sunday 11 September 2022

NUST Windhoek Tour + Council Meeting

08:30–10:30 Windhoek Tour
10:30–11:30 NUST Tour
11:30–14:30 Council Meeting
14:30–15:00 Coffee Break
15:00–17:00 Committee meetings
17:00–18:00 SOMP Registrations
18:00–20:00 Welcome Cocktail Function
NUST Hotel School (Dress code: Smart casual)

Monday, 12 September 2022 – Conference Day 1

07:00–08:00 Tea/Coffee/SOMP Registrations
Session Chair: Dr Anna Matros-Goreses, Namibia University of Science and Technology, Namibia
08:00–08:10 Welcome Address
Z. Botha, SAIMM President
08:10–08:20 Cultural Dances
08:20–08:40 Official Welcome, Dr Eroid Naomab, Vice-Chancellor NUST
08:40–09:10 Overview Namibia mining
V. Malango, CEO Chamber of Mines Namibia

09:10–09:40 Industry Keynote
M. Dawe, Managing Director B2Gold Otjikoto Mine
09:40–10:10 Guest Keynote
N. Plint, Sustainable Minerals Institute Director, Australia
10:10–10:20 Remarks
Professor Harmony Musiyarira, SOMP President 2021/2022
10:20–10:40 Coffee and Snacks Break
10:40–12:10 Session 1: SOMP Business meeting
Session Chair: Professor Vladislav Kecojecic, SOMP Secretary General
12:10–12:30 Cultural Activity (Dance)
12:30–13:00 Official Opening
Minister of Mines and Energy
13:00–14:00 Network Lunch
14:00–16:00 Session 2: Education
Session Chair: Associate Professor Rudrajit Mitra, South Dakota Mines, USA
14:00–14:20 Keynote Address: Importance of the capstone mine design and planning project in addressing graduate attributes for accreditation of mining engineering programmes in South Africa
C. Musingwini, The University of the Witwatersrand, South Africa
14:20–14:40 Teaching sustainability in artisanal and small-scale gold mining
J.I. Tobón and O.J. Restrepo-Baena, Universidad Nacional de Colombia, Colombia
14:40–15:00 Educating world-class engineers for the development of Mongolia
T. Hollenberg¹, B. Baatar¹, and F. Wullkopf², ¹German-Mongolian Institute for Resources and Technology, Mongolia and ²Deutsche Gesellschaft für Internationale Zusammenarbeit, Germany
15:00–15:20 I+MC: Development and implementation of a modern mine closure course
A. Hutwalker, A. Binder, and O. Langefeld, Clausthal University of Technology, Germany
15:20–15:40 Implementing the online teaching in universities during the COVID-19 pandemic: Experience and lessons from China
L. Liu, H. Li, Z. Sun, and Z. Jiang, Chongqing University, China
15:40–16:00 Introducing mining engineering to first-year students: The benefits of a digital uplift
G. Bournival and S. Ata, University of New South Wales, Australia
16:00–16:20 Coffee Break
16:20–16:40 Potential contribution of mining universities to improve the 'social license to operate'
C. Dauber, P. Goerke-Mallet, and A. Daniels, TH Georg Agricola University, Germany



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- 16:40–17:00 **Perception of climate change risk in Zambian mining industry: A case study**
S. Mulenga and B. Besa, *University of Zambia, Zambia*
- 17:20–17:20 **Optimizing the production schedule for transition mines**
A. Anani¹, I.O. Flores², and H. Li³, ¹*University of Arizona*, ²*Pontificia Universidad Catolica de Chile, Chile* and ³*University of Missouri-St, USA*
- 17:20–17:40 **Multidisciplinary group project based courses in mining engineering programme**
B. Li, C. Zhang, and S. Saydam, *The University of New South Wales, Australia*
- 17:40–17:50 **Delegates photo**
- 17:50–18:30 **Free time**
- 18:30 **Buses leave for evening event**
Welcome—Cultural evening event
Dress code: Casual, Africa theme

Tuesday, 13 September 2022 – Conference Day 2

- 07:00–08:00 **Tea/Coffee/Hotel**
- 08:00–10:45 **Session 3: Education**
Session Chair: Associate Professor Rudrajit Mitra, South Dakota Mines, USA
- 08:00–08:20 **Underground mine safety: An integrated approach for the course and personnel development**
A. Binder, A. Hutwalker, O. Langefeld, J. Bauermeister, M. Bothe-Fiekert, and S. Nowosad, *Clausthal University of Technology, Germany*
- 08:20–08:40 **Future mining education using immersive visualization technologies**
C. Zhang, S. Saydam, and I. Canbulat, *University of New South Wales, Australia*
- 08:40–09:00 **Developing a framework for blended teaching and learning to enhance student's performance**
P. Twala, K. Chabedi, and M. Nong, *University of the Witwatersrand, South Africa*
- 09:00–09:20 **Developing competitive and soft skills in mining engineering students: Mining games and mining competitions**
C. Gómez and D. Javier, *University of Huelva, Spain*
- 09:20–09:55 **Discussion: Curriculum Review**
- 09:20–09:55 **Curriculum review – My experience**
S. Raval, *University of New South Wales, Australia*
- 09:55–10:25 **Tim Shaw Award Presentation – George Barakas**
- 10:25–10:45 **Coffee and Snacks Break**
- 10:45–13:10 **Session 4: Members Development**
Session Chairs: Associate Professors: Emily Sarver, Virginia Tech, USA and Andrea Brickey, South Dakota School of Mines and Technology, USA

- 10:45–10:50 **Welcome and Committee Introductions**
- 10:50–10:55 **Supporting Women in Mining**
- 10:55–11:30 **Panel Discussion**
- 11:30–12:10 **World Cafe Format - Group Discussion**
MDC Members

Emerging Trends in Curricula

- 12:10–12:25 **Alignment of tertiary curricula and needs of future mines – A case study of the world's top mining engineering schools**
T. Tholana and P.N. Neingo, *University of the Witwatersrand, South Africa*
- 12:25–12:40 **The expansion of mineral education in Southern Africa – An update**
G. Dzinomwa¹, P. Shava¹, H. Musiyarira¹, and R.S. Suglo, ¹*Namibia University of Science and Technology, Namibia* and ²*Botswana International University of Science and Technology, Botswana*
- 12:40–13:10 **World Cafe Format - Group Discussion**
MDC Members
- 13:10–14:10 **Lunch**
- 14:10–14:20 **Three Key themes for the future of mining programmes**
- 14:20–14:40 **Presentation on survey results**
- 14:40–15:10 **Group Discussion - Status updates**
- 15:10–15:40 **Group Discussion - Barriers and opportunities**
- 15:40–16:10 **Summary of Discussions**
MDC Members
- 16:10–16:25 **Coffee Break**
- 16:25–17:15 **Poster Session: 5-Minute presentation for authors to introduce poster**
Session Chair: Professor Godfrey Dzinomwa, Namibia University of Science and Technology, Namibia
- 16:25–16:30 **Influence of controllable factors affecting pre-split quality at Navachab Gold Mine**
S.L. Iyambo, A.P. Shivute, and J.M. Akande, *University of Namibia, Namibia*
- 16:30–16:35 **A comparison of discounted cash flow and Monte Carlo discounted cash flow valuation techniques on a gold mining project**
A.P. Shivute¹ and T. Tholana², ¹*University of Namibia, Namibia* and ²*University of the Witwatersrand, South Africa*
- 16:35–16:40 **Compressive strength and controllable blasting parameters analysis for predicting muck-pile size and heave height at Husab Uranium Mine**
A.P. Shivute¹ and B. Adebayo^{1,2}, ¹*University of Namibia, Namibia* and ²*Federal University of Technology, Akure*



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- 16:40–16:45 **The role of the pulp-froth/ water-air interface on particle detachment in froth flotation**
C. Chipili and C. Bhondayi, *University of South Africa, South Africa*
- 16:45–16:50 **Knisselwoods: Our media lab**
A. Binder, A. Hutwalker, and O. Langefeld, *Clausthal University of Technology, Germany*
- 16:50–16:55 **Phytomining pollution at the Tsumeb smelter with the desert tamarisk tree, *Tamarix usneoides***
I.M. Weiersbye¹, I. Iiyambo², V. Kvandjima², C. Sililo^{1,2}, and B.L. Dawson¹, *University of the Witwatersrand, South Africa and ²Dundee Precious Metals, Namibia*
- 16:55–19:00 **Time at leisure**
- 19:30 **Awards Dinner**
Dress code: Formal/traditional

Wednesday, 14 September 2022 – Conference Day 3

- 07:30–08:00 **Tea/Coffee/Hotel**
- 08:00–10:00 **Session 6: Research and Development and Industry**
Session Chair: Professor Kwame Awuah-Offei, *Missouri University of Science and Technology, USA*
- 08:00–08:20 **Update on our work on the publication practices**
- 08:20–08:40 **Raw materials for the energy transition in view of the Russia-Ukraine war**
W. Frenz, *RWTH Aachen University, Germany*
- 08:40–09:00 **A generic central information environment framework for mining operations - a plausible alternative**
N.S. Mageza, A.S. Nhleko, and P.J.K. Leeuw, *University of the Witwatersrand, South Africa*
- 09:00–09:20 **Development of an automated roof bolting machine for underground coal mines**
S. Schafrik, P. Kolapo, and Z. Agioutantis, *University of Kentucky, USA*
- 09:20–09:40 **The ultimate need for copper mining**
L. Rattmann, *TH Georg Agricola University, Germany*
- 09:40–10:10 **Coffee and Snacks Break**
- 10:10–10:30 **Session 7: IT Committee**
Session Chair: Professor Zach Agioutantis, *University of Kentucky, USA*
- 10:10–10:30 **Overview of the IT Committee**
Z. Agioutantis, *University of Kentucky, USA*

- 10:30 – 12:30 **Session 8: Capacity Building Committee**
Session Chair: Professor Domingo Javier Carvajal Gomez, *University of Huelva, Spain*
- 10:30–11:30 **Senior SOMP Members (Their Journey)**
- 11:30–11:50 **Humanitarian engineering Colombia: An initiative for engineering students from historically underserved communities**
J.C. Lucena², J. Fernando Pacheco², and O.J. Restrepo- Baena³, *¹Colorado School of Mines, USA, ²Uniminuto Bogotá, Colombia and ³Universidad Nacional de Colombia, Columbia*
- 11:50–12:10 **Teaching and learning collaboration**
M. Hitch, *Western Australia School of Mines; Minerals, Energy and Chemical Engineering, Faculty of Science and Engineering*
- 12:10–12:30 **Future Regional Meetings**
- 12:30–13:10 **Session 9: A Focus on Post Mining**
Session Chair: Professor Benjamin Mapani, *Namibia University of Science and Technology, Namibia*
- 12:30–12:50 **Monitoring of land surface movements in a seismically active post-mining area during mine closure - A case study**
V. Sokola-Szewiota¹ and Z. Siejka², *¹Silesian University of Technology, and ²University of Agriculture in Krakow, Poland*
- 12:50–13:10 **Post-mining for a better future: The development of the research center for post-mining at the TH Georg Agricola University**
J. Kretschmann, P. Goerke-Mallet, C. Dauber, and M. Hegemann, *TH Georg Agricola University, Germany*
- 13:10–13:50 **Session 10: Closing Ceremony (Cultural Activity)**
Session Chair: Professor Harmony Musiyarira, *Namibia University of Science and Technology, Namibia*
- 13:20–13:30 **Handover of SOMP Flag: Outgoing President**
- 13:30–13:50 **New SOMP President Address**
- Conference Close**
- 13:50–14:30 **Lunch**