Proceedings, 116th Annual General Meeting, 2013

The 116th Annual General Meeting of The Southern African Institute of Mining and Metallurgy was held at The Country Club, Johannesburg, Napier Road, Auckland Park on Thursday, 22 August 2013.

Welcome

The President, Gordon Smith extended a special welcome to the guests and representatives of our sister institutes and other associations, and also to recipients of awards, senior members of industry, Honorary Life Fellows, past-Presidents, our members, and other guests, among them the following:

A. Bisnath, *President, The Geological Society of South Africa (GSSA)*

C. Gamede, *President, Engineering Council of South Africa*

W.C. Joughin, *President, South African National Institute for Rock Mechanics*

D. Labuschagne, *President, Mine Ventilation Society of South Africa*

Past-presidents attending

Roger Dixon
Frank Egerton
Henry James
Rams Ramokgopa
Dick Stacey

Minutes

The minutes of the previous Annual General Meeting, which were published in the September 2012 issue of the *Journal,* and sent to all members, were confirmed.

Obituaries

The President announced the deaths, during the year, of the following members:

Honorary Life Fellow
D. Krige

Fellows
C. Preece, G.J. Robbertze

Retired Fellows
W.P. Furusa, T.A. Newman, V.O. Steed

Members
W.J. Visser, R.J. West

Retired Members
B.C. Alberts, E. Braver, H.C. Iversen, G.C. Krafft

Associate
H.J. Prinsloo

In memory of the deceased and in sympathy with the bereaved, all rose and observed a moment of silence.

Honorary Fellowship

No award was made this year.

Brigadier Stokes Memorial Award

Cuthbert Musingwini: The Brigadier Stokes Memorial Award was instituted in 1980 to commemorate the outstanding contribution to the South African mining industry made by Brigadier R.S.G. Stokes, an Honorary Life Fellow and past-President of this Institute. This is the premier award of the Southern African Institute of Mining and Metallurgy and is made to an individual for the very highest achievement in the South African mining and metallurgical industry. It gives me great pleasure to announce that the award for 2013 is to be made to Professor Huw Ronald Phillips.

Cuthbert Musingwini called upon Alastair Macfarlane, to read the citation:
I am deeply honoured and privileged to be asked to present this citation to an esteemed colleague and friend, in Professor Huw Ronald Phillips. In putting together this citation, I am also humbled by the stature of the contribution he has made to industry, which I will attempt to describe.

Huw was born in 1947 in the picturesque seaside town of Aberystwyth, on the west coast of Wales. After finishing his schooling he moved across the border to England, where he attended the University of Bristol, and completed his Batchelor's Degree in Electrical Engineering in 1968.

Not surprisingly, he returned to Wales, where he joined the National Coal Board of the UK, occupying various positions in the underground coal mines of East Wales. This work experience allowed him to obtain his Engineer's Certificate, which he obtained in 1970 from the UK Ministry of Technology, in accordance with the UK Mines and Quarries Act.

During this time he decided to return to academic study, concentrating on research work in the area of mine mechanization, involving the application of scientific principles and good engineering practice to the design and operation of continuous mining machines. He completed his

MSc degree at the University of Newcastle upon Tyne in 1971. This research work concentrated on the dynamic analysis of coal ploughing systems by digital simulation. I am sure any foreign students would have found academic debate between a Welshman and a Geordie quite a challenge to understand.

In January 1973, he decided to move fully into the academic world, and was appointed a Senior Research Associate at the Department of Mining Engineering, at the University of Newcastle upon Tyne, under the supervision of the well known Professor Potts.

This period allowed him to achieve his Doctorate, having researched and produced his PhD Thesis on 'Rock cutting mechanics related to the design of primary excavation systems'.

During these years in the UK, he became a member of the institute of Mining Engineers of the UK, registered as a Chartered Engineer, and became a member of the Institution of Electrical Engineers of the UK.

Having been awarded his PhD, Huw decided to emigrate, to Australia, where he took up a position at the University of New South Wales as a lecturer, followed by appointment as a Senior lecturer in 1981.

Whilst at the University, he lectured in coal mining, ventilation, health and safety, and mining legislation. In addition to lecturing undergraduate students, he also developed two postgraduate courses in Mining Engineering Technology and Advanced Cutting Technology, and taught these through 1980 to 1984. While undertaking this extensive work load, he also supervised a Master's dissertation and three Doctoral theses.

During this time, Huw was drawn into University administration, and served on several University boards and committees, including the Faculty of Applied Science Board, the Faculty of Applied Science Higher Degree Committee, and the Policy Committee for the formation of a School of Mines.

His personal interest in mine mechanization continued, but moved from the design of cutting systems to the design of coal loading and clearance systems for longwall mining. Because Australian longwalls were highly productive, methane release rates and respirable dust generation then became the main subjects of interest for him. This lead to a two-year research project which resulted in the New South Wales coal industry adopting gravimetric sampling for the monitoring of coal dust exposure.

In 1985, Huw decided to make his next international move and came to South Africa, taking up the position of Chamber of Mines Professor of Mining Engineering at the University of the Witwatersrand. Subsequently, he was appointed Head of the School of Mining Engineering at the University of the Witwatersrand, in the role that many of us hold him in esteem.

Huw also served during the years 1989 to 1991 as the Deputy Dean of the Faculty of Engineering.

While at the University, he has been involved in the teaching of many subjects, including introduction to Mining, Mining A, Excavation Engineering, Enviromental Engineering and Health, Mine Safety, and Mining Environmental.

He continued his research interests while at Wits, especially in the area of methane and coal dust explosions. This was after the South African industry had experienced a series of methane and coal dust explosions, not only in the coal industry, but also in the gold industry. These incidents were contributing to a poor safety performance of the South African mining industry, which resulted in several hundred fatalities annually. These occurrences not only stimulated the need for increased research, but also created the platform for a number of statutory changes, and collaborative initiatives being formed, through the Chamber of Mines and the Mine Health and Safety Council.

Huw became involved in these initiatives through his research and through his position as the Head of School. In the research area, his interest moved to ventilation to prevent methane explosions, and the design of barriers to prevent the propogation of coal dust explosions. Working with a postgraduate student employed by the CSIR at the Kloppersbos Research Facility, the concept of a bagged stone dust barrier was developed, and tested. The results of this research are now adopted in South Africa, Australia, and the United States.

In role as an academic supervisor at Wits, Huw has supervised 40 Master's dissertations, 19 Doctoral theses, and a DEng., over a period of 28 years. He still continues with this work and currently supervises four PhD and two MSc students.

He has contributed enormously to the administration of the School, and the University, having served throughout this time as a Member of Senate, as a Member of the Architecture and Engineering Advisory Committee from 1987 to 2007, as a member of the Academic Board, from 1991 to 2002, and as a Member of many *ad-hoc* Selection, Promotion, and Policy Committees. In the Faculty of Engineering and the Built Environment, he has served as a Member of the Faculty Board from 1985 to 2012, as a Member of the Graduate Studies Board from 1985 to 1990, and as a Member of the Executive Committee of the Faculty.

Whilst this may seem like a simple list of committee activities, life in the academic world is by no means simple, and the time, work, and effort involved in such a level of academic administration is enormous.

This all took place during periods of turbulence, re-organization, and transition at the University, as well as in industry.

During the late 1980s and early 1990s, Wits experienced a very high level of activism and protest before the transition to democracy in 1994. This made the normal administration and teaching activities at the University and the School difficult, a situation which manifested itself from time to time after the transition as well.

Mining engineering intake numbers diminished to economically threateningly low numbers at one stage, probably as a result of these socio-economic and political changes, coupled with the less than attractive image of the industry for young school leavers, at that time. During this period, Huw had to deal with the desire from industry and other quarters to establish a central School of Mines, but was able to bring sanity to the debate through his experience in the practicalities of teaching and academic administration.

After 1994, the demographics of the university and the school changed, and this change also required careful and informed management and administration, with greater emphasis being placed on the needs of previously disadvantaged students, who were coming from impoverished backgrounds, and who were faced with social and economic challenges. Huw successfully steered the School through all of these challenges, maintaining the standards and excellence of the School throughout, while at the same time having to apply these standards to a student base that increased significantly after 2000. Undergraduate numbers swelled from previous averages of 20 students in the 1990s to intakes in the last few years of over 150. This huge increase in numbers was also seen in the postgraduate area of study, with postgraduate numbers increasing four-fold. These increases brought staffing challenges, and equipment and facility challenges. Huw engaged with industry and formed industry liaison which resulted in increased industry support, both in terms of money, bursaries, and facilities. Whilst other mining schools around the world were shrinking in size, Wits established itself as the largest school in the Western and English speaking world, surpassed only by schools in Russia and China, and joined the 'Ivy League' of mining schools around the world.

The administrative, teaching and support loads of successfully managing the school through these transitions cannot be over-emphasised, and is a tribute to Huw's ability, dedication, tenacity, and academic professionalism.

Sadly, during his tenure as the Head of School, Huw lost his first wife Joan to illness, but despite this personal setback, he continued to lead the School. Joan had also been an active member of the Wits fraternity.

During his career Huw has contributed to industry not only through his role in the academic world, but also through serving on many industry committees. In these, he served as a Member of the Australian Government Advisory Committee on Gas Related Problems in Coal Mining from 1980 to 1985, as a Member of the Joint Coal Board's Standing Committee on Dust Research and Control in New South Wales from 1982 to 1985, as a Member of the International Society of Rock Mechanics Commission on Rock Boreability, Cuttability and Drillability from 1983 to 1987, a Member of the Explosion Hazards Advisory Committee of the Department of Mineral and Energy Affairs of South Africa fom 1985 to 1992, as a Member of the Council of the SAIMM from 1989 to 1992, as Chairman of the Mining Industry Special Interest Group on Explosion Hazards, of SIMRAC, from 1993 to 1997, as a Member of various Working Groups within SIMRAC from 1993 to 2002, as a Member of the International Committee for Coal Research in Brussels, from 1995 to 2006, as a Member of FutureMine Board from 2001 to 2004, as a Member of the Management Committee of Coaltech 2020 from 1998 to 2009, and as Chairman of the South African Committee of the International Committee for Coal Research, from 2002 to 2006.

He has also served on three editorial boards, of the Australian Journal of Coal Mining Technology and Research, Mining Science and Technology, and Minerals Resources Engineering. In addition, he has been appointed as the Editor of the Australian Journal of Coal Mining Technology and Research from 1981 to 1984, and as a Moderator for the Chamber of Mines of South Africa Examinations in Mine Environment Control.

Huw's research output has been prolific to say the least. He has published fifty-five technical research papers throughout the world, as well as seven general papers, four published notes, and a chapter in a book on mechanical properties of coal.

In the consulting field, Huw has undertaken more than. forty commissions on behalf of government agencies, mining companies, and mining equipment suppliers. This has involved working for short periods in Germany, South Korea, Turkey, and the United States. He has also undertaken work in South Africa, Australia, and the United Kingdom, and is currently engaged with the ongoing case of the Pike River Coal explosion in New Zealand.

My first encounter with Huw was at a meeting that I convened on behalf of the Mine Managers Association, at which I dared to suggest that the mining engineering curriculum be changed to align to the Mine Managers Certificate. The response I received was in due recognition of my naivety that the centre of my universe was in the company I worked for, and the corporate office is everything to everyone. Huw soon put me right on that one, and it was an early learning lesson that the academic world is a different one to the corporate world. One which I was soon to learn about.

My second experience was when I found myself in his office, ready to start as a lecturer myself at Wits. He put me at ease with the task that lay ahead of me, but it was very soon afterwards that I learnt that despite what one may think, you only discover how little you know when you have to stand in front of an audience to explain what you forgot twenty years before. I also learnt very quickly that the work of the university is not an easy one, and that the notion that lecturers and university staff have lots of holidays and spare time is an absolute myth.

A colleague recently said 'academics are sensitive and difficult people'. I can attest to this from personal experience, but Huw was himself sensitive to this fact, and managed to build a coherent team of which it was a pleasure to be a member.

My period at Wits, working with Huw, is probably the period of my life when I have worked the hardest, but which was also the most rewarding, and therefore I personally am deeply indebted to his guidance, support, and professionalism.

On a personal note, Huw has recently remarried, to Beatrice and Huw has a daughter, Andrea and a son, Paul from his first marriage.

Huw has contributed greatly to the mining industry, not only in South Africa, but throughout the world.

His legacy includes not only his academic contributions, his research, his involvement with industry, and his administration and supervision, but especially in the

numbers of students at both under graduate and postgraduate level who have passed through the Universities of New South Wales, and Wits during his tenure and guidance, who now are scattered across the mining globe, as captains of, and advisors to, our great industry.

This morning I counted the faces on the photgraphs in the staff room at Wits, and found that 703 undergraduates have passed through Wits during the time that Huw was Head of School. It would seem that even more postgraduates have been through the Wits system in this time of his office as Head of School, with some 180 passing through the Certificate Programme as well. I am sure many of the faces on this rogue's gallery are here today, and many others have assumed senior positions in industry. Names spring to mind such as John Mackenzie, Wayne Robinson, Mzila Mthenyane, Phillip Tobias, Eric Lilford, Cetive Mosoane, Donovan Munro, and William Joughin, to name but a few.

This tenure also saw the first HDSA candidates pass through the School, the first HDSA female graduate in 2002, and a transition from small classes of beer-drinking rugby players to fully representative demographic numbers, including an intake of up to thirty per cent females.

While at the School, I chatted with the current Head of School, Professor Fred Cawood, who said to me that he felt Huw's legacy to the School was on the one hand creating stability in the School, during his long tenure, though difficult times, and creating a happy school, where there are more happy people than unhappy ones. This, it seems, in academic departments, is remarkable and exceptional.

These contributions to industry in general, and the South African mining industry in particular, make this award of the Brigadier Stokes award, the most prestigious of all awards, to Professor Huw Phillips, a truly worthy and deserved one, and one that we can all be very proud of being a part of presenting today, and one that stands proudly amongst the prestigious list of recipients since 1980.

Huw Phillips

Thank you Alistair for those kind words. You have obviously dug deep to gather all that information but I'd expect nothing less of an ex-gold miner!

Mr President, Council Members, Ladies and Gentlemen.

I feel greatly honoured that you have awarded me this prestigious prize and I accept it with great humility and deep gratitude. When I arrived in South Africa nearly 30 years ago, I could never have imagined that one day I would stand here to receive this Brigadier Stokes Memorial Award.

Even though I grew up in a mining village in South Wales, with a headgear clearly visible through my bedroom window, going into mining was not inevitable since my first degree was in electrical engineering. To the huge disappointment of my parents, who saw education as a route out of mining, on graduation I joined the National Coal Board and the future direction of my career was determined. Two years later, in 1970, I was sponsored by my employer to convert my degree to mining engineering at the University of Newcastle upon Tyne and there I first came in contact with a representative of the South African mining industry. I was lucky enough to meet Miklos Salamon, a previous recipient of the Brigadier Stokes Award, who was visiting his *Alma Mater*, and I sat through some fascinating lectures on his work on the design of safe pillars in coal mining.

I next met Miklos some 10 years later while working in Australia and he offered me the opportunity of spending a six-months sabbatical at the Chamber of Mines Research Laboratory. At COMRO I reported directly to Horst Wagner, another recipient of this award, and after a few weeks he informed me that the Department of Mining Engineering at Wits was short of staff, the Chamber of Mines wanted to help, and I was to lecture there one day a week. I was not particularly keen to do this as a sabbatical is meant to relieve you from teaching and administrative duties, but people who remember Horst will know how persuasive he could be, particularly when he was your boss! Anyway my involvement with (and, in fact, my interest in) Wits began, and after a further two years in Australia, I accepted the invitation to move to Johannesburg and take up the Chamber of Mines Chair.

Academic life is devoted to three activities, teaching, research, and involvement with your profession, and in the case of mining engineering academics this last activity will involve maintaining close ties and being involved with the mining industry. If you also have the misfortune to become a Head of School, administration, of necessity, becomes a major part of your life.

I have always regarded lecturing to undergraduates as a rewarding experience since you watch young school leavers grow in stature as they absorb information, develop their problem-solving skills, and mature into adults capable of forging a career in a challenging profession.

During my time at Wits I've seen nearly 900 mining engineers graduate with their Batchelor's degrees and I've been proud of every single one. However, the pleasure of being involved in this process is tempered now by a very real concern for the future of higher education in this country.

While the sector faces many challenges two stand out. Firstly, the schooling system has let down a whole generation of learners exposed to outcomes-based education. This pedagogy was imported without too much thought being given to the resources required to make it a success and consequently it has left learners badly under-prepared for university studies. This is certainly true in the areas of science, engineering, and technology. The extent of this problem is clearly laid out in the World Economic Forum's Global Competitiveness Report for 2012–2013. Here each of the 144 countries which participated are ranked for a wide variety of indicators. South Africa has a respectable place in many of the categories, for example coming first for Strength of Auditing and Reporting Standards and also for Efficacy of Corporate Boards and being in the teens or twenties in many other areas.

However, we come a lowly 140th out of 144 for the quality of our education system and 143rd for quality of maths and science education, with only Yemen below us. While much of this report is subjective and the methodology used can be criticized, there is no doubt that students entering engineering and science courses in South Africa are not properly prepared for what they will encounter, despite their inflated grades in Matric. To at least partially address

this problem, more intensive teaching and access to good library facilities and textbooks is essential. Here the support of the SAIMM through donations from the Scholarship Trust Fund must be acknowledged with gratitude. In the 10 years since its establishment, there are many students who have survived their first year at University very largely due to the facilities put in place through the generosity of SAIMM members who have supported the Fund.

The second threat to undergraduate programmes comes from within our universities. South African universities have become obsessed with international benchmarking and hell-bent on being in the top one hundred worldwide. To achieve this, an unhealthy emphasis is being placed on research, purely for the sake of research output. The opportunity to interact with postgraduates, conduct relevant research, create new knowledge and pass it on to your students has always been an integral and enjoyable part of academic life. But what is happening now is that we risk losing the balance between teaching and research and placing institutional aspirations above those of the imperatives of our national needs. As a mining community our pressing need is to see competent graduates being produced with the intellectual horsepower to solve the increasingly complex and serious technical and social problems our industry faces. South African mining is not a sunset industry, nor is it an industry in crisis, as many scaremongers would have us believe. However, for a variety of reasons it is undoubtedly becoming more difficult year by year to continue to mine safely and profitably. Undertaking appropriate, applied research of relevance to our industry most certainly has its place in Mining and Metallurgical Schools, but not at the expense of our undergraduate programmes.

During my 25 years as Head of School I had little time to spend on personal research but I did have the opportunity to supervise others, many of who have been of outstanding calibre. In preparation for this evening I had a look at the SAIMM website and found to my surprise that I have been the research supervisor of four past Presidents of the Institute and that I have had involvement with nine of the current Council during their time as part-time postgraduates in the School of Mining Engineering at Wits. I'm not sure if this should give me unqualified pleasure or an uneasy feeling that I have been around in the system for far too long! However, there is one aspect of my research activity of which I am quietly proud.

When I arrived at Wits in 1985 the South African coal industry was in the middle of a decade during which there were 57 ignitions or explosions of methane, in which 179 miners lost their lives. Working firstly with Dr Gys Landman, now a past President and subsequently with Dr Jan du Plessis, a current member of Council, we gained a much better understanding of the inherent risk of methane and coal dust explosions in room and pillar workings and then went on to design systems to prevent their occurrence. Following the implementation of this research we have now had 20 years without a major explosion but, as always with safety, we must never be complacent nor must we forget the hard lessons learnt from the history of our industry.

Mr President, I have probably spoken too long and I should return to my main theme. In accepting this award today I must thank my colleagues, past and current, at Wits for their dedication and all their hard work. They, along with all South African academics in the fields of mining and metallurgy, face significant challenges in educating the next generation of professionals and I'm sure the SAIMM also wishes to recognize all of them in making this award to me.

I would also like to express gratitude to my family, to my late wife Joan, my children Andrea and Paul, and my wife Beatrix for the understanding they have shown of my love of my work and the hours I have spent away from them.

Mr President, all that remains is for me to again thank you and the Institute for this award.

Presentation of awards, medals, and certificates

Cuthbert Musingwini announced the following awards, medals, and certificates, which were presented by *Gordon Smith*.

50-year Membership Awards

(with effect from 1 July 1962 to 30 June 1963)

- S.I. du Preez
- P.J. Heystek
- E. Schmid

Gold and Silver Medals

Papers published in the *Journal* from March 2012 to February 2013 by members of the Institute were considered for medals.

Gold Medals

Gold medals are awarded for papers that are of a world-class standard, and judged to be publications that will become key references in their mining or metallurgy field in the future.

There were no Gold Medals awarded this year.

Silver Medals

Silver medals are awarded for papers that make a major contribution to the professions of mining and metallurgy and to the prestige of the Institute.

Silver Medals were awarded to:

J.A.L Napier and D.F. Malan, for their Transaction paper published in the August 2012 issue of the *Journal* entitled 'Simulation of time-dependent crush pillar behaviour in tabular platinum mines'.

Q.G. Reynolds, for his Transaction paper published in the July 2012 issue of the *Journal* entitled 'The dual-electrode DC arc furnace—modelling brush arc conditions'.

Presentation of Student Prizes

Cuthbert Musingwini announced the student winners of the SAIMM Prestige Prize and *Gordon Smith* presented the awards to the students adjudged by their departments to be the best final-year students in 2012.

University of the Witwatersrand

Mining	Maureen M. Phambane
Metallurgy	Kgothatso B. Tjatji

Best final-year student in the faculty of any engineering discipline	Graham Peyton
Best final-year student in any faculty in the discipline of mining or metallurgy	Onkutlwile Motlogelwa

University of Pretoria

Mining	Stephanus Potgieter
Metallurgy	Wesley Teessen
Student dissertation	Stephanus Potgieter

University of Johannesburg

Mining	Matete Phasha
Metallurgy	Sibongile Ndlovu

North-west University

Mineral Processing	Daniel Nel

The following SAIMM student prizes were presented at the Western Cape Branch AGM on 7 August 2013.

University of Cape Town

Best final-year student Mineral Processing	Thobile Dube

University of Stellenbosch

Best final-year student Mineral Processing	Alek Pieters

Cape Peninsula University of Technology

Best final-year student Mineral Processing	Chawira Deogratious

Annual Report and Accounts

The Honorary Treasurer, *Jim Porter,* presented the financial statements, which is reproduced in the Annual Report of this edition of the *Journal*.

Office bearers and Members of Council for 2013/2014

Gordon Smith announced the office bearers for the ensuing year, elected by the retiring Council in accordance with Clauses 3.5, 5.1 and 5.2 of the Constitution:

President	M. Dworzanowski
President-elect	J.L. Porter
Senior vice-president	R.T. Jones
Junior vice-president	C. Musingwini
Immediate past-President	G.L. Smith
Honorary treasurer	J.L. Porter

In terms of the election of ordinary members of Council (Clause 3.2.7 of the Constitution and By-law B2.1), there were fourteen vacancies and the following members are now declared elected (in alphabetical order):

H. Bartlett	S. Ndlovu
N.G.C. Blackham	G. Njowa
V.G. Duke	S. Rupprecht
M.F. Handley	A.G. Smith
W.C. Joughin	M.H. Solomon
A.S. Macfarlane	D. Tudor
D.D. Munro	D.J. van Niekerk

In terms of By-law F1.7 of the Constitution, the chairpersons of the branches are as follows:

DRC	Susa Maleba
Johannesburg	Ian Ashmole
Namibia	G. Ockhuizen
Pretoria	N. Naude
Western Cape	T. Ojuma
Zambia	H. Zimba
Zimbabwe	S. Gaihai
Zululand	C. Mienie

These chairpersons will be *ex-officio* members of Council.

The following past-Presidents have signified their willingness to serve on Council for the ensuing year:

N.A. Barcza	R.P. Mohring
R.D. Beck	J.C. Ngoma
J.A. Cruise	R.G.B. Pickering
J.R. Dixon	S.J. Ramokgopa
F.M.G. Egerton	M.H. Rogers
A.M. Garbers-Craig	J.N. van der Merwe
G.V.R. Landman	W.H. van Niekerk

Gordon Smith thanked those past-Presidents who indicated that they cannot serve on Council for the next year for all their time, effort, and dedication in the past.

He also thanked past-Presidents for their continued support. He congratulated all those elected, and thanked those who agreed to serve another term of office.

Election of auditors and honorary legal advisers for 2012/2013

Gordon Smith proposed and it was agreed, that R.H. Kitching be reappointed as Auditor for the coming year and that Van Hulsteyn, Attorneys, be reappointed as honorary legal advisers.

Induction of President

Gordon Smith introduced the new President, M. Dworzanowski, and then called upon *Cuthbert Musingwini* to read his *curriculum vitae*.

Presidential Address

Marek Dworzanowski then presented his presidential address entitled: *The role of metallurgy in enhancing beneficiation in the South African mining industry*, which is reproduced elsewhere in this edition of the *Journal.*

Vote of thanks

Jim Porter, gave the vote of thanks.

Closure

The meeting closed at 18:00. ◆

Proceedings, 116th Annual General Meeting, 2013

Gordon Smith declaring the Annual General Meeting open

Alastair Macfarlane reading the citation of Huw Phillips, recipient of the Brigadier Stokes Award

Huw Phillips, recipient of the Brigadier Stokes Award, receiving his Platinum Medal from Gordon Smith

J.A.L. Napier receiving his Silver Medal Award, for his paper that was published in the *Journal*

D.F. Malan receiving his Silver Medal Award, for his paper that was published in the *Journal*

Q.G. Reynolds receiving his Silver Medal Award, for his paper that was published in the *Journal*

M.M. Phambane, receiving her Student Prize

M. Phasha, receiving her Student Prize

S.B. Ndlovu, receiving her Student Prize

Jim Porter, delivering the financial report

Cuthbert Musingwini presenting Gordon Smith with his Presidential plaque

Marek Dworzanowski delivering his Presidential Address

Office Bearers for 2013/2014

Office Bearers for 2013/2014—Rodney Jones, Jim Porter, Marek Dworzanowski, Gordon Smith, and Cuthbert Musingwini

Council members of the SAIMM for 2013/2014

Council members—Front row *(from left to right)*: Rams Ramokgopa, Rodney Jones, Jim Porter, Marek Dworzanowski, Gordon Smith, Cuthbert Musingwini, Hugh Barlett, and Sam Moolla (Manager)
Back row *(from left to right)*: Gys Landman, Sehliselo Ndlovu, David Tudor, Dirk van Niekerk, Vaughn Duke, Norman Blackham, William Joughin, Matthew Handley, Alastair Macfarlane, Steven Rupprecht, Rod Pickering, and Roger Dixon

Past Presidents of the SAIMM

Past Presidents serving on council—Front row *(from left to right)*: Roger Dixon (1998–1999), Dick Stacey (2003–2004), Henry James (1985–1986), Gordon Smith (2012–2013), Rams Ramokgopa (2002–2003)
Back row *(from left to right)*: Gys Landman (2010–2011), Rod Pickering (2007–2008)

Branch Chairmen for 2013/2014

Ian Ashmole (Johannesburg Branch), Henry Zimba (Zambian Branch), Tunde Ojumu (Western Cape Branch), Grantham Ockhuizen (Namibian Branch), Shepherd GaiHai (Zimbabwean Branch), Susa Maleba (Democratic Republic of Congo Branch)

Members and their guests at the cocktail party

Beatrice and Huw Phillips, Brigadier Stokes Award recipient

Rod Pickering, Erica and John Napier

Alastair Macfarlane, Malcolm Hampshire, and Julian Upshall

Noel Joughin, John Sheer, and Phil Piper

Breton Scott, Robin Spargo, and Dave Young

University students enjoying the cocktail party after the AGM