

ROCKtalk

A QUARTERLY NEWSLETTER WITH THE LATEST BUZZ AMOUNGST ROCK ENGINEERS

VOLUME 3, ISSUE 3

AUGUST 2017

A GLOBAL
PRESENCE
FOR GROUND
SUPPORT
SOLUTIONS IN
SOUTHERN
AFRICA

ROCBOLT
TECHNOLOGIES

President's Corner



Asking for Help?

I recently completed my third 4th Musketeer, Extreme Character Challenge in the Drakensberg with a bunch of great men. During those 72 hours, more than 220 men were challenged to bridge the 250mm gap between their hearts and their heads. What I took out of this round is different than from the previous two, and that is that every face has a pool of tears, and that every man (and woman) has a story that makes them unique, if we just take time to engage. The larger population grew up believing that personal problems are to be sorted out privately and men in general are ashamed to ask for assistance. "I'm the man, I don't need help! I have this sorted!" We believe that asking for assistance show signs of weakness, allowing others to step on and walk over us.

In fact, the contrary is true. Acknowledging that you need help puts you in the space where you realise it is not just you in the world. That place where you can put aside your selfish drive to make it to the top, no matter what. That place where your "knowledge" gained will be for the better of this world.

Help is just a call away, and somewhere, someone has somehow overcome the same problem in the past.

I realise that in industry we sometimes find ourselves at the exact same crossroads of needing help but fearing our pride. We are fast in having "bad" case studies go public, but we do not come to the front with "good" stories. If successes are also more broadly shared, your learning experience could help others who face the "same bad ground conditions" and more than often, prevent future tears.

As the President of the 2017–2019 SANIRE council, I would like to extend a warm invitation to the "senior" members to raise their hands and commit to imparting their experience to the willing, younger generation. This invitation then, also reading it from the other side, encourages "junior" members to seek help from their peers and seniors in areas of uncertainty.

I would like to believe we can make the Rock Engineering industry go from GOOD to GREAT by being a community where we look out for each other, regardless our race, gender, age, home language and even the commodities we mine.

I'm looking forward in serving you as President in the next term. Till next time, God bless.

Jannie Maritz



Good day ISRM Members,

On behalf of the South African Institute of Rock Engineering (SANIRE), we would like to invite you to attend AfriRock 2017, hosted in Cape Town, South Africa. The event will commence on the 30th September 2017 and conclude on the 6th October 2017.

SANIRE has also arranged, in conjunction with the Southern African Institute and Metallurgy (SAIMM), other short courses and tours in order to showcase South Africa and its Mining History. A brief description of the events is included below:

AfriRock 2017

Welcome to our mother city, Cape Town, where the Southern African Institute of Mining and Metallurgy (SAIMM) and the South African National Institute of Rock Engineering (SANIRE) are proud to host the 2017 ISRM AfriRock International Symposium "AfriRock 2017" at the Cape Town International Convention Centre (CTICC).

South Africa is a world in one country. From the floral city of Cape Town, where the symposium will be hosted, to the South Coast Garden Route, to the mountains of the Drakensberg and the bushlands of the Kruger. Each province promises unique bird and wildlife, stunning vistas and a multitude of fascinating locations of both natural beauty and historical significance. Cape Town is considered one of the top 10 worldwide destinations to visit: highlights include the breath-taking views from the top of Table Mountain, boat trips and tours of Robben Island, walking and shopping in the City Bowl and the Waterfront, and enjoying the Kirstenbosch Botanical Gardens and the Cape Winelands, producers of internationally renowned wine and port. South Africa is the land from which the legends of gold and diamonds were born.

There is an exciting selection of courses and activities to enjoy – before, during and after the symposium. Take this opportunity to see the depth and breadth of South Africa at its finest.

ISRM Meetings

The ISRM Commission and Council meetings will take place on the 2nd of October at the CTICC, and the ISRM Board Meetings will be on the 30th September and 1st October. The ISRM Advisory forum will meet on the evening of the 3rd October.

AfriRock 2017 Symposium

The symposium will be held between the 3rd and 5th October. More than 130 papers have been received and are currently being reviewed and refereed. The papers cover a broad range of rock engineering topics which include: fracture, damage and deformation of rock; numerical modelling and constitutive models; ground consolidation and subsidence; specialised blasting techniques; rock testing methods; instrumentation and monitoring; rock mechanics in underground mines; caving mechanics; petroleum rock mechanics; slope stability; ground support; design of tunnels and caverns; risk in rock engineering design; mechanics of fracking; crustal stress and earthquakes; mine seismicity and rockbursts;

radioactive waste disposal; and underground nuclear plants. The conference is of value to rock engineering practitioners, researchers, academics, mining engineers, engineering geologists, civil engineers and petroleum engineers.

Keynote lectures will be presented by Dick Stacey, Nick Barton, Luís Lamas, Paul Buddery and Sergio Fontoura.

Functions

A networking function will be held on the evening of the 2nd October at the CTICC, which will serve as an ice breaker. You will be able to sample local wine and craft beer. The conference dinner will take place at the Castle of Good Hope in Cape Town on the evening of the 4th of October. At the dinner, the ISRM fellows will be inducted and an award will be made to the best performing National Group.

Accompanying persons programme

Tours include Cape Town City, Table Mountain, the Noon Gun, Cape Point, Chapman's Peak, the Penguin Colony at Boulders Beach, a Seal Island Cruise, the Kirstenbosch Botanical Gardens and tours of the Cape Winelands.

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Institute of Mine Seismology Mini-Seminar – 2nd October 2017

The Institute of Mine Seismology (IMS) is the leading provider of microseismic monitoring technology to mines worldwide. IMS is an independent private research organization focused on developing methodologies, technologies and services for monitoring and modelling the seismic rock mass response to mining.

Since its inception in 1990, IMS has held an annual Mine Seismology Seminar at its locations around the globe. After the successful 27th annual IMS Seminar in Sudbury earlier this year, IMS will host a Mini-Seminar on Microseismic Monitoring in Mines in Stellenbosch. The event complements the AfriRock 2017 programme: it is an opportunity for regional and international users, practitioners and researchers to meet and discuss the latest seismological analysis techniques and technology in mining.

The IMS Mini-Seminar takes place on 2nd October, while the AfriRock 2017 technical sessions take place 3rd – 5th October. Transport to and from the Cape Town International Convention Centre to the IMS Mini-Seminar in Stellenbosch can be arranged.

Further information, including costs, technical programme and registration details, are available at

http://www.imseismology.org/seminars_2017

RockBowl AfriRock 2017

The RockBowl competition is based on a drive by the International Society for Rock Mechanics (ISRM) to increase Young Membership and grow interest amongst Young Rock Mechanics. The first international competition was hosted in Montreal, Canada in 2015, where South Africa had a team participating. Since this experience, SANIRE has continued to run a local competition, in 2016 and 2017. This has become an annual event and will continue into the future as part of SANIRE's new vision.

RockBowl is a quiz show where different teams compete against each other in a qualifying round. The questions are a multiple choice format and are presented to both teams at the same time via a protector. The teams then have 30 seconds to answer the question. The question and answers can be discussed amongst the team players; however, they cannot accept any assistance from any external parties. This round then ranks the teams according to the number of correct answers which they have given and allows the judges to then match the teams in a highest versus lowest ranking structure. The second game is played in a knockout format, with the winners progressing to the final.

The winners of the final will be crowned the AfriRock 2017 Champions and the Champions of Africa.

Technical Tours

Presidential Tour 2017 – 25th September 2017 to 29th September 2017

The South African National Institute for Rock Engineering (SANIRE) is hosting its first Presidential Tour in 2017. The Presidential tour is a week-long tour that all ISRM members can attend. The tour starts at a central point in South Africa, depending on the planned route and ends at a predetermined location. The Presidential Tour is a tour based on showcasing different mining methods, locations and commodities to SANIRE members across South Africa. The purpose of the tour is to expose the SANIRE members to mining across South Africa and encourage intern growth within the membership. The Presidential Tour is open to all members, including International Society for Rock Mechanics (ISRM) members.

Chapmans Peak – 6th October 2017

The Chapmans Peak Tour is an excellent opportunity to see rockfall protection strategies. The tour also visits various local attractions and the fantastic geology of Cape Point. The tour takes place on the 6th October.

TauTona Mine – 6th October 2017

Visit the deepest gold mine in the world during the TauTona and Mponeng Deep Level Gold Mine Tour in Carletonville on the 6th October.

Palabora Mine – 6th and 7th October 2017

The Palabora Mine and the Kruger National Park Tour takes place on the 6th and 7th October and includes a visit to the world-class block caving mining operation at Palabora and to the Kruger National Park, home to the Big 5 and the spectacular flora and fauna of the Bushveld.

Palabora Mine



Tau Tona – Deepest Gold Mine in the World



Information

ISRM registration fees for the symposium are ZAR8 999 before the 1st August. To book your place for the symposium, tours and other activities please visit

<http://www.saimm.co.za/saimm-events/upcoming-events/afrirock-2017>

For more information please contact the following persons with regard to queries:

Enquiries – Camielah Jardine – camielah@saimm.co.za

AfriRock 2017 – William Joughin – wjoughin@srk.co.za

Presidential Tour 2017/ RockBowl – Paul Couto – paul.couto@harmony.co.za/ paul.couto@gmail.com

ISRM NEWS

Recent developments:

The European Rock Mechanics Symposium - Eurock 2018 was held in Saint-Petersburg, Russia, from 22-26 May

A new ISRM Suggested Method for Determining Stress–Strain Curves for Rocks under True Triaxial Compression has been approved.

Online lectures:

Two ISRM Online Lectures are available for viewing or downloading on the ISRM website (www.isrm.net):

17th Online lecture: Prof Charles Fairhurst: Why Rock Mechanics and Rock Engineering?

18th Online lecture: Prof Marc Panet: The deformations in the vicinity of the face of a deep tunnel.

ISRM Conferences:

The following ISRM Conferences are scheduled:

Event title	Start date	End date	Country	City
AfriRock 2017 – 2017 ISRM International Symposium	2017-10-02	2017-10-07	South Africa	Cape Town
3rd Nordic Rock Mechanics Symposium - NRMS 2017	2017-10-11	2017-10-12	Finland	Helsinki
Shaoxing International Forum on Rock Mechanics and Engineering Geology - an ISRM Specialised Conference	2017-10-27	2017-10-28	China	Shaoxing
1st International Conference on Advances in Rock Mechanics	2018-03-29	2018-03-31	Tunisia	Hammamet
EUROCK 2018 - the ISRM European Rock Mechanics Symposium	2018-05-22	2018-05-26	Russia	Saint Petersburg
RockDyn-3 - 3rd International Conference on Rock Dynamics and Applications - an ISRM Specialised	2018-06-26	2018-06-27	Norway	Trondheim
ARMS10 - the ISRM 10th Asian Rock Mechanics Symposium	2018-10-29	2018-11-03	Singapore	Singapore
ISRM 14th International Congress on Rock Mechanics	2019-09-20	2019-09-27	Brazil	Foz do Iguaçu

PERSONALITY OF THE QUARTER



Full Name: William John Liebenberg

Position: Rock Engineering Manager

Company / Organisations: Buffelsfontein Gold Mine – Impala – Lonmin

Date and Place of Birth: 1961 – Klerksdorp

Education: Mine Overseer Certificate COM Rock Mechanics Certificate

First Job: Sold newspapers when still at school. Shift Supervisor at Buffelsfontein Gold Mine, after which I joined the Rock Engineering fraternity.

Philosophy of Life: Make every day in your life a fascinating day. Be positive and create your own enjoyment daily. Never let life be boring. Make things happen, do not wait for something to happen.

Favourite Food/Drink: Skaap tjops with krummelpap and milk

Favourite Sport: Golf, MotoGP, Golf, and sometimes Golf

How did your career in the mining industry begin and where are you now?

Started as a Learner Official, appointed as production Shift Supervisor, from where the last portion in my production career was as Mine Overseer (act). Joined Rock Engineering in 1988 at Buffelsfontein Gold Mine.

Why did you choose Rock Engineering?

The Section where we had been mining is seismically active, due to faulting and the presence of a major dyke structure. We have negotiated these structures without any accidents or fatalities. During a Rock Mechanics' visit, I was approached by Gary Williams to join the Rock Engineering fraternity and have never looked back.

Please tell us a bit more about your career journey?

Shift Supervisor production call was 3500m per month, which we achieved, month after month. Joined the Mine Rescue Team where I spent 10 years, the last year of which I served as Proto Captain. Conducted numerous rescues and firefighting operations at various Mines. Kloof Gold Mine, where the pipes collapsed in the shaft and people were trapped at the bottom for a week was one of the many highlights during my Proto career where we were able to assist with rescue operations. I joined Rock Engineering in 1988, when Roger More O'Ferrall, Ben Kotze, and the late Martin Pretorius were our mentors. Erki McKinnion and late Paul van der Heever were our Managers during my years at Buffelsfontein gold Mine. One day returning from an underground trip, we were all surprised when we received our first computer for the Department. Needless to say, 5 persons had to share the one and only computer. After Buffelsfontein, I spent 3 years at Impala Platinum, from where I joined Lonmin in 1998. At Lonmin, I had the opportunity to practise what I had studied in various different projects, such as:

Shaft Sinking – fortunate to be able to start with the project and end with the project, over a period of 4 years

Opencast Mining – the first Opencast conducted at Lonmin was in my area of responsibility and I spent 4 years at the opencast

Decline Shaft Design – Both the design and development phases of the declines, up to completion and handover to Mining, formed part of the day-to-day tasks.

Surface Ventilation Shafts – Raise boring

Vertical Shaft Extension – Deepening of a working Shaft for additional 2 levels where numerous risks had to be negotiated during this period.

What are some areas that you believe will become of increasing importance in the near future of the rock engineering discipline?

Mining: I strongly believe that every Production Shift Supervisor must obtain his Strata Control Certificate before practising in the mining environment. This will result in having a qualified person on site after every blast to negotiate basic strata control and rock-related matters. This will also assist Mining Personnel in understanding what Actions and Consequences that will follow when not mining according to sound Rock Mechanic principles.

Monitoring: We have to advance in the field of monitoring proactively to prevent potential falls of ground. If NASA can communicate to Curiosity on Mars, surely we can advance our "rock fall detection systems".

Rock Engineers:

What advice would you offer people aspiring to be in your position?

Study, read, and participate in mining-related matters. Do not shy away from "extra work". Strive to always be pro-active in the field of mining and Rock Engineering. Participate in projects, and if not, create your own projects and make sure you see it through. It is morally correct to call for second opinions or external advice, but before you go that route, make sure you have combated the problems yourself and have tried all possible avenues in solving them.

Who is your role model / mentor?

My Dad is my role model. He taught me to never give up.

What is the best advice you have ever been given?

Never sit and do nothing, all ways keep yourself busy.

Presidential Tour 2017

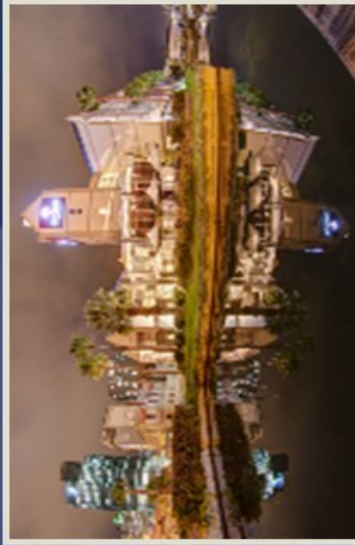
Johannesburg to Cape Town
25th September – 30th September 2017



SANIRE
SOUTH AFRICAN NATIONAL INSTITUTE
OF ROCK ENGINEERING

**Only 36 spots!!
Book now!!!**

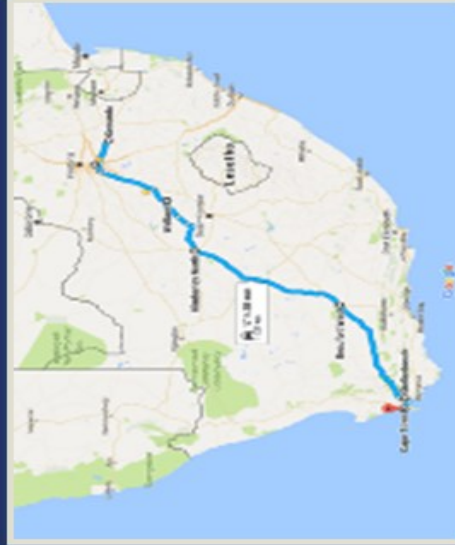
#SANIREPRESIDENTSTOUR2017



What is the Presidential tour?

The purpose of the Presidential tour is to expose the members of SANIRE to new and different working environments within the Rock Engineering / Geological field.

Our Route



Paul.coutopm@gmail.com / 083 391 9243
Paul.couto@harmony.co.za



Monday – 25th September 2017

Birchwood – Arrival 17:00
– Tour briefing 18:00–18:30
– Dinner 19:00
Birchwood – Breakfast 06:00–07:00
– Depart to Sasol Coal 07:00

Tuesday – 26th September 2017

Sasol Coal – We will visit their mock up underground stope and training center which has just been completed.

Depart for Welkom: 13:00 – We will have a KeBenJa Brewery Tour before dinner starting at 16:30



Paul.coutopm@gmail.com / 083 391 9243
Paul.couto@harmony.co.za

Presidential Tour 2017

Tuesday – 26th September 2017

Welkom Inn Hotel – Check in - 18:00
Dinner - Sietas Restaurant - 19:00



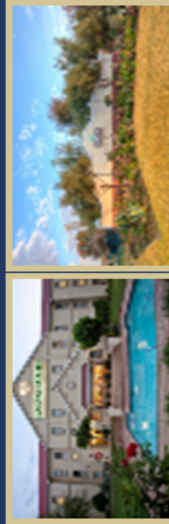
Wednesday – 27th September 2017

Welkom Inn Hotel – Breakfast - 06:00 - 07:00

Depart to Bambanani: 07:00 – 07:30
Shaft Pillar Extraction.
Underground visit.

Depart to Kimberley: 14:00 - Check in at the
Road Lodge Kimberley.

Dinner – 18:00 – Flamingo Casino



Paul.coutopm@gmail.com / 083 391 9243
Paul.couto@harmony.co.za

Thursday – 28th September 2017

Road Lodge Kimberley – Breakfast: 07:00 –
08:30



Big Hole Museum Kimberley: Arrival at 09:00
Tour will start at 09:00-10:00 (±1 hour).
Lunch 11:00 – 12:00 Café at museum.

11:00 - Depart to Beaufort West – Check in at
the Wagon Wheel – 17:30

Dinner – 18:00
Breakfast - 06:00 – 07:00



Paul.coutopm@gmail.com / 083 391 9243
Paul.couto@harmony.co.za

Friday – 29th September 2017

07:00 - Depart to Zevenwagt Wine Farm and
Tin Mine.

Arrival – 12:00

Wine Tasting/Snacks – 12:00 - 15:00

SANIRE Presidential Late Lunch / Early Dinner
– 15:00



18:00 - Depart for W & A Waterfront Cape
Town - for final night stay. City Lodge Hotel
W & A Waterfront



Paul.coutopm@gmail.com / 083 391 9243
Paul.couto@harmony.co.za

SANIRE BIRTHDAYS

August to October

K Drescher	I B Paton	L van Aswegen
L M Linzer	J.S. Mpofu	J P E Hamman
K Naidoo	E.M Makhubu	J van Oort
M K Mosehla	E Mathonsi	G L Hungwe
K Yathavan	MP De Moliner	JS van Buuren
P J Wessels	P Mulenga	S Poczik
C L Cronje	J N Poggenpoel	WM Bester
D Rakometsi	K Mohlala	J Chinyadza
SFC van der Wath	E Munsamy	GJ Keyter
M G Magwaza	I Kalayamotho	FP Mosiane
T Ntsenyana	S Surujpal	O T Tsetsewa
C Muirhead	HM Mosotho	J N Ekkerd
M D Riley	MC van Eeden	G J van Hout
G MacNab	L. Gryffenberg	M Mahlangu
CA Swart	HG Malesa	A Cooper
P Bezuidenhout	TW Chinogureyi	O M Barei
D Nyungu	B Khosa	A G Gregory
M W Pretorius	R Saltanat Pouri	O Pillay
Ms L Kawali	LM Madiba	DAW Lamprecht
Ms Z P Sithole	J J Laas	GD Cox
Ms S J Etchells	KD Balt	L Cilliers
S Smith	AR Leach	D E Scholtz
ML Shongwe	N V Manganye	JW Klokow
N Harijhan	S Khan	Prof T R Stacey
O S Masinge	JD Bosman	G van Aswegen
G J King	WC Joughin	C Selai
C J Brink	BP Watson	Y Arunachellan
T D Mangali	RA Lamos	M Mojaelo
GMHN Jansen van Vuuren	K L Riemeer	D G Mhlanga
D Truter	K R Brentley	RH Kemp
B A Hales	L E Dietrich	D Avutia
T Q Selete	G Priest	F Essrich
O F Mmutlane	T Rangasamy	R Carstens
HN Makhubele	JE Keen	M J Dunn
J.J. Matthysen	DP Venter	GdT Judeel
Petrus Spies	FA Koen	G More O'Ferrall
		J M Jansen van Vuuren

ADVERTISING

The **SANIRE** Committee has decided to increase the advertising opportunities for suppliers who would like to market there business and products in the Rock Talk.

The table below indicates the prices for different size advertisements as well as bookings for the future.

Please contact **Alida Hartzenberg** for more details

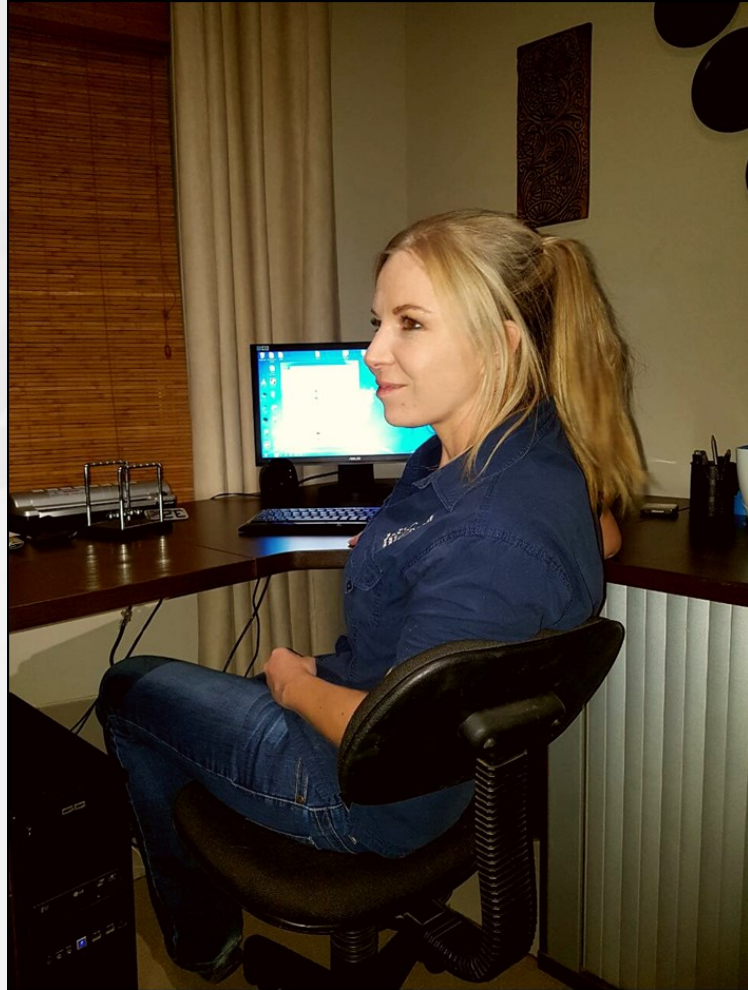
Alida.hartzenberg@lonmin.com

Type of advert	Rates (Excl. VAT) Solus, Casual	Availability per newsletter	Select Publication Issue (Mark with x)	
			October 2017	January 2018
Square (Not front page)	R 1 000	4		
Skyscraper (Front page)	R 4 000	1	Booked	Booked
Full page (Middle)	R 8 000	2	Booked	Booked

New Members May 2017—July 2017

No.	TITLE	NAME	SURNAME	GRADED AS	ISSUED NO.
		MEMBERS			
1	Mr	Edward	Blankson	Member	M282
		ASSOCIATE MEMBERS			
1	Ms	Nkiyase	Mthembi	Associate Member	A636
2	Ms	Melody	Mabunda	Associate Member	A637
3	Mr	Oscar	Dagume	Associate Member	A638
4	Mr	Timothy	Hudson	Associate Member	A639
5	Ms	Fabian	Fredericks	Associate Member	A640
		REGRADINGS			
1	Ms	Alida	Hartzenberg	Member	M283
2	Ms	Naomi	Ayres	Member	M284

ROCK STAR OF THE QUARTER



Full Name: Theresa Van Aard

Position: Senior Rock Engineering Officer

Company / Organisations: Impala Platinum

Date and Place of Birth: 6 May 1985, Klerksdorp

Education: BTech (Mining), COM RMC, COM SCC, MM Cert, MO Cert.

First Job: Mining learner official at Anglo Platinum

Personal Best Achievement/s: Getting where I am in my career and family.

Philosophy of Life: The past is where you learned the lesson, the future is where you apply the lesson.

Favourite Food/Drink: Prawns and Coca-Cola

Favourite Sport: Mountain Biking

How did your career in the mining industry begin and where are you now?

I started on the mines after matric when I got a mining bursary from Anglo Platinum and I am now a Senior Rock Engineer at Impala Platinum.

Why did you choose Rock Engineering?

I saw it as a growing, stimulating career and Rock Engineering as a science that can still be developed. The prospect of learning and possibly one day contributing to the advancement of Rock Engineering attracted me to the field.

Please tell us a bit more about your career journey?

I starting as a learner official, studied Mining Engineering at UJ, got my blasting ticket and worked as a miner at Bafokeng Rasimone Platinum mine as part of my exposure. I completed the Managers certificate and MO ticket, but found Rock Engineering to be of much more interest. I moved over to the department as a Rock Engineering graduate, worked about 2 years as an SCO, and then was appointed as a Shaft Rock Engineer on a vertical shaft sinking operation. I managed to get trackless, conventional, hybrid, Merensky and UG2 experience at different shafts within the company before recently starting at Impala Platinum as a senior Rock Engineering Officer.

What are some areas that you believe will become of increasing importance in the near future of the rock engineering discipline?

Mining deeper within the Bushveld Complex, for one thing, will become more important as the shallower reserves are depleted. I would also say that reducing rock-related injuries (Safety) will remain a focus. Even though the emphasis of the DMR is currently on compliance, and the role that Rock Engineering has in enforcing compliance, the industry needs to recognise the importance and vital role that Rock Engineering, as a science, plays in the mining industry. There is so much potential for research, monitoring, modelling, back analysis and developing of empirical data tools to make further advancements in the field.

What advice would you offer people aspiring to be in your position?

Study hard and get as much practical exposure as possible.

Who is your role model / mentor?

I'd have to say that my role model in Rock Engineering is Jannie Maritz, due to his exceptional knowledge and understanding of Rock Engineering.

What is the best advice you have ever been given?

Trust your gut feeling.

TECHNICAL CORNER

Commencing the journey to enlightenment – the elusive performance of UG2 seam pillars

by G. More O’Ferrall

Introduction

Numerous studies have been undertaken to develop a pillar design methodology for the UG2 seam in the Bushveld Complex of South Africa. Collaborative (PlatMine) and independent (Anglo Platinum, Lonmin Platinum, Impala Platinum and academic) research has been undertaken over a few decades in order to determine the load on a UG2 pillar, with the purpose being to develop a pillar design methodology (or empirical design formula) that would enable the Rock Engineering practitioner to optimise the mining layouts with appropriately-dimensioned pillars on the UG2 seam.

Formation of the UG2 pillar design interest group

During the second half of 2016, Michael du Plessis, approached various rock engineering and structural geology persons to form a collaborative practitioner-focused pillar design and performance interest group. The interest group comprises senior (in both age, in most cases, and experience) Rock Engineering personnel from Lonmin, Anglo, Impala, Northam and Sibanye Platinum, as well as a couple of external ‘interested parties’ comprising a ‘renowned’ structural geologist and a ‘global traveller’.

Initial gathering of the druids

The group held its first (of hopefully many) information-sharing sessions kindly hosted by Northam Platinum Limited at their Booysendal South and Everest Mines, at the end of November 2016. Presentations were made by a couple of the senior Rock Engineering practitioners on the evening that the group got together. The presentations covered in-house research initiatives as well as highlighting potential issues which the group should consider in the pursuit of understanding the performance of pillars on the UG2 seam.



Figure 1: Some of the interest group viewing core from Booysendal South Mine.

Underground visits were conducted to both Booysendal South and Everest Mines in order to get an appreciation of the pillar-forming material, difficulties that are associated with pillar cutting, and conduct a visual assessment of the pillars in the underground workings.



Figure 2: Pillar-forming material at Booysendal South Mine.



Figure 3: Pillar-forming material at Everest Mine which includes an altered layer along the top of the pillar contributing to the pillar instabilities experienced at the mine.



Figure 4: The interest group at the top of the Everest portal. The group consisted of (left to right); Gregory More O'Ferrall, Michael du Plessis, Alida Hartzenberg, Andy Friese, Omberai Mandingaisa, Noel Fernandez, Riaan Carstens and Francois Malan.

Planting the seed

Following the site visits the various members of the interest group shared information that they gleaned from the site visits, and formulated a process in which to follow to obtain a better understanding of pillar performance. A large scale instrumentation trial is underway. This process is being led by Northam Platinum, with input from various parties in the interest group. Progress of the research project will be shared amongst participating members of the interest group.

Acknowledgements

SANIRE would like to thank Northam Platinum Limited's Paul Dunne, Noël Fernandes, Willie Theron and the management teams at Booysendal South and Everest Mines for accommodating the interest group, providing access to their core shed and underground workings, and sharing their experience with the group.

The group members, and their respective employers, are thanked for making their time available to participate in the site visit and for contributing to the information-sharing sessions held over the three days in Mpumalanga.

IN MEMORY OF

Alan Naismith – A Life Well Lived

Alan was born in Shropshire, and grew up in Newcastle, England. He completed his undergraduate degree at Portsmouth Polytechnic in Engineering Geology in 1972 and later went on to complete his Masters in Rock Mechanics and Excavation Engineering at the University of Newcastle-upon-Tyne in 1973.

His first job out of university was as a geologist for the National Coal Board Opencast Executive. It wasn't long, however, before he moved into rock mechanics and was appointed Regional Head of Geotechnics with the responsibility of reviewing the design and operational aspects of all opencast mines in Northumberland, Durham and Cumberland.

The time came to move onto bigger things, and Alan found the answer in Africa. In 1977 Alan was appointed the position of Rock Mechanics Engineer for Chibuluma Mine in Zambia with Roan Consolidated Mines. Just days before he was due to fly out, however, Alan received a telegram saying that he had been promoted and transferred to Mufulira - an underground operation! The mine had suffered a large scale collapse, and Alan had the task of organising the rehabilitation of critical ramps and haulages. Alan also gained experience in production at Mufulira, obtained his blasting ticket and worked as a shift boss. Alan and his team managed to hold the record for the largest underground blast of close to 150 000 tonnes for some time in the late 1970's. The highlight of Alan's time in Zambia was the birth of his first daughter, Sam.

During some R&R in South Africa in 1979, whilst the bush war of Rhodesia was at its height, Alan applied to Rand Mines who employed him to work at Van Dyk's Drift Colliery in Witbank. Alan obtained his Coal Blasting Certificate and well as his CoM ticket which was the first coal ticket issued. It was during Alan's stay in Witbank that his second daughter Lisa was born. Alan completed his MBA on a part time basis with Witwatersrand Business School in 1984, and later took a position at Freysinnet as General Manager in 1988. After three years, in which turnover of the Mining Division tripled, Alan "retired" to the University of the Witwatersrand Mining Department. There he lectured in applied rock mechanics, massive mining and financial valuation.

In 1998, Alan took up the coveted position of Group Rock Mechanics Engineer for Anglo American. This was also a time of change when AngloGold was formed. The greatest challenge to the mining team was to reduce the accident rate on the gold mines, half of which were rock related. The "zero tolerance" approach adopted resulted in a halving of fatal incidents in the first year of implementation and continued improvement thereafter. The "Rock Mass Management" systems introduced during that time became a blueprint for industry practice. Shaun Murphy recalls that Alan was the only person who read his reports and gave constructive feedback, in the form of immaculate handwriting and well posed questions that often caused the recompilation of portions, if not the entire report!

In 2003 Zambia called again, and Alan moved back to the position of Group Geotechnical Engineer with Konkola Copper Mines in Chingola. This two-year contract saw the introduction of a radar monitoring system as part of the management of a major slope failure at Nchanga Open Pit and the introduction of an effective backfill system to control progressive pillar failure in the wide, shallow dipping ore body at Konkola No. 3 shaft. During the Nchanga adventure, Alan met up again with Peter Terbrugge who lured him back to South Africa in 2005 to join SRK when the KCM contract was completed. Alan headed up the SRK mining geotechnical department from 2009 until 2012. In 2014 Alan went from full time work to full time retirement. This was a time packed with exciting birding and hiking excursions, participating as an Honorary Park Ranger, geological trails and international trips with Jenny, his better half. Alan was passionate about his hobbies, of which there were many, and saw them as critical to a sound life and work balance.

Alan spent countless hours coaching, guiding and influencing the thought processes of many rock engineers, young and old, and encouraged us to contemplate the subject matter deeply and with attention to detail. Alan took great pride in astute technical writing, his reports were unparalleled in content, along with his uncanny ability to turn a phrase and his mastery of both grammar and the English language. Alan's somewhat relaxed approach to the boring tasks of keeping the invoices and filing under control were easily forgiven, and were managed a little more effectively by the ladies he mentored and supported.

The years working with Alan have been inspirational, from hearing him come whistling into the office in the mornings to having to sit through yet another Alan and Peter rendition of the Nchanga failure. It is not just the rock engineering that makes Alan memorable, it was his empathy for people and his willingness to listen, no matter how mundane the topic.

Alan was a recipient of the prestigious SANIRE Lifetime Achievement Award, presented to him in 2013 which saw him join the elite group of 18 other rock engineering practitioners. This award is a true reflection of the what Alan accomplished in his career which spanned over 4 decades and the depth and breadth of the world.

Alan taught us to be brave, to believe in ourselves and to take pride in our work. He taught us to question everything, and to continue to pursue any form of knowledge as it will eventually contribute to the bigger picture. Alan loved his girls and his darling Jenny and spoke of them at any opportunity. The time gifted to us was not enough with this wonderful man, but we remain grateful for every minute we had with him. Alan's legacy lives on with every person who was a part of his life, a life well lived.



IN MEMORY OF

Tebogo Lazarus Matebese

Devoted husband, loving father, humble friend and colleague

I wish to share with you all the sad news of the passing of Lazarus Matebese, a Strata Control Officer at Lonmin's Saffy shaft.

Lazarus was experiencing problems with his breathing and was admitted to Ferncrest Hospital on Monday 03 July.

He was in an isolation ward before being transferred to ICU later that week.

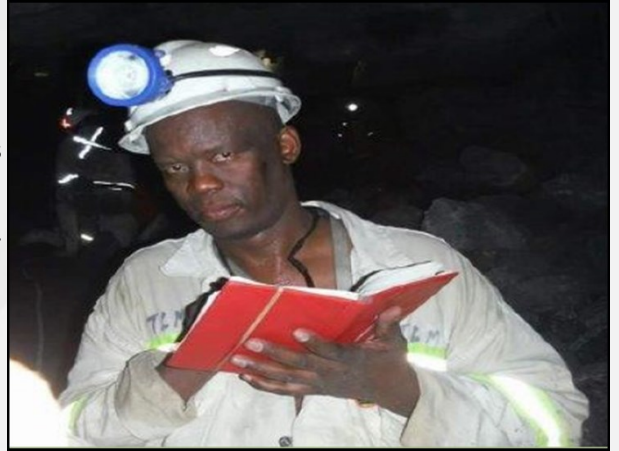
He exhibited some signs of improvement but was re-admitted to ICU and passed away at approximately 14:00 on 10 July.

We have lost both a friend and a colleague.

His work ethic, willingness to help and pleasant disposition will be sorely missed both in his professional and private capacities.

Please uphold his wife, children, family and loved ones in your prayers during this trying time of bereavement.

May his soul rest in eternal peace.



Dr Michael du Plessis

IN MEMORY OF

Eric James Fluke

A man that was larger than life in his personal life and throughout his long and influential working career in the mining industry.

He was a well-known and respected member of the mining industry, being a key figure in many SANIRE and other supplier events. I am sure he has a special place in each and every one of your hearts.

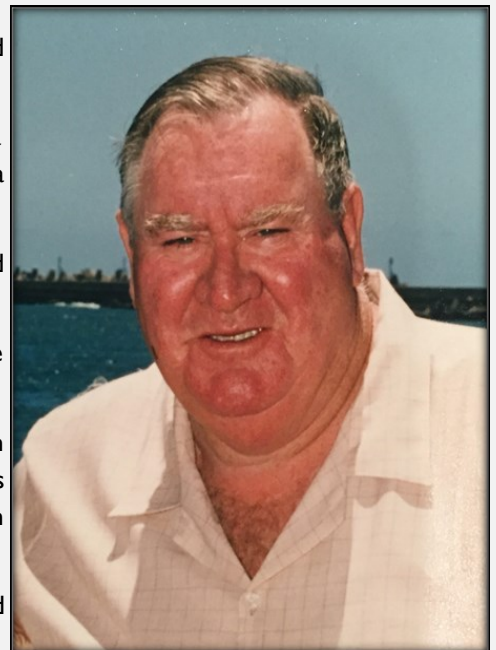
As most people, that knew Eric, would know there was only one way and that was Eric's way!

Eric would be all in whether it be work related, entertaining or just living life to its fullest "In his way"

He adored his children, always being there whatever the event or attraction was. He could never get enough of his beloved grandchildren. He always made an effort to be part of whatever they were busy with or participating in it.

As friends and family, all we can do is cherish Eric for the man he was and keep the good memories of him in our hearts and minds.

Eric, thank you for all you did for us over the years. All we can say is, now that you are back in the arms of your beloved Colleen, May He Rest in Peace.



IN MEMORY OF

Philip Noel Garner

Phil was a British citizen born in Jos, Nigeria, and grew up in Birmingham, England. His interest in mining came from his father who was a metallurgist. He has been a member at SANIRE since 1990 and served as vice chairman and chairman of the Eastern Bushveld Branch.

Phil's first job was with the British Royal Navy as artificer apprentice in Marine and Mechanical Engineering, before he came to South Africa as a learner official in Hard Rock Mining for Johannesburg Consolidated Investment Company from 1981 to 1985 in Randfontein. He was then promoted to shift supervisor at Westonaria Gold Mine between 1983 and 1986. Phil was later transferred to Anglo Platinum Union Section where he worked until 1988 as strata control officer. He was then transferred again to Joel Gold Mine in 1988 as a rock mechanics officer until he was transferred in 1993.

Phil then went back to Union Section as manager of Rock Engineering until 1999, when he decided to be a rock engineering consultant. During this time, he worked with MPD on a wetcrete contract. The innovation was essentially his, but MPD helped make his it a reality. The idea was to take the normal grout pumped underground for pack support, and adapt it to spray wetcrete on tunnel sidewalls.

In 2004 he took up a position in Lydenburg with Xstrata Alloys as rock engineering manager until 2014.

Throughout Phil's career he worked on medium to deep single and multi-reef gold mines, and shallow to medium depth platinum mines, single and multi-reef, as well as open cast mines, coal mines, and conventional and trackless mechanised mining. He also dedicated a lot of time and knowledge to developing and implementing rock related mining systems to provide a safer mining culture.

Phil was very proud of the role he played at Xstrata Alloys. Initially he was in charge of creating a rock engineering function and department on the company's Eastern Mines. He was responsible for all ground stability related aspects including portals, shafts, overall mine stability, surface subsidence and later ancillary and production sections on the mine. Mototolo Platinum, with two inclined shaft sections, was brought to full production in less than 24 months without any fall of ground related fatalities.

Later he started the Rock Engineering departments on the Western Chrome Mines and became part of the establishment of departments on the Eastern Chrome Mines and Eland Platinum Mine. He was appointed with legal responsibility on all Xstrata Alloys mines. The standardisation of systems on all mines and keeping support systems in as simplistic format as possible played a key role in this part of his career.

Phil developed, implemented, controlled, audited and drove the Trigger Action Response Plan (TARP) for Falls of Ground in 2006 on alloys operations, including seven chrome shafts, four platinum shafts, one coal shaft and up to seven opencast operations. It was his legal responsibility to ensure the safety of all employees involving rock related issues on all the alloys mining operations, both underground and on surface within South Africa and Swaziland. He achieved this through the implementation of sound rock engineering principles and practices, both old and new, and using the TARP system. The design and implementation of site specific mine design criteria was achieved through training, behavioural change, research, design and technology, passed on to people of all disciplines that may be involved or exposed to rock related hazards.

Phil also designed and implemented computer simulation training of hazardous situations which was later rolled out to sites identified as major hazards.

The best practices and systems he helped develop achieved records such as seven years without a rock related fatality on all Xstrata Alloys mines. These systems were seen as leading practices in the mining industry in South Africa and introduced on all major mines throughout the country.

In 2014, he returned to consulting. He designed sought-after training blocks, or models, for strata control that demonstrate key block failure, dome failure, jointing and normal reverse faulting, and was still making and designing these until his passing.

Phil will be remembered as an innovative thinker who approached problems and challenges from a practical point of view. He was liked and respected in the industry, and had an incredible ability to get along with anybody and everybody, from management down to the personnel on the rock face. He will be sorely missed by all of the colleagues and friends he made throughout his career. The rock engineering fraternity has lost an innovative and dedicated member.

Phil was a keen marathon runner in his free time. His greatest running achievement was completing the Comrades Marathon in 1990 with his colleague, Richard Galloway. He also enjoyed spending time camping, fishing and game driving with his family and friends, as well as making chilli sauce and cooking.

His studies included Marine and Mechanical Engineering in the British Royal Navy, a Higher National Diploma in Metalliferous Mining at the Witwatersrand Technical College, an Advanced Certificate in Rock Engineering and the Chamber of Mines Rock Mechanics Certificate, both at the University of the Witwatersrand, and lastly a Management Development Programme for senior managers at UNISA.

Phil leaves behind three daughters, Elise Garner, Joanne Taylor and Jayne Garner, a son-in-law, Barry Taylor, two granddaughters, Abigail and Chloe Taylor, and his recent partner, Cecelia de Waal, whom loved and supported him.



Organizing Committee and Saint-Petersburg
Mining University invite you to participate
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EUROCK 2018

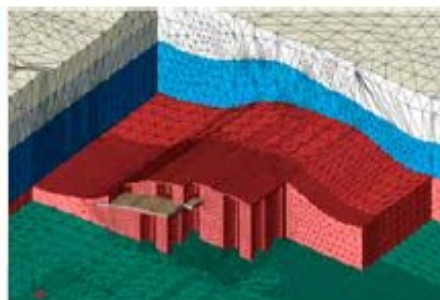
22 – 26 MAY 2018
Saint-Petersburg , Russia



**GEOMECHANICS AND GEODYNAMICS
OF ROCK MASS**

THEMES

- Physical and mechanical properties of fractured rock (laboratory testing and rock properties, field measurements and site investigations)
- Geophysics in rock mechanics
- Rock mass strength and failure
- Nonlinear problems in rock mechanics
- Effect of joint water on the behavior of rock foundation
- Numerical modeling and back analysis
- Mineral resources development: methods and rock mechanics problems
- Rock mechanics and underground construction in mining, hydropower industry and civil engineering
- Rock mechanics in petroleum engineering
- Geodynamics and monitoring of rock mass behavior
- Risks and hazards
- Geomechanics of technogenic deposits



REGISTRATION FEE

- **560 \$ (USD)** ISRM members
 - **700 \$ (USD)** Regular participants
 - **230 \$ (USD)** Participants up to 35 years
- Early registration (-15%) until 10.02.2018**

KEY DATES

- Abstracts shall be submitted until 30.06.17
- Informing about the acceptance of abstracts 15.07.17
- Full texts of reports shall be submitted 20.11.17
- Informing about the reception of articles 20.12.17

The registration fee for acceptance of articles for publication to 10.02.2018



VENUE

SAINT-PETERSBURG MINING UNIVERSITY
2, 21st Line, St Petersburg 199106, Russia

CONTACTS

GENERAL INFORMATION AND ORGANIZATION

Vladimir Noskov

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SUMMARY OF CHAMBER OF MINES CERTIFICATES EXAMINATION RESULTS FOR MAY 2017

Certificate	Candidates Wrote	Candidates Passed	% Pass Rate
Strata Control			
Metalliferous	196	86	44
Coal	20	9	45
Rock Mechanics			
Paper 1	75	13	17
Paper 2	79	3	4
Paper 3.1	42	9	21
Paper 3.2	9	2	22
Paper 3.3	3	0	0
Paper 3.4	6	3	50
Total	430	125	29.07%

ROCKBOWL 2017

On the 26th May 2017, at Sibanye Kloof Training Academy, the 2017 National RockBowl was proudly hosted by SANIRE.

The RockBowl is a quiz show, whereby participants answer questions related to the Rock Engineering Field. This quiz show can be played in an individual or team format, with the most correct answers winning the event. The RockBowl can be compared to the Rock Engineering version of "Nooit vir Nooit" "Who wants to be a millionaire" or "The weakest link".

Approximately 60 individuals and 9 teams competed in the event. The participants ranged from a variety of large mining houses and consulting companies covering different commodities.

The event targeted Young Members of SANIRE and fulfilled its mission. The majority of the attendees where Young Members (below 36 years of age), who in a couple of years will take SANIRE forward.

The day kicked off with a warm welcome from the SANIRE President, Dr Michael Du Plessis. This was followed up by an introduction to the day's events by Paul Couto to highlight the rules for each RockBowl round.

The initial purpose of the day was to identify the TOP 10 individual candidates within SANIRE, whereby the TOP 4 would be eligible to a substantial grant from SANIRE to represent South Africa at the International RockBowl competition taking place at AfriRock 2017 in Cape Town.

Well done to the Top 10 individuals especially the Top 4, who will be representing South Africa at the International RockBowl hosted during AfriRock 2017.

Well done to all the candidates that took part, especially the TOP 4. You truly make SANIRE proud.

- | | | | | |
|----------------------|---------------------|--------------------------|---------------------|-------------------|
| 1. Alida Hartzenberg | 2. Carol Hunter | 3. Edeshi Munsami | 4. Xavier Lottering | 5. Ian Breedt |
| 6. Sipho Nxele | 7. Thovehedzo Gcuda | 8. Christiaan Van Rooyen | 9. Denisha Sewnun | 10. Ndumisa Langa |

The team event followed the individual event, whereby a qualifying round was played. This round ranked the teams from best to worst, whereby knockout rounds where played. The best ranked teams competed against the worst ranked teams during this knockout round.

Well done to the teams who competed against each other during the team event. The Top 4 teams are as follows:

- | | |
|---------------------------------------|--|
| 1. Merlot - Lonmin | 2. Rock Avengers - Lonmin |
| 3. #Rocksmustnotfall – SRK Consulting | 4. mpala Platinum Team – Impala Platinum |

A huge thank you must be extended to all participants, sponsors and organisers for making RockBowl 2017 successful. SANIRE is proud to lead the way by arranging these events for our young members.

Paul Couto





SANIRE

SOUTH AFRICAN NATIONAL INSTITUTE OF ROCK ENGINEERING

Vision: To promote the interests of a vibrant South African Rock Engineering Fraternity

Mission: SANIRE promotes the advancement of the Rock Engineering discipline through the following objectives:

- ◆ Encouraging interest and the advancement of education in Rock Engineering
- ◆ Maintaining professional practice and high standards of ethics
- ◆ Encouraging networking; Collaboration and information exchange
- ◆ Identifying, promoting and facilitating rock engineering related research

Values:

- ◆ **Honesty**
- ◆ **Integrity**
- ◆ **Professionalism**
- ◆ **Accountability**
- ◆ **Transparency**

Contact Information:

Phone: +27 (0)73 426 5180

Fax: +27 (0)86 471 8199

E-mail: accounts@sanire.co.za |
info@sanire.co.za

P O Box 463, Stilfontein, 2550, South
Africa

C/O Stilfontein Road & Umgeni
Stilfontein, Stilfontein, 2551, South
Africa

www.sanire.co.za

EDITORS CORNER

This is your newsletter and I would like to hear from you.

*If you have any information or stories that we can use, please submit them via
email to*

alida.hartzenberg@lonmin.com

Your feedback will be highly appreciated.

Alida Hartzenberg

