

Annual report

FOR THE YEAR ENDED 30TH JUNE, 2003

Council for 2002/2003

President

S.J. Ramokgopa

President-elect

T.R. Stacey

Vice-presidents

Senior

F.M.G. Egerton

Junior

W.H. van Niekerk

Immediate Past-president

A.A.B. Douglas

Honorary Treasurer

J.A. Cruise

Members of Council

W.J. Abel

M. Dworzanowski*

A.M. Garbers Craig

F.P.S.F. Guilherme

P. Hand*****

K.J. Hay

C.C. Horsley***

F.W. Human

P.J. Knottenbelt**

A.S. Macfarlane

N.C. Machingawuta

C.A. McInnes*

P.S. Mokgokong*

L.B. Mthwa*

A.F. Mulaba-Bafubiandi**

C.T. O'Connor

F.W. Petersen

R.C.D. Phillis*

R.G.B. Pickering

J.L. Porter

C.M. Rule

G.L. Smith

A.A. Smithen*

J.J. Sutherland

C.A.F. Sweet

J.N. van der Merwe

P. van Dorssen****

D.J. van Niekerk

H.G. Waldeck

I.J. Walton

R.C.W. Webber

R.P.H. Willis

*Co-opted members

** Representing Non-Corporate Members

***Observer (MMA)

****Observer (AMMSA)

*****Observer (SACMA)

*****Observer (SACPS)

Branch Chairmen

Johannesburg Branch

Free State Branch

Pretoria Branch

Western Cape Branch

Bushveld Branch

Zululand Branch

J.L. Porter

F.P.S.F. Guilherme

R.C.W. Webber

C.T. O'Connor

C.A.F. Sweet

I.J. Walton

Past-presidents serving on Council

B.C. Alberts

J.D. Austin

N.A. Barcza

R.D. Beck

A.N. Brown

L.A. Cramer

J.A. Cruise

J.R. Dixon

H.E. James

R.P. Mohring

Key objectives of the Institute

To initiate and give effect to the means whereby the requirement for technology and scientific knowledge of the minerals and metals section of the South African economy is satisfied; and to represent and promote the interests of its members.

Arrangement of this Report

In accordance with the current management policy, this report on the activities of the Institute is presented under eight main headings:

1. Interests of Individual Members
2. Technical Meetings
3. Publications
4. Regional Development
5. Engineering Science and Technology in South Africa
6. International Liaison
7. State Liaison
8. Management and Administration.

1. Interests of Individual Members

Portfolio Holder: S.J. Ramokgopa

Key Performance Areas

In the interests of individual members, the SAIMM

- ▶ *undertakes to assess the qualifications, experience, and the level of responsibility of applicants for membership, and allocates a membership certificate in an appropriate grade as a means of granting appropriate professional and technical status to individuals who practise in the minerals and metals sector*
- ▶ *arranges conferences, colloquia, schools and seminars where technical information on mining, metallurgical and allied issues is disseminated. Both members and the general industry benefit from these interchanges*
- ▶ *undertakes to prepare and publish career guidance brochures, bursary handbooks, audiovisual and video programmes, optional school curricula material, etc., and participates in the activities of the RADMASTE Centre to stimulate scholars and students to select careers in the minerals and metals sector of the South African economy*
- ▶ *guards the professional interests of engineers, scientists, technologists, and technicians by providing a corporate voice and by representing their interests on bodies such as the Engineering Council of South Africa*

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- ▶ *through representation on ECSA, assists with the evaluation of curricula at universities and technikons with a view to improving the level of education of graduates and diplomates and ensures that the courses are relevant to the needs of the minerals and metals sector*
- ▶ *makes awards, in the form of medals, prizes and certificates, in order to recognize technical excellence, to stimulate a sense of pride in high standards of performance, and to encourage individuals involved in the minerals and metals sector to share the results of their work through publication. The following are eligible for SAIMM awards: individuals for the very highest achievements in the South African mining and metallurgical industry, SAIMM members and non-members for papers of the highest standard published in the Journal or other SAIMM publications, and students from universities and technikons for exceptional academic performance*
- ▶ *arranges technical excursions, banquets, and other social events to create opportunities for professional association and fellowship for its members.*

1.1 Membership Committee

F.M.G. Egerton, Chairman
Prof. T.R. Stacey, Vice-chairman

J.D. Austin	M.H. Rogers
Dr N.A. Barcza	R.P. Mohring
R.D. Beck	R.G.B. Pickering
Prof. A.N. Brown	S.J. Ramokgopa
Dr L.A. Cramer	D.A.J. Ross-Watt
J.A. Cruise	G.L. Smith
J.R. Dixon	D.J. van Niekerk
A.A.B. Douglas	Dr W.H. van Niekerk
H.E. James	R.P.H. Willis

Membership

Members of the SAIMM comprise engineers, metallurgists, chemists, physicists, geologists, certificated managers, and technikon diplomates, all of whom have an interest in the fields of mining, extractive metallurgy, metals technology, and other related areas.

Corporate members are classified as follows

HONORARY LIFE FELLOW: must have rendered services to the Institute, science, or industry.

FELLOW: (Minimum age 30 years.) A person eligible for election or transfer into the class of Fellow shall be any minerals professional employed for a minimum of five years in a senior technical position of responsibility provided that the candidate has had ten years' combined technical tertiary education and appropriate experience, or experience only.

MEMBER: (Minimum age 25 years.) A person eligible for election or transfer into the class of Member shall be employed for a minimum of two years in a technical position of responsibility provided that the candidate has had five years' combined technical tertiary education and appropriate experience, or experience only.

Non-corporate members are classified as follows.

COMPANY AFFILIATE: companies associated with mining or metallurgical industries are eligible for membership.

HONORARY FELLOW: persons of distinction in public service, science, or the arts.

ASSOCIATE: a person eligible for election or transfer into the class of Associate shall be any person with a recognized industry qualification, within the disciplines of mining, extractive metallurgy, or metals technology.

STUDENT: a full-time student or postgraduate student at a university, technikon, or any other educational institution approved by Council, who is being trained to occupy a technical position in the mining or metallurgical industry or associated organizations.

Membership Roll

Members of the Institute are divided into CORPORATE and NON-CORPORATE members, all of whom are entitled to attend and speak at meetings. Only Corporate Members are entitled to vote. All applications for membership or transfer require **one** proposer and **one** seconder.

RESIGNATION: A member may resign from the Institute by sending his or her written resignation to the Secretary together with payment of any monies due.

RETIRED MEMBERSHIP: A Fellow or Member who has *bona fide* retired from active business may retain membership at a reduced subscription providing he or she has been a member for 20 years. Members can contact the Secretary to establish the number of years of service prior to submitting a written request for Retired Membership to the Institute.

STUDENTS: A candidate may remain a Student member only while he or she is being educated or trained in a manner approved by the Council.

When he or she no longer qualifies as a Student member, he or she shall automatically be transferred to the category of Associate. Students are reminded to forward a copy of their degree certificates to the Institute on graduation.

A candidate may not remain a Student member after the end of the Institute's financial year in which he or she attains the age of twenty-eight years, unless the Institute receives written confirmation from the university or technikon that the Student member is still a full-time student.

CHANGE OF DETAILS: It is essential that members contact the Institute without delay with regard to change in designation, change in employer, payment address or change in postal address. Without this the communication link to members is broken. Also, members must ensure that, where subscriptions are paid by a company, the Institute has on record the correct payment address.

Benefits of Membership

Individuals derive various benefits from membership of the Institute:

- ▶ contact with fellow members
- ▶ special reduced fees when attending congresses, symposia, colloquia, conferences, schools, discussion groups, etc.
- ▶ notices of events promoting technology transfer, which also satisfy the need for continuing education

Table 1

Summary of new applications and membership movements for 2002/2003 and comparison of membership grades and total membership 2002/2003

Membership grade	Members July 2002	New members	Transfers in	Transfers out	Reinstatements	Resignations	Deceased	Struck-off	Net gain/(loss)	Members June 2003
Honorary Life Fellow	33	-	4	-	-	-	-	-	4	37
Honorary Fellow	4	-	-	-	-	-	-	-	-	4
Life Fellow	19	-	-	-	-	-	1	-	-1	18
Fellow	388	21	8	11	-	5	-	4	9	397
Retired Fellow	140	-	7	-	-	3	3	2	-1	139
Life Member	1	-	-	-	-	-	-	-	-	1
Member	708	22	8	13	4	24	2	30	-35	673
Retired Member	78	-	8	-	-	2	2	2	2	80
Associate	804	17	36	11	1	31	1	54	-43	761
Retired Associate	11	-	-	-	-	-	-	-	-	11
Student	240	61	-	36	4	6	-	49	-26	214
Company Affiliate	149	4	-	-	-	6	-	3	-5	144
Total	2 575	125	71	71	9	77	9	144	-96	2 479

- a bi-monthly *Journal* with a balanced content and of high technical standard, which serves as a communication medium to keep members informed on matters relating to their professional interests
- participation in technical excursions, banquets, and other social events, which create further opportunities for professional association and fellowship
- tax deduction of membership fees in most cases
- reduced registration fees for professional registration through the Engineering Council of South Africa.

Companies that become Members of the Institute

- benefit from the opportunities to exchange knowledge, particularly regarding new developments and research
- receive the Institute's publications of international conferences held in South Africa, as well as monographs on a variety of subjects and regular copies of the bi-monthly *Journal*
- are entitled to send two non-member employees to mining and metallurgical schools, colloquia, congresses, visits, and excursions at member rates
- receive newsletters and notices about all Institute activities
- benefit from the fact that Company Affiliateship is tax-deductible
- have ample opportunity to send delegates to attend technical meetings to obtain information and to benefit from the experience of others.

1.2 Career Guidance and Education

D.R. Fleming, Chairman

Dr M. Booth A.S. Macfarlane
F.M.G. Egerton Dr A.M. Mulaba
P.J. Knottenbelt R. Tait*

*Co-opted members

It was a very inactive year, yielding little in the way of results.

A number of meetings were arranged but, with two exceptions, were cancelled due to the inability of members to attend because of busy personal schedules. The two meetings were each attended by two members other than the Chair and Secretary.

There has also been some indication from committee members that there was some concern as to the *raison d'être* for this committee given the perceived lack of objectives and progress.

Last year's report mentioned two areas of endeavour for this year:

- Promotion of careers in the minerals industry
- SET education.

Career promotion

Activity continued according to previously established routine with the existing brochures and promotional materials. These have now been all but used up.

Development of an updated brochure was recommended by this committee, but has unfortunately been retarded by lack of approval at higher level committees.

SET education

The Chairman attended a meeting of the organization called FEDSET as a representative of the SAIMM, at the request of the President. There was no sign of any progress after certain key figures had terminated their involvement. At the last meeting held on 24 April 2002, it was minuted that a meeting 'would be held within six months'. This did not happen.

Subsequent to the above, the Chairman was asked by a Wits member of staff to replace him on the Minerals and Mining Promotion Implementing Structure (MMPIS), a tripartite body that was formed to deal with the subject of its title.

This offer was accepted to take effect from August 2003.

The papers of this body indicate some very positive action at industry level on promotion of careers in the minerals industry and this will be pursued as a likely best involvement of the SAIMM in this area.

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This would certainly negate the need for the SAIMM to have the CGC committee pursue a separate programme.

The CGC can thus in 2003/4 decide whether there are other objectives for it to address.

1.3 Promotion of the SAIMM

Technical Events

The SAIMM consistently maintains its main function, with a sterling performance, which is the dissemination of information and knowledge to the mining and metallurgical industries at large and to its members in particular; and keeps its members abreast with advancements in technological and social developments. Events such as conferences, colloquia, schools, book launches, *Journals*, international liaison, etc. are used for the promotion of the Institute.

The highlight of such endeavours is the soon-to-be incorporation of SANCOT - the South African National Council on Tunnelling, which is to be ratified at the Special General Meeting.

The efforts of the Conference co-ordinators, Mining and Metallurgical Technical Programme Committees and the leadership and direction provided by their chairmen are acknowledged.

Membership

For the first time, membership subscriptions have passed the one million rand mark and in the process is covering the costs of the *Journal* and giving members their money's worth.

Annual Banquet

A successful event with over 1 200 guests. Praise should be given to the banquet committee under the chairmanship of John Cruise. Special thanks also to Sam Moodley.

Career guidance and education

To further the aims and objectives of the Institute, Career Guidance and Education Committee has been mandated to accredit the Institute's events for recognition by the Engineering Council of South Africa's continuing professional development programme.

Journal

Eight issues were published during the course of the year, drawing sufficient advertisement revenue. Contribution from foreign authors are substantial and increasing. The Institute has given the go-ahead for the *Journals* to be added to the website.

We acknowledge and appreciate the efforts of the editor and the publications committee.

Awards

The Chamber of Mines discontinued their gold medal awards to the best student in the Faculties of Engineering and the Departments of Mining and Metallurgy at the Universities of the Witwatersrand and Pretoria.

We are advised that nature abhors a vacuum and this deficiency was made good by the larger players in our mining industry who agreed to cover the cost of providing the medals. They are Anglo American Corp. Ltd, Anglo American Platinum, AngloGold Ltd, Anglovaal Mining Limited, BHPBilliton, De Beers Consolidated Mines, GFL Mining Services Ltd (Gold

Fields), Impala Platinum, Kumba Resources and Sasol Mining. The programme is administered by the Institute and the awards have been renamed The South African Institute of Mining and Metallurgy Gold Medal Awards.

1.4 Awards and Adjudication Committees

Awards and Adjudication Committee—Mining

M.H. Rogers, Chairman

R.D. Beck

J.R. Dixon

A.A.B. Douglas

F.M.G. Egerton

R.G.B. Pickering

G.L. Smith

Prof. T.R. Stacey

D.J. van Niekerk

R.P.H. Willis

Awards and Adjudication Committee—Extractive Metallurgy

Dr L.A. Cramer, Chairman

R.D. Beck

M. Dworzanowski

Dr A.M. Garbers Craig

K.J. Hay

Dr N.C. Machingawuta

**Co-opted members*

C.A. McInnes

Dr R.L. Paul*

C.M. Rule

Dr W.H. van Niekerk

Brigadier Stokes Memorial Award

The Brigadier Stokes Memorial Award, which takes the form of a platinum medal, is awarded to an individual for the very highest achievement in the South African mining and metallurgical industry, and is not necessarily based on technical expertise.

The Award was established in 1980, and the previous recipients were as follows:

1980	Dr H.F. Oppenheimer
1981	Dr W. Bleloch
1982	Dr F.G. Hill
1983	Dr A.W. Whillier (posthumously)
1984	Prof. D.G. Krige
1985	Dr R.E. Robinson
1986	Prof. M.D.G. Salamon
1987	Dr T.F. Muller
1988	Dr W.J. (Wim) de Villiers
1989	Dr R.A. Plumbridge
1990	Dr W.G. Boustred
1991	P. du P. Kruger
1992	E. Pavitt
1993	Prof. D.A. Pretorius
1994	Dr H. Wagner
1995	Dr Oskar Steffen
1996	B.E. Hersov
1997	Prof. D.W. Horsfall (posthumously)
1998	B.P. Gilbertson
1999	L. Boyd
2000	A.H. Mokken
2001	T.L. Gibbs
2002	J. Ogilvie Thompson

This year the award is being made to P.V. Cox for his outstanding contribution to the industry over many years.

SAIMM 50 Year Club

The Institute established the 50 Year Club in 1989 to recognize the faithful and loyal support of its senior members with 50 years' unbroken membership. They become members of the club on the 50th anniversary of their joining the Institute. Their names are published each year in the Annual Report and they

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are presented with a gold lapel badge on a suitable occasion. There are no fees, and the only obligation of members is to wear their lapel badges with pride and affection at all meetings of the Institute. The present members of the club are as follows:

<i>Year to June</i>	<i>Member</i>	
1924	E.C. Polkinghorne*	
1926	R.M. Martin*	
1927	W. Allen*	
1930	E.T. Dunstan* (posthumously) P.L. Ward*	
1931	F. Bowdler*	
1932	J.E. Laschinger*	
1933	F.D. Cartwright C.H. Coxon* J. Levin D.D. McWilliam*	E.R.C. O'Connor* B.M. Roberts* A.A. von Maltitz* T. Waterman*
1934	A.C.M. Cornish-Bowden* H.E. Cross* E.F. Laschinger* E. Margo	J.W.V. Mortleman* K. Rood* A. Siff* O. Weiss*
1935	O.B. Swallow*	
1936	O. Deane* T.L. Gibbs* R.C.J. Goode* F.G. Hill* D.M. Jamieson* D.J. Rogers*	A.H. Mokken* H.L. Monro* R.M.F. Seawright* A.C. Pigott* J.S. van Zijl* L. Walter*
1937	W. Bleloch* L.A. Bushell* K.W. Findlay	J.J. Klein* C.D. Storrar
1938	V.C. Barnes E.T.S. Brown* R.S. Cooke* J.K.E. Douglas A.L.A. Forder*	C.A. McKechnie* J.A. Nixon E. Popplewell C.G. Sowry* E.W. Thiel*
1939	G. Armstrong-Smith D.E.R. Ayres E.H.D. Carman W.G.H. Jackson* T.A. Newman	R.S. Pearson D.C.J. Squirrell* R.F.J. Teichmann* I.S. van Eyssen* S.J. Venning
1940	L.D.C. Bok* A.W.L. Brereton	G.D. Gettliffe* G.G. Stanley
1941	A.H.H. Davison* D.J. Forder A.R.C. Fowler* H.F.W. Ketelbey J.D. McNamara T.F. Muller*	D. de V. Oxford* E. Pavitt A.C. Petersen* E.R. Rudolph P.W.J. van Rensburg*
1942	R.E. Burnton* R.C. Espley-Jones N.M. Hayne* R.T. Naudé	O.L. Papendorf V.O. Steed J.E. van Leeuwen* W.C. Walmsley*
1943	D.J. Molony* J.D. McMorran	R.P. Plewman
1944	A.F. Dick R.B. MacGillivray L.J. Prince J.F. Reid	V.M. Reinecke* A.S. Swartz A.H. Taute P.B. Weehuizen
1945	J.L. Curtis* E.T. Pinkney	K.E. Steele*

1946	W.I. Spence	
1947	G.H. Grange W.B. Howe J. Marr-Levin C.J. Parr*	J.D. Pollard V.C. Robinson* A.N. Shand* G.R. Still
1948	D.F. Foster M.H. Grusd P.A. Laxen G.Y. Nisbet	J. Pope* N.A. Stacey J.A. Tyser
1949	G.P. Bennett J.F. Curtis* O. Davel	J.P. Hugo D.A. Immelman
1950	D.F. Grieve B.E. Hersov D.G. Maxwell	R.P. Plasket V.C. Ward
1951	Prof. D.G. Krige B.H.L. Leach M.J. Martinson W.D. Ortlepp	N.C. Pope W.T. Ruhmer T. Zadkin*
1952	A.N. Brown M.J. Deats W. Lurie N. Mertincevic	E.P. Mortimer D.J. Murphy H.J. Stucke R.G. Williams

• Deceased since becoming members of the club

Gold and Silver Medals

Papers published in the *Journal* from March 2002 to February 2003 by members of the Institute were considered for medals.

Gold Medals

No awards was made in 2003.

Silver Medals

Silver medals were awarded to the following:

- F.M.C.C. Vieira and R.J. Durrheim for their transaction paper published in the May/June 2002 issue of the *Journal* entitled 'Probabilistic mine design methods to reduce rockburst risk'.
- K. Naidoo and M.F. Handley for their transaction paper published in the May/June 2002 issue of the *Journal* entitled 'Basic principles for stable gullies in the gold and platinum mines of South Africa'.

Honorary Life Fellows

Honorary Life Fellowship is awarded by Council to Corporate Members of the Institute who have rendered outstanding service to the industry or to the Institute over a considerable period. Council has conferred Honorary Life Fellowship on the following persons:

Pre-1923	Dr A. Aiken A.F. Crosse J. Littleton	S.H. Pearce J.P. Williams
1923	Dr J. Moir	
1930	H.A. White	
1931	P. Cazalet A. Whitby	Prof. J.A. Wilkenson
1932	J.R. Thurlow	
1934	Dr Wm. Cullen W.R. Feldtmann E.H. Johnson	A. McArthur Johnston Prof. G.H. Stanley

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1938	G. Melvill S. Newton	F.W. Watson
1941	J. Henderson	
1943	Sir R.N. Kotzé	
1946	Dr J. van N. Door C.J. Gray Jas Gray J.V. Muller Prof. John Orr	T.K. Prentice R.S.G. Stokes Prof. S.J. Truscott Prof. G.A. Watermeyer J.A. Woodburn
1951	W.W. Mein	
1953	Dr P.E. Hall	Prof. B. St. J. van der Riet
1954	Prof. C. Biccard Jeppe	
1955	Dr P.N. Lategan	
1958	R.A.H. Flugge-de-Smidt	
1960	G. Hildick-Smith Dr A.J. Orenstein Dr H.J. van Eck	A.J. Walton F. Wartenweiler
1961	Dr C.S. McLean	
1966	Dr F.G. Hill	Dr F. Meyer
1970	H.E. Cross R.C.J. Goode	D.M. Jamieson
1974	R.J. Adamson Dr W. Bleloch H. Britten	C.J. Irving J.F. Reid
1975	Dr M. Barcza Prof. J. de V. Lambrechts	Dr J.T. McIntyre
1976	D.G. Maxwell	Lt. Col. A.R.O. Williams
1978	J.K.E. Douglas Prof. D.D. Howat	V.C. Robinson
1979	Dr J.P. Hugo	P.W.J. van Rensburg
1980	Hon. S.P. Botha Hon. P.G.J. Koornhof A. Louw	Prof. R.P. Plewman Dr R.E. Robinson
1982	Dr M.G. Atmore	
1983	C.S. MacPhail	
1985	Dr P.R. Jochens D.G. Malan	Dr M.D.G. Salamon
1986	Prof. D.G. Krige	G.Y. Nisbet
1987	Prof. A.N. Brown	
1988	J.D. Austin Prof. R.P. King	D.A. Viljoen
1989	P.A. von Wielligh	
1990	Prof. S. Budavari L.W.P. van den Bosch	Prof. G.T. van Rooyen
1991	Dr H. Wagner	
1992	Dr J. Lurie	
1993	No award	
1994	B.C. Alberts	
1995	R.D. Beck P.R. Janisch	H.E. James
1996	Prof. R.J. Dippenaar J.S. Freer H.G. Mosenthal	
1997	J.A. Cruise	
1998	D.A.J. Ross-Watt	
1999	No award	
2000	Dr N.A. Barcza R.P. Mohring	J.R. Dixon
2001	M.H. Rogers	D.J. van Niekerk
2002	Dr L.A. Cramer Prof. C.T. O'Connor	Prof. R.F. Sandenbergh J.H. Selby

In 2003 this award is to be conferred on A.A.B. Douglas and P.J. Knottenbelt for their outstanding contribution to the Institute over a number of years.

Student Prizes

Prizes were awarded to the following students for the best student dissertations in part fulfilment of the B.Sc. (Eng.) degree:

Mining

No award was made in 2003.

Other Prizes

Other prizes, made to students at the Universities of the Witwatersrand and Pretoria, were presented at faculty prize-giving ceremonies held at the respective universities.

The prize winners were as follows:

University of the Witwatersrand

Prestige Prize

Mining	B.E. Khumalo
Metallurgy	R. Dass

University of Pretoria

Prestige Prize

Mining	J.T. Jordaan
Metallurgy	J. Morkel

Technikon Prizes

Prestige Prize

B. Tech Mining Engineering	J. Jacobs
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University of Cape Town

Prestige Prize

Chemical Engineering	C. Anderson
Materials Engineering	S.-A. Parker

University of Stellenbosch

Prestige Prize

Chemical Engineering	L. Reyneke
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Cape Technikon

Prestige Prize

Chemical Engineering	S. Ramohlola
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The prizes for the Universities of Cape Town and Stellenbosch, and the Cape Technikon are awarded at the Western Cape Branch Annual General Meeting.

Atlas Copco Travel Grant

No award was made in 2003.

Outokumpu Travel Grant

No award was made in 2003.

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1.5 Banquet Committee

J.A. Cruise, Chairman

Dr L.A. Cramer

J.R. Dixon

A.A.B. Douglas

R.P. Mohring

S.J. Ramokgopa

M.H. Rogers

Our banquet this year at the Sandton Convention Centre was an African extravaganza to honour our new president. The 1 260 guests came from around South Africa and included SAIMM members, members of other mining-related institutes, sponsors, and journalists. Sibongile Khumalo, the renowned singer, entertained the guests, while the band kept them dancing until way past midnight.

All those involved in organising this prestigious event are thanked for their hard work and the attention to detail (right down to the place cards and zebra-striped table cloths) that made the event the success it was.

2. Technical Meetings

Portfolio Holder: T.R. Stacey

2.1 Technical Programme Committee—Mining

R.P.H. Willis, Chairman

W.J. Abel

J.L. Porter*

Dr W. Assibey-Bonsu*

A.A.B. Douglas

F.M.G. Egerton

Prof. M. Handley*

Dr G.V.R. Landman*

A.S. Macfarlane

P.P. Mwasinga*

R.C.D. Phillis*

R.G.B. Pickering

B.C. Rip*

G.L. Smith

A.A. Smithen

Prof. T.R. Stacey

F.W. Taylor*

J. Truter*

H.G. Waldeck

J.N. Wallington*

*Co-opted members

The TPC Committee—Mining once again had a successful year, having fulfilled its mandate to educate and provide thought-provoking technical material to SAIMM members and the broader mining community. It also managed to provide a modest financial contribution to the SAIMM.

Seven colloquia and two international symposia were held during the year. The subject matter of these colloquia and symposia tend to reflect current issues facing the mining industry. Of particular note was the Student Colloquium, which provided exposure to our very talented young mining engineers and metallurgists. The Black Empowerment in the South African Mining Industry colloquia attracted much interest with a request to repeat. The international symposium APCOM 2003 was a huge success, attracting many overseas delegates.

Schedule of Mining Technical Conferences, 2002/2003					
Type of Event	Date	Title	Convenor	Venue	Attendance
International	14–16 July 2002	Recovery of Base Metals in Southern Africa. 'Mine to Metal'	C.A. McInnes	Sun City	104
Colloquium	23–24 July 2002	New Rock Breaking and Excavation Technologies	J. Truter	Mintek	154
International	29–31 July 2002	2nd International Seminar on Surface Support Liners	T.R. Stacey	Sandton	96
Colloquium	1 October 2002	Mining Finance and the Development of the Small Mining Sector in African Countries	H.G. Waldeck A.S. Macfarlane	NASREC	106
International	2–4 September 2002	Surface Mining	M.F. Handley	NASREC	157
Colloquium	24 October 2002	Student Colloquium	M.F. Handley	SA National Museum of Military History	114
Colloquium	6 November 2002	Human Technology in the Mining, Metals and Minerals Industry: State of the art	W.H. van Niekerk	SA National Museum of Military History	55
Seminar	29 January 2003	Gravity Concentration	M. Dworzanowski	Magaliesberg	77
Symposium	5 March 2003	Sustainable SHEQ Systems in the Mining Industry	A.A.B. Douglas	Mintek	110
Colloquium	18 March 2003	State of the art of Automation and Control in the Minerals and Metals Processing Industries	A.M. Garbers Craig	Mintek	71
Colloquium	27 March 2003	Black Economic Empowerment in the South African Mining Industry	F.M.G. Egerton	SA National Museum of Military History	77
Colloquium	16 April 2003	The Mineral and Petroleum Royalty Bill	A.S. Macfarlane	SA National Museum of Military History	95
International	14–16 May 2003	APCOM	F.A. Camisani-Calzolari	Cape Town	189
International	19–21 May 2003	ISSA Chamber of Mines Conference	M.J. Gouws	Sandton	107
Colloquium	11 June 2003	Mineral Resource Management	A.S. Macfarlane	SA National Museum of Military History	134
Colloquium	18 June 2003	Mine Closure for Sustainable Development	A.A. Smithen	SA National Museum of Military History	64

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Many thanks must go to all committee members and colloquia organizing committees for their hard work and dedication during the year. A special word of thanks to the Secretariat for making it all happen. On a final note, I would like to wish the in-coming Chairman of the TPC Committee—Mining, Mr Gordon Smith, the best of luck and offer my complete support in the coming year.

2.2 Technical Programme Committee — Extractive Metallurgy and Metals Technology

M. Dworzanowski, Chairman

M. du Plessis	C.A. McInnes*
Dr A.M. Garbers Craig*	Dr A.M. Mulaba
Prof. J.M.A. Geldenhuis*	C.M. Rule
K.J. Hay	Dr L. Strydom
F.W. Human	Dr W.H. van Niekerk
Dr N.C. Machingawuta*	

*Co-opted members

The 2002/2003 year included a number of very successful conferences. It started with the second Southern African Base Metals Conference held at Sun City in July 2002. There were over 30 excellent technical papers presented at a reasonably well attended and well received conference. The next one will be in 2 years' time.

There was a Human Technology colloquium held in November 2002, covering ergonomic issues in the mining industry.

The gravity concentration seminar, held in January 2003, covered a wide range of topics on gravity concentration technology developments.

A control and modeling colloquium held in March 2003 considered new developments in this area.

The solid/liquid separation colloquium held in May 2003 looked at developments in solid/liquid separation technology.

A number of events are planned for 2003/2004. There will be the International Mineral Processing Congress in Cape Town in October 2003, the Heavy Minerals Conference in Cape Town in October 2003, the International Molten Slags, Fluxes and Salts Conference in Cape Town in January 2004, and Infaxon X in Cape Town in February 2004. Other one- or two-day colloquia are also planned on topics still to be confirmed.

Members of the TPC—Metallurgy worked very hard and everyone made valuable contributions during the year. The TPC—Metallurgy believes that next year is going to be a busy year, given all the international conferences scheduled and more local colloquia will be organized, which will provide continued metallurgical technology updates for the mining industry.

2.3 Committee for the Environment

A.A. Smithen, Chairman

J.S. Freer*	Dr A.M. Mulaba*
D. Limpitlaw*	E. Swart

*Co-opted members

The SAIMM Council decided to disband the environmental Committee at the council meeting on 17 January 2003. This followed a period during which the committee had been inactive, but the decision was based on, the committee having

achieved its objective of sensitizing members to their individual responsibility towards the environment. The committee was disbanded on assumption that responsibility for promoting Integrated Environmental Management (IEM) will be continued within the executive committees of Council. This is in line with the principle of IEM, whereby the initiator/promoter of any activity is responsible for integrating the environmental issues into the management of that activity.

A colloquium, Mine Closure for Sustainable Development, was held on 18 June 2003. This was a half-day event attended by some 60 delegates. Papers presented covered the legal issues, with particular reference to the Mineral and Petroleum Resources Development Act and the draft regulations under that act. Practical issues were addressed and there were presentations on financial planning and strategy. While this was not a big event, the level of interaction between delegates and presenters was encouraging and bodes well for a professional approach to this important aspect of mining and sustainable development.

3. Publications

Portfolio Holder: Dr W.H. van Niekerk

R.D. Beck, Chairman

Prof A.N. Brown	Prof. T.R. Stacey
F.M.G. Egerton	Prof. J.N. van der Merwe
Dr F.W. Petersen	H.G. Waldeck
C.M. Rule	

3.1 Journal

Eight issues were again published this year, instead of the bi-monthly issues. A student issue was published in March 2003 and an issue containing papers only from the Department of Mining Engineering of the University of Pretoria was published in May 2003. The student issue covered papers written on project work carried out in partial fulfillment of their degrees. The *Journal* was published on time throughout the year.

An increased number of papers was received during the year and papers were drawn from SAIMM conferences. Papers by non-RSA authors were also received. The standard of English of these were often inadequate, but efforts to edit and publish them were made if the technical content was of a high enough standard.

Thirty-one transaction papers, 23 journal papers, 4 technical notes, 10 student papers and 3 comments on published papers were published this year. This represents a 34% increase in transaction papers and a 21% decrease in journal papers over the last few years. Fewer transaction papers (9) were rejected, 78% of which were from non-RSA authors. The number of metallurgical papers increased this year, mainly from colloquia, to equal those published on mining topics. Three papers were published on environmental topics. Of the overseas papers, 4 were from Australia and 5 each from Turkey and the USA.

Advertising has been maintained at the same levels as last year, including the additional issues, and was well within budget. This is thanks to Harriet Isserow, our advertising agent and the support we receive from companies in the minerals industry.

The number of papers published per issue increased on

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average. The typesetting and printing costs were therefore slightly over budget. Even so, overall the budget was met.

Professor Robbie Robinson has continued with his thought-provoking Journal Comments throughout the year, for which we are very grateful.

Investigations as to the best way to provide access to papers, current and past, on the website were completed during the year. The proposal and quote from Gainsford Software Development cc was accepted and work has started.

The DTP department has maintained the high standard of *Journal* layout and thanks go to Dawn van der Walt and Zuliakha Mohamed.

Our proofreader Roy Stimson passed away on 23 June, and will be missed as he had done a sterling job for many years.

Ayanda Wellman left at the beginning of the year to be replaced by Hawa Valli. I should like to thank Hawa for her hard work, the members of the Publications committee for their advice, and all the staff at the secretariat for their input during the year. Finally thanks go to all those who gave of their time as referees, without whom the standard of the *Journal* could not be maintained.

4. Regional Development

Portfolio Holder: F.M.G. Egerton

Key Performance Areas

To promote the interests of members based in different regions, the SAIMM:

- ▶ supports the establishment and maintenance of branches to satisfy the local needs of its members for professional association and the exchange of technical information
- ▶ co-operates with other member societies of AS&TS and with associations and interest groups that have close ties with operating mines and metallurgical plants by holding joint technical meetings and collaborating in the field of publication.

4.1 Regional Development Committee

Although no formal meetings were held by the committee, feedback and updates were received from the branches.

Branch chairmen were encouraged to attend at least one Council meeting per annum, to report on the progress within their branches.

4.2 SAIMM Branches

4.2.1 Johannesburg Branch

J.L. Porter, Chairman

A.M. Croll	S.M. Rupprecht
V.G. Duke	E.U.H. Sachse
D.R. Fleming	P.E. Smith
A.S. Macfarlane	F.W. Taylor
P.P. Mwasinga	A.R.T. Thin

The 2002 to 2003 year, reviewed in this annual report, has been a challenging period for the branch. Overall, we have seen significant changes in the membership of the branch committee, but the level of support and commitment remains undiminished. The ongoing structural changes in the South African mining industry have contributed to a diminishing

attendance from the corporate environment. Conversely, we have seen more people from the mining industry 'supply side' companies, institutes of tertiary education and black empowerment companies.

The Branch Committee Annual General Meeting was held on Thursday, 24 July 2003, and a new committee was elected.

Technical presentations

Thursday 20 February 2003

An Update in the Innovative Target Gold Mine—number of people attending the presentation: 120.

Norman Schwab gave a very upbeat presentation on the progress made at this 'state-of-the-art' new mining operation in the Free State. All attendees enjoyed this refreshing approach to a technically challenging orebody.

Wednesday 19 March 2003

Energy Used in South African Mines—number of people attending the presentation: 22.

This presentation by Udo Sachse examined energy usage in mines and energy delivery alternatives. Ultimately the ability to mine depends on how much energy can be delivered to the rock face and how well it is used. Although the attendance was below par, there were some very interesting debates about the subject matter.

Thursday, 10th April 2003

Sustainable development theory is over. Where to in actual practice?—Number of people attending the presentation: 111.

This well-attended presentation was introduced by Bill Nairn and delivered by Karin Ireton and examined the question of 'Can the mining industry be sustainable?' It certainly has an important role to play—one confirmed at the Johannesburg World Summit on Sustainable Development last year.

Wednesday 16 April 2003

An Overview of the Mining Industry in Western Australia—Number of people attending the presentation: 40.

This second event in April was arranged for Paul L'Herpinère, an Australian graduate geologist who is currently working on prospects in the Eastern Limb for Anglo Platinum. The Branch arranged with the Perth Branch of the AusIMM to reconstitute the student exchange scheme, which is an important initiative to be followed up by the new committee. Congratulations to Alistair for this initiative.

Thursday 22 May 2003

Hydraulic Transportation—number of people attending the presentation: 21.

Hartmut Ilgner is a technical consultant at CSIR Mining Technology and has been associated with hydraulic transportation in the mining industry for nearly 15 years. His presentation covered a wide range of hydraulic transportation applications in coal, base metal and the gold mining industry.

Thursday 12 June 2003

The Jewellery Industry: Downstream Processing and Beneficiation—number of people attending the presentation: 40.

The guest speaker was Claire Minnitt and she gave an exceptionally informative update of initiatives aimed at

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changing the fact that South Africa provides approximately 25% of all raw materials for jewellery production worldwide, yet contributes less than 0.5% to fabricated jewellery. This presentation took a brief look at the industry pipeline, highlighted the key barriers to growth, and outlined the current strategy of the industry to address the issue of increased beneficiation.

Technical visits

Saturday 30 November 2002

Year End Family Outing (Botanic Gardens)—attended by 19 adults and 11 children.

Apart from the festive family day, there was an informative and educational walk through the Roodepoort Botanical Gardens and Geological Trail.

Friday, 23 May 2003

De Beers—World Technical and Technology support—attended by 31 people.

An exciting visit was arranged at one of the foremost research and development centres in South Africa where members were informed of some of the latest developments in diamond recovery technologies.

The year ahead

'The Committee will have to strive to face the challenge of finding stimulating and diverse topics that are of interest to a wide range of stakeholders.' This was said by last year's Chairman and the same holds true for the year ahead. The erratic attendance figures are symptomatic of not only the subject matter, but also the degree of coverage afforded by e-mail. These challenges will be addressed by looking at more innovative subjects as well as more effective use of electronic communications media, e.g. SMS.

As well as the exchange student programme with AusIMM, the developing relationship with the GSSA Johannesburg Branch will be continued.

Acknowledgements

As Chairperson, I would like to thank the Committee for their work during the year. Having regular committee meetings prior to the evening presentations has assisted with the overall co-ordination of the branch function.

I would like to thank Ginette Oliver for her hard work during the year, and the secretariat in general for their support and the excellent co-ordination of events.

I would also like to thank our speakers for their valuable contributions, as well as the audiences and sponsors. It is always gratifying to see Council members and past-presidents in our audiences, as well as students.

Finally, I would like to thank the outgoing President for all his hard work during his year of Office, and on behalf of the Branch, welcome the President-elect to his tenure of office.

4.2.2 Free State Branch

F.P. Guilherme, Chairman

F. Agenbag

J. Bester

L. Daffue

C. de Villiers (Secretary)

J. Jooste

J. Lucas

M. Mortlock

B. Northrop

B. du Plessis

A. Hockly

G. Olivier

The Free State Branch of the South African Institute for Mining and Metallurgy has had another eventful year through 2002 and 2003. The committee consisting, of eight members, is still in place. Two new members replaced the two members who resigned.

Last year we decided to co-opt members of other societies on to our committee to ensure their existence in an industry of declining membership. We assisted in two of their general meetings through increased attendance and support. The philosophy will be to continue with this process and bring all the major role players on board. The attendances during our general meetings were excellent and the the committee must be thanked for all their efforts.

A number of events were scheduled during the year for the Free State Branch of the Institute. The events included technical visits, general meetings and committee meetings. Our AGM last year was particularly well attended at St Helen Mine wine cellar. The calendar of events for 2002/2003 were as follows:

- ▶ Committee Meetings
- ▶ General Meetings
- ▶ Technical visits
- ▶ Annual Banquet in Johannesburg.

General meetings

The South African Institute hosted the first General Meeting for Rock Engineers on September 2002 in Maccauville. A number of Geotechnical papers was presented.

The second general meeting was held on 12 September 2002 at the Welkom Club. Five papers were presented. The focus was on metallurgical issues as well as on an insight into gold theft syndicates operating in our region. A visit to the Freegold 1 Plant followed to view the gold scanner, which was commissioned at the plant.

The third general meeting was a joint venture with the Mine Ventilation Society on October 2002 held at Free State Business Services. The focus was on in-stope ventilation controls.

The fourth general meeting was held on February 2003 at Oppenheimer Park Golf Club. The main presenter was Isabel Weiersbye who spoke on the rehabilitation and vegetation of slimes dams in the Free State and Klerksdorp regions.

The fifth general meeting was held on 3 April 2003 at Oppenheimer Park Gold Club. The first presenter was Andy Clay who shared experiences of an exploration geologist in Mozambique. The second presenter was Hartmut Weiss, the Managing Director of Emthuthwini Jewellery Manufacturing in Virginia, who spoke on the jewellery manufacturing process in Virginia as well as displaying some completed work.

On 7 May 2003 we hosted our sixth general meeting at Oppenheimer Park Golf Club. Norman Schwab, the general manager of Target Mine, updated the audience on developments on his mine. This was followed by an insight on beer brewing and lasting by the Master Brewer for South African Breweries, Anton Erasmus.

I would like to take this opportunity to express my appreciation to the committee members for their valuable contribution and time throughout the year.

I would also like to thank all the Free State mines for their financial support towards the Institute and the time contributed towards its activities.

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The new committee members have pledged their support during the new year and I wish them a successful and eventful year.

4.2.3 Pretoria Branch

R.C.W. Webber, Chairman

Prof. T. von Moltke, Vice-chairman

Dr K. Banks

J. Steyn*

H. Ludik*

M.K.G. Vermaak

**Student representatives*

The Pretoria Branch of the SAIMM once again had a very active and busy year and a number of events were catered for during the year. The committee had their monthly meetings to discuss and plan the forthcoming monthly events during the year and this arrangement worked quite well. The monthly colloquia were well attended by members and visitors.

The first event was the Annual General Meeting of the branch, held on 23 July 2002. It was indeed a pleasure to have the then President-elect, Mr Rams Ramapokga, with us.

The branch, together with the Departments of Materials Science and Metallurgical Engineering and of Mining Engineering at the University of Pretoria, presented a series of metallurgical forums and mini symposia. These events were structured to be of interest to the students and senior members of the Institute, with ample time for discussions. The attendance at these events was typically 60 people. Cocktail parties, held after these meetings, served as a get-togethers for the members and allowed the student members to meet senior engineers from industry. We were again fortunate to have a number of prominent speakers at these events. The following is a brief summary of the topics discussed.

- ▶ SAIMM 1st speaker, Keith Kenyon geochemist, 11 September 2002—'The purpose and work spectrum of the geochemist'
- ▶ SAIMM 2nd speaker, Dr Fauconnier, 19 September 2002—'Unbundling of ISCOR and the future of KUMBA'
- ▶ SAIMM 3rd Speaker, Dr Richard J Fruehan, Carnegie Mellon University, 23rd of January 2003—'Requirements for commercialization of new technologies'
- ▶ SAIMM 4th Speaker, Mr. Johan Fourie, MD Saldanha Steel, 23 March 2003—'The turnaround of Saldanha Steel'
- ▶ SAIMM 5th Speaker, Mr. Johan Beukes, 23 April 2003—'Coaltech 2020, Collaborative coal mining research in South Africa'
- ▶ SAIMM 6th Speaker, Mr. J.M. Rodriguez-Ibabe, 21 May 2003—'Static recrystallisation kinetics in warm-worked V micro-alloyed steels'
- ▶ SAIMM 7th Speaker, Mr. S. Zajac, 21 May 2003—'A model for inter-phase precipitation in V-micro alloyed structural steels'
- ▶ SAIMM 8th Speaker, Mr. Hennie de Klerk, ISCOR, 23 May 2003—'Quality and Defects in Steel: Facts and Fiction'

The following forthcoming attractions for the year are:

- ▶ SAIMM 9th Speaker, Dr Larry Cramer, Anglo Platinum, 27 August 2003, title of paper to be announced
- ▶ SAIMM 10th Speaker, Mr. Clem Sunter, Anglo American, 17 of September 2003, title of paper to be announced

The Pretoria Branch once again hosted the Research Seminar of the School of Mining and Mineral Sciences at the University of Pretoria on 25 of October 2002. The event was opened by Prof. Sybrand de Waal of the department of Geology, and Dr von Grunewald from the NRF gave a very interesting talk about their research related issues. This was also the first year that the Seminar was presented in a different format in that the Heads of Departments of the disciplines, Mining, Metallurgy, and Geology gave presentations pertaining to their respective departments and disciplines, with the audience not split up into three different venues as in the past.

I would also like to thank my committee for their support, and Professor Nielen van der Merwe, Head of the Department Mining Engineering, and Professor Chris Pistorius, Head of Department Metallurgical Engineering, University of Pretoria, for their continued support during the course of the year and last but not least, the unsung heroes, Sarah Havenga and Daleen Gudmanz for their help with the administrative duties of the SAIMM Pretoria Branch.

4.2.4 Western Cape Branch

Prof. C. O'Connor (Chairman)

L. Lorenzen (Vice-chairman)

D. Deglon (Secretary/Treasurer)

C. Aldrich

A. Mainza

D. Bradshaw

A. Nesbitt

J. Eksteen

M. Powell

P. Gaylard

P. Slatter

M. Harris

P. van der Plas

R. Knutsen

A. van der Westhuysen

C. Lang

M. Wright

The committee members were elected at the Annual Meeting of the Western Cape Branch of the SAIMM held on Thursday 1 August 2002.

The main focus of attention of the branch during the past year has been on preparing for the XXII International Mineral Processing Congress (IMPC), which is due to take place at the Cape Town International Convention Centre from 28 September–3 October 2003. IMPC, which takes place every 3 years, is the world's premier showcase of research and development in the area of minerals processing. The 2003 congress will be the first time that this congress will be held on the African continent.

There was an excellent response to the call for papers: 518 abstracts were received from 42 countries covering all themes identified by the organizing committee. In all, 366 papers have been accepted for presentation during the five days of the congress. The plenary lecturers and keynote speakers who have accepted invitations to the congress are:

Brian Gilbertson (Consultant), Robin Batterham (Chief Scientist of Australia and Chief Scientist of Rio Tinto), Richard Williams (University of Leeds), Jannie van Deventer (University of Melbourne), Jim Finch (McGill University), Larry Cramer (Anglo Platinum), Steve Morrell (JKMRC), John Ralston (Ian Wark Research Institute), Juan Yianatos (University Of Santa Maria, Chile), David Dreisinger (UBC), Markus Reuter (TU Delft), Dave Hulbert (Mintek) and Winand Dalmijn (TU Delft). These speakers will cover the following aspects of mineral processing:

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- ▶ Environment and sustainability
- ▶ Impact of globalization
- ▶ Mine of the future
- ▶ Education
- ▶ Impact of fundamental research on the industry
- ▶ Base and precious metal processing
- ▶ Comminution, classification and agglomeration
- ▶ Flotation—fundamental and applied
- ▶ Hydro- and biometallurgy
- ▶ Pyrometallurgy
- ▶ Simulation and control
- ▶ Waste treatment and management.

Registration for the congress at the time of writing is proceeding very well and the committee expects that the congress will attract in excess of 500 delegates from all over the world. As a result of the great interest being shown in the congress, a number of organizations have decided to host meetings/symposia/etc. during the weeks prior to and following the congress. These include:

- ▶ International Comminution Research Association (ICRA) will be holding a 2-day meeting on Friday 20 and Saturday 21 September 2003
- ▶ A Heavy Minerals Conference will take place after the Congress from 30 September to 2 October 2003.
- ▶ A hydrocyclones meeting will take place on 19–20 September 2003.

The Organizing Committee has entered into an agreement with Specialized Exhibitions, well known for their annual organization of Electra Mining, to host a mineral processing exhibition during the week of the congress. As is customary, the congress will be accompanied by the usual social events and will be opened on the Monday 23 September by the Minister of Minerals and Energy. Two post-congress technical tours are being organized to the Rustenburg platinum mining area and to the phosphate/copper mining area of Phalaborwa.

Apart from the intensive work being put into the organization of this event, the committee has continued its usual business. The popular student evening, which is organized to promote minerals processing as a career among our final year students at the universities and technikons in the Western Cape, is planned for later in the year. The traditional Annual Mineral Processing Conference, which normally takes place in Cape Town during the first week of August each year, will not take place this year because of the IMPC, but the branch will continue to organize the series in 2004. The annual student tour will take place during the mid-year vacation of the universities and technikons. This year's tour will be to the operations on the West Coast, namely Oranjemund, Namakwa Sands and Saldanha Steel. It is expected that about 35 students will participate in this tour, which is an integral part of their academic curriculum and also serves the very valuable purpose of the students from the two universities and the Cape Technikon getting to know each other.

Another event that will be organized by members of the Branch during 2003 will be a Physical Metallurgy Symposium. The 2003 event will be organized by Rob Knutsen in collaboration with colleagues at the University of Pretoria.

The Western Cape Branch continues to experience a lively set of activities aimed at promoting the interests of the Institute among students as well as research in mineral processing and physical metallurgy. The branch extends its appreciation to the

Council for the continuing strong support it receives from the President and members of Council for its various activities.

4.2.5 Bushveld Branch

C.A.F. Sweet, Chairman

A very successful visit was arranged to Amandelbult where the business manager Francois Uys, arranged two excellent presentations and visits.

- ▶ Visit one—to the process plants showing computerized controls and new additions
- ▶ Visit two—to the 16 West mechanized section where the mining methods and the room and pillar mining, as applied to Amandelbult were explained.

Overall, it was a very successful visit with some 68 people attending.

One or two visits for this region appear to work well; more frequent visits attract lower attendance.

The programme for 2003 is two visits, one to the Eastern Limb and a second to an operation on the Western Limb.

4.2.6 Zululand Branch

I. Walton, Chairman

E. Williams, Treasurer

Member: E. Clare

The two major affiliates of the Zululand Branch of the SAIMM, namely Richards Bay Minerals and Ticor-SA, have both had an extremely busy and turbulent start to the year. As a result of this, there has been very little time and enthusiasm for arranging and attending technical presentations. In addition there is a definite reluctance to travel after hours due to the security situation in the area.

In spite of this, our members have been invited to attend joint presentations with the Institute of Electrical Engineers, the Institute of Measurement and Control, the Zululand Rock Club and the Zululand Geological Society.

During the year Mr Brian Taylor from Western Mining Corporation gave the members a presentation on the Corridor Sands Project. This was extremely well supported, with over 50 members of the metallurgical and mining industries attending the presentation.

There are also plans to host a series of talks by one of the major water treatment companies, Ondeo Nalco, on all facets of water treatment.

The branch is also involved in the organization of the Heavy Minerals Conference to be held in October 2003.

Branch Activities

The annual SAIMM Zululand Branch golf day had to be delayed this year due to the unavailability of the local golf club. It has been scheduled for October.

A fund raising mountain bike race around the golf course has also been scheduled.

A quiz evening to raise funds for the branch is also planned for later in the year.

5. Engineering Science and Technology in South Africa Portfolio Holder: R.P. Mohring

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5.1 Engineering Council of South Africa (ECSA)

	<i>Mining</i>	<i>Metallurgy</i>
<i>Representative</i>	R.P. Mohring	Prof. R.F. Sandenbergh
<i>Alternates</i>	J.A. Cruise	Dr W.H. van Niekerk

The Institute nominates members to the registration and professional advisory committees for mining and metallurgy.

During the past year, these committees continued their important work of screening the qualifications and practical experience of registration as professional engineers.

Assistance continues to be provided by nominees of the Institute in the accreditation of courses offered by universities and technikons in the disciplines of mining and metallurgy.

Professional Advisory Committees

Registration Committee

<i>Mining</i>	<i>Metallurgy</i>
R.P. Mohring	Prof. R.F. Sandenburgh

PAC Mining

Prof. A.N. Brown	R.C.D. Phillis
J.A. Cruise	M.H. Rogers
A.A.B. Douglas	F.M.G. Egerton
R.P. Mohring	Prof. J.N. van der Merwe
J.S. Ngoma	D.J. van Niekerk

PAC Metallurgy

Dr N.A. Barcza	H.E. James
R.D. Beck	Prof. R.F. Sandenbergh
Dr L.A. Cramer	Dr W.H. van Niekerk
J. Els	D.I. Watson
Prof. R.H. Eric	

The mission of ECSA is to ensure, through a co-operative process of quality assurance, that persons entering the profession are educated and trained according to widely accepted standards, so as to be able to render a professional service for the benefit of the public and the country as a whole. The Professional Advisory Committees of ECSA contributes to the mission by considering matters specific to the discipline and also contributes to wider policy matters as required.

During 2002/2003 the PAC Metallurgical Engineering again considered applications for registration as professional engineers by means of paper evaluations and interviews. The requirement for continuing professional development of Professional Engineers is presently being considered by ECSA and the PAC participated in the deliberations and indicated its preference for strong involvement by The SAIMM in such a process for metallurgical engineers. The route to registration of persons who do not qualify for registration in terms of an accredited university degree, but with extensive industrial experience, was reviewed by ECSA and a new procedure consisting of an evaluation by the PAC, approved course work within an accredited university engineering programme, followed by the usual review process, was approved.

The year has seen the new enlarged council steadily gaining momentum with its members now familiar with the requirements of the new Act. While the council is still in the process of reviewing its policies and procedures, most have already been reviewed and, where necessary, revised to comply

with the new Act.

The year has also seen the advent of the Council for the Built Environment ('CBE'). This council, which operates in terms of its own Act of Parliament (Act 43 of 2000), has been installed by government along with six other councils regulating the various sectors of the built environment (of which ECSA is one). The CBE is intended to be a conduit between the professional councils and the Minister of Public Works, and to act as a coordinating body, not only among the professions, but also between various government departments in their dealings with the built environment councils. One of the functions of the CBE is to ensure consistent and coordinated application of policies within the framework of the professional councils' functions.

The Engineers Mobility Forum (EMF) and the launch of the EMF International Registers of Engineers, Technologists and Technicians

The first of these three initiatives, the International Register of Engineers, was launched in June 2002. ECSA as co-signatory of the EMF is responsible for administering the South African Section of the International Register, which is run on a decentralized basis. South African professional engineers may apply for registration in the register.

Although it is still early days, this register is expected to assist professional engineers in providing mobility to practise in the other signatory countries. The International Register for Technologists, which was agreed to in New Zealand this month, is still in the process of being set up.

This register is likely to be launched in about a year's time, while the Register for Technicians may take longer due to the complexity in standards and qualifications around the world.

ECSA's standards and procedures initiative

Work on this initiative has proceeded steadily through the year. ECSA operates the Engineering Standards Generating Body ('ESGB') in terms of the National Qualifications Framework. During the last year, the ESGB has developed a qualifications framework encompassing the following:

- ▶ Generic qualifications of university bachelor's degrees in engineering, technikon B Tech degrees and national diplomas in engineering
- ▶ Generic standards towards registration in the four professional categories
- ▶ Specific standards towards registration in specified categories.

The ESGB is also in the process of signing a Memorandum of Understanding ('MOU') with six engineering related Sector Education and Training Authorities ('SETAs') as well as the SA Qualifications Authority ('SAQA').

ECSA is still intent on submitting its application to SAQA for registration as an Education and Training Quality Assurer (ETQA). However, this is being delayed awaiting the outcome, of the Government's review of the National Qualification Framework.

The recognition of voluntary associations

ECSA has, for many years, recognized a variety of voluntary engineering associations wishing to be associated with ECSA, of which the South African Institute of Mining and Metallurgy is one.

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Until fairly recently, this recognition has been granted on an ad-hoc basis, but ECSA's new Act requires this recognition to be done on a more formalized and structured basis. The council has therefore, prepared a framework against which such recognition can be granted and this has been approved in principle by the CBE. Work is at present underway in compiling the detailed rules for recognition. This is expected to come into force during the forthcoming year. In the meantime existing recognitions remain in place. An important benefit for members of approved voluntary associations is that registered persons are entitled to a significantly reduced annual fee.

Identification of work and compulsory registration

In its new Act, ECSA is required, in consultation with the voluntary associations and affected persons, bodies and/or industries, to identify types of engineering work, which should be carried out by registered persons. Although the Act is silent as to what these types or work should be, they are almost certain to be those connected with public health, safety and public interest. Once identified, such types of work are subject to approval by the CBE and publication by the Minister of Public Works. Once prescribed, only persons registered with ECSA may perform the work so identified.

This is a major exercise and work is at present in progress to determine the categories of work, which should be included in the list of identified work. It is hoped to have the identified categories of work finalized and the compulsory registration in place in no less than two years.

Continuing professional development

The new Act provides for the introduction of a system of CPD as a means of ensuring continued registration with ECSA, thereby making it compulsory for registered persons to maintain their professional competency. ECSA is, therefore, in the process of developing its minimum requirements for CPD and this will be announced generally and on ECSA's website once the necessary process of consultation is completed and approval obtained from the council.

5.2 Engineers' Liaison Committee

Representative Prof. R.F. Sandenbergh

This committee decided during 2002 that it would cease to exist and that the responsibility for organizing the annual Hendrik van der Bijl Lecture at the University of Pretoria would in future be the joint responsibility of the university and the South African Academy of Engineering in consultation with the professional institutes. This year's Hendrik van der Bijl Lecture was presented on 15 May 2003 by Mr Brian Bruce, Group Chief Executive of Murray and Roberts, on behalf of the South African Institute of Civil Engineering. The title of his lecture was: 'The Construction Industry and Socio-economic Development.'

5.3 South African National Council on Tunnelling (SANCOT)

Representative Prof. T.R. Stacey
Alternate J.A. Cruise

SANCOT suffered a setback in the past year in that the Immediate Past President and the Vice-President both left the

country. This, and the low level of civil tunnelling activity in Southern Africa, has forced SANCOT to review its future as an independent organization. The proposal that the SANCOT executive has put to the membership is that SANCOT becomes a specialist committee of the SAIMM, and a decision on this is pending. The proposal is acceptable to the SAIMM and if implemented, SANCOT would revert from a council to a committee, but retain its mnemonic and logo. SANCOT's active membership of the International Tunnelling Association (ITA) would continue, as has been the case during the past year. SANCOT has provided input to various ITA working groups and operates its own working groups.

Current civil tunnelling activity in Southern Africa includes finalization of construction of the Mohale Tunnel in Lesotho and of two further minor tunnels. The proposed Gautrain Project appears to be gaining impetus and hopefully will generate renewed interest in civil tunnelling. If SANCOT does become a committee of the SAIMM, it is certain that much more interest in tunnelling will be generated because of the inclusion of mining tunnelling activities.

6. State Liaison

Portfolio Holder: Prof. T.R. Stacey

6.1 Outcomes-based Education and Training (OBET)

Representatives D.J. van Niekerk

The main achievements for the Mining Qualifications Authority (MQA) and Sector Education and Training Authority (SETA) for the SA Mining & Minerals Sector (SA M&MS) to date include the following:

- ▶ approval of a framework of envisaged qualifications for Level 5 to 8 on the National Qualifications Framework (NQF) for the SA M&MS
- ▶ registration of some 900 unit standards (USs) on the NQF
- ▶ registration of 12 qualifications on the NQF
- ▶ registration with the Department of Labour (DoL) of 24 Level 3 learnerships in the area of the traditional engineering trades
- ▶ registration with the DoL of 11 Level 4 learnerships in the area specialist engineering maintenance and repair
- ▶ registration with the MQA of 10 Level 2 Skills Programmes relating to competent persons performing secondary blasting at mines
- ▶ historic first engagement between the MQA/ SGB for the SA M&MS (M&M SGB) and the ECSA/ Engineering SGB in November 2002 regarding standard setting for L4-L8 engineering competency standards. The M&M SGG approved the SA M&MS' intention to support and participate in the setting by the ESGB of generic engineering qualifications and USs subject to efficacious consultation by the ESGB prior to competency standards being registered on the NQF
- ▶ issuing of the first 300 Statements of Attainment for learners assessed competent against the new fall-of-ground regulations
- ▶ implementation of an effective model aimed at completing the standard setting process in accordance with the envisaged competency standards included in the approved NQF
- ▶ acceptance/ approval in principle of the Stage 1/ Stage 2

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Qualifications Framework for generic engineering competencies for L5-L8 on the NQF. This support of the SA M&M&S is subject to ECSA's acceptance/ approval of the specific needs of the SA M&M&S in respect of 'competent person', 'practising person', 'currency of competence', 'registration' and 'licensing'

- ▶ the work in progress of the SETA follows the Sector Skills Plans (SSPs) and Workplace Skills Plans (WPSPs) which have been approved by SAQA
- ▶ employers who have complied with the implementation criteria for the WPSPs have been receiving paybacks in the form of levy grants
- ▶ the work in progress of the Education and Training Quality Assurer (ETQA), follows the SSPs and WPSPs in accordance with the ESQA regulations and the ISO 9002
- ▶ an excess of 300 assessors have to date been assessed competent in accordance with the relevant assessor USs, especially focussed on the implementation of the FoG-regulations
- ▶ reorganization of standard setting for L4-L8 engineering competencies in an attempt to effectively engage and inform the work of the ESGB.

The main achievement of the Engineering Council of SA (ECSA) and the Engineering SGB (ESGB) include the following:

- ▶ development of the second versions of Stage 1 generic engineering qualifications in relation to engineer, engineering technologist and engineering technician
- ▶ calibration of the second versions of the Stage 1 generic engineering qualifications in relation to, engineering technologist and engineering technician. Numerous significant issues thus identified, require urgent resolution
- ▶ arrangement of a very successful workshop with representatives of the many different stakeholder groupings in the SA M&M&S aimed at initiating an efficacious process to 'identify engineering work in the SA M&M&S that would need to be performed by registered persons'. The outcome was that the MQA would be requested to champion the said consultation process.

The challenge facing the MQA/ M&M SGB for the financial year 2003/4 is to resolve the details regarding the *what, where, when, who, why and how* of the following issues in an attempt to effectively engage with the ECSA/ ESGB:

- ▶ discretionary, compulsory and mandatory registration
- ▶ discretionary, compulsory and mandatory currency of competence
- ▶ discretionary, compulsory and mandatory licensing
- ▶ replacement of the current competency certificates issued by the DME with appropriate qualifications registered on the NQF.

7. International Liaison

Portfolio Holder: S.J. Ramokgopa

Key Performance Areas

To achieve its objectives, the SAIMM

- ▶ *participates in and represents South Africa on bodies such as the Council of Mining and Metallurgical Institutions (CMMI), the Iron and Steel Society Inc (ISS), the Mining, Metals & Minerals Society (TMS), and together with Mintek on Infacon*

- ▶ *appoints corresponding members in areas such as Australasia, Botswana, Brazil, Canada, Chile, Europe, the Far East, Ghana, New Zealand, United Kingdom, and the United States of America, and interacts with sister institutes in other countries to promote international exchange of scientific and technical information.*

7.1 Council of Mining and Metallurgical Institutions (CMMI)

National Representatives

A.A.B. Douglas

Dr L.A. Cramer

Alternates

Prof. C.T. Shaw

Prof. D. Buchanan

7.2 APCOM

National Representative

Dr F.A. Camisani-Calzolari

The 31st International Symposium of APCOM was held in Cape Town from 14 to 16 May 2003. The symposium represents an international forum where significant original contributions and emerging or state-of-the-art technologies in all fields of the minerals industry are presented, discussed, criticized and shared by practitioners as well as academics from all over the world. APCOM is held every 18 months in different member countries. The previous one in South Africa was held in Johannesburg in 1987.

APCOM 2003 was held in honour of Prof. D.G. Krige. Prof. Elize Botha opened the symposium in her capacity as Chancellor of the University of Stellenbosch. Mr R.P.M. Menell, chairman of AVMIN Ltd, delivered the keynote address.

Ninety papers by authors from all over the world were selected for presentation at the symposium and for publication in the proceedings. They constituted a balanced mix of the traditional areas of geology, mining, geostatistics, production planning and metallurgy as well as the emerging areas of information technology, market trends, e-commerce, e-learning, neural networks, graphics and geological information systems. Two hundred delegates were present from 23 countries. Twenty sessions were held, of which three were plenary sessions.

The International Council meeting was held on the 14th evening. The International Council consists of representatives of four USA institutions, which are the founding members (Colorado School of Mines, SME, Pennsylvania State University and the University of Arizona), and seven international organizations, namely: the Royal School of Mines in London, the Canadian Institute of Mining and Metallurgy, the Moscow Mining Institute, the Australian Institute of Mining and Metallurgy, the Technical University of Clausthal in Germany, China University of Mining and Technology, and the South African Institute of Mining and Metallurgy. Two major decisions were taken: firstly, every third symposium will be hosted by one of the founding member institutions in the USA on a rotating basis (instead of every second one, as it has been the case up to now) and secondly, the schedule of the next two symposia has been set as follows: Tucson in Arizona (2005) and Chile (2007).

7.3 INFACON

National Representative

Dr N.A. Barcza

The world's premier ferroalloys meeting returns to South Africa

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next year when the Tenth International Ferroalloys Congress (INFACON X) takes place at the Cape Town International Convention Centre from 1–4 February 2004.

INFACON X is presented by the Ferroalloys Producers Association, the South African Institute of Mining and Metallurgy, Mintek, Eskom, the Southern African Stainless Steel Development Association, and the International Chromium Development Association.

Following the tradition established by previous events, INFACON X will provide a forum for, exchange of technical knowledge and new experiences in ferroalloys production, applications and markets. The congress theme is 'transformation through technology', and the technical programme aims to provide an authoritative summary of emerging production technologies, current practice in the management, operation and advanced control of ferroalloy production, as well as ongoing developments in applications, markets, and environmental health and safety matters.

The various committees have been very hard at work. The Technical Programme Committee chaired by Dr Lloyd Nelson has been reviewing the many papers received and structuring an exciting programme of presentations including plenary and keynote addresses by high profile speakers. A very interesting and diverse line up of quality presentations will be given by more than 80 speakers from over 15 countries. A symposium on Chromium Health and Environment, organized by the International Chromium Development Association, will form part of the congress.

The Post-Congress Tours Committee led by Johan Basson has also arranged a well-planned selection of technical plant visits. These should draw interest especially from the many overseas delegates expected at INFACON X. Post-congress tours will visit ferroalloy and stainless steel producers in the North West, Gauteng, and Mpumalanga provinces, and delegates can select the technical tour of their choice as part of the registration process.

A pre-congress technical tour to Saldanha Steel and Namakwa Sands will also take place in conjunction with the Seventh International Conference on Molten Slags, Fluxes and Salts. This event will be held in the week preceding INFACON X.

An exhibition will be held during the Congress where service providers to the industry will be able to display their products and services.

The second circular will be issued in August. The deadline for early-bird registration for the congress is 1 September 2003. The web site is infaconx.co.za

7.4 SAMREC

National Representative J.R. Dixon

The SAMREC committee continued with the arrangement of readers to scrutinize Competent Persons Reports (CPRs) on behalf of the JSE Securities Exchange. In general the quality of reports has improved since the beginning of the process. Repetitive problems are the misunderstanding regarding the qualification of a CP and the absence of the data required for construction of a cash flow for the entity under consideration. Membership of the SAIMM is not sufficient for qualification as a CP he or she must be a member of one of the statutory bodies, SACNASP, ECSA or PLATO, and have the relevant experience in the type of mineralization under consideration.

Progress on reciprocity for South Africans has been slow. AusIMM have created a list of Registered Overseas Professional Organisations (ROPOs). Membership of these organizations qualifies one to become a CP in Australia provided he or she has sufficient experience in the mineralization being considered. SACNASP, PLATO and ECSA are on the list.

Canada has created a similar list and included other South African institutions other than the statutory bodies.

SAMREC intends to provide reciprocity via the JSE Securities Exchange for overseas organizations that can demonstrate that they have a code of ethics and that they have a workable disciplinary code.

SAMREC is developing a set of guidelines for ongoing reporting by mining and exploration companies. Once the guidelines are formulated, they will be given to the JSE for incorporation into the ongoing requirements regulation. All mining and exploration companies have been encouraged to participate in this process.

Contact is maintained with CSIRISCO, the committee formed by the five former CMMI countries tasked with formulating a world code for reporting on mineral resources and reserves. Dr. Ferdi Camisani represents SAMREC on this committee.

SAMREC have been closely involved with the initiative to create a valuation code for South Africa. Its role has been to see that suitable integration and minimal duplication occurs between the SAMREC Code and the Valuation Code.

SAMREC continues to monitor the quality of reporting on mineral resources and reserves in annual reports of mining and exploration companies. The annual award for the best report was this year awarded to Messina Platinum at the annual investment analyst banquet.

8. Management and Administration

Portfolio Holder: F.M.G. Egerton

The Secretariat consisted of:

Mrs Sam Moodley (Manager)

Miss Angela Acker (Conference Co-ordinator)

Miss Karen du Toit (Conference Co-ordinator)

Miss Nazli Mamdoo (Conference Publications Co-ordinator)

Miss Zuliakha Mohamed (DTP Operator)

Mrs Ginette Oliver (Membership Secretary)

Mrs Anna Panana (Personal Assistant)

Mrs Apathia Sello (Administration Clerk)

Mrs Dawn van der Walt (DTP Supervisor)

Mrs Hawa Valli (Publications Co-ordinator)

Mrs Shahida Moosa (Receptionist/Senior Administration Clerk)

Mrs Lara Winning (Accountant).

The SAIMM, office bearers and council record their appreciation to the above for their service.

8.1 Finance

J.A. Cruise, Honorary Treasurer

Following the financial success of the previous two years, I am pleased to report that, despite losses on the Johannesburg Stock Exchange, we have had another successful year for 2002/2003. We have maintained our stated aim of again not relying on colloquia, symposia and conferences to subsidize the day-to-day running of the Institute. These functions provide

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the wherewithal with which our Institute has the financial muscle to make a positive impact in these days of change, and allows us to take a leading role in ECSA (Engineering Council of South Africa), SAMREC (South African Mining Resource Evaluation Committee), SAMVAL (South African Mineral Valuation Committee), and MQA (Mining Qualifications Authority), amongst others.

Subscriptions have increased in line with escalation with Company Affiliate Membership at R275 936 (R252 632) and Individual Membership at R880 309 (R800 508).

Conferences, colloquia and schools brought in surplus of R1 344 868 (R1 508 337), which is only less than the previous year due to the vagaries of a financial year that ends in June when there are major international conferences about to occur in the latter half of 2003, for which income has already been collected. In 2001, the record income was R934 292—today's record is tomorrow's call! Interest and dividends received was again a record R263 204 (R164 953). Net income from the sales of special publications increased twofold to R72 158 (R36 535).

Thus, total income (excluding the one-off book entry of revaluation of investments in 2002 of R151 288) increased marginally to R 2 840 900 (R2 762 965).

Expenditure increased markedly to R 2 266 030 (R1 257 472). *Journal* costs rose to R1 088 392 (R946 195) due to larger issues of the *Journal*. This was partly offset by an increase in advertising revenue of R486 948 (R418 055) and maintaining sales revenue at R175 013 (R174 573). Administration expenditure rose markedly to R674 684 (R431 832). This was due in the main to purchases of office furniture, computer equipment, and licences. Revaluation of investments showed a loss in market value of shares of R469 787 (gain of R151 288)—a book entry turnaround of R621 075. Another book entry deficit was depreciation of R110 149 (R17 433). Subscriptions written off increased to R91 992 (R54 246). Surprisingly, the same number of members were written off, they just owed more.

In summary then, although the surplus for the year is given as R574 870 (R1 656 781), removing income from interest and dividends from investments, and loss on revaluation of investments, the operating income for the year was R887 177. Perhaps the most significant investment decision taken during the year was to become more liquid. This is shown in the increase in cash and cash equivalents from R766 317 to R2 870 770.

The solid performance this year is due to the efforts of the members of our technical committees who year in and year out produce technical events of the highest standard. Finally, I would like to thank our Secretariat who unstintingly provide the support for your Institute, particularly Mrs Winning our accountant, and to KPMG for successfully maintaining our tax-free status with the fiscus and producing the audited financial statements in record time.

Addendum

New Members

Fellows

S.G.E. Ashworth, R. Cooke, G.C.P. Donoghue, P. Fouche, D.R. Groot, B.W. Guenther, N. Horswell, S. Jahanshahi,

A. Karzulovic, W.M. Marx, M. Mudge, A.V. Peake, V.P. Pillay, L.P. Rademeyer, S.M. Spottiswoode, D.V. Steyn, G.P. Stripp, B.P. Thompson, J.C. Thornton, T.E. Wakefield, R.A.G. Wallis.

Members

J.D. Bethel, J. Bosch, E.C. Clare, G.M. Greenway, M.W. Grodner, M.W. Hildyard, G.A. Humphries, M. Kirsten, C.J. Lourens, L. Lourens, D.J. Loveday, Z.T. Mathe, A.M. Milev, J.H. Mills, P.J. Mills, T.Z. Mugodi, N. Naidoo, R.M. Nyambe, D.M. Rose, R.M. Tyler, W.J. van der Walt, A.A. Visser.

Associates

J.A. Connolly, R.L. Demana, S. Heukelman, S. Mohabir, Q. Mokulubete, J.M. Molwantwa, R. Moseme, C. Mosoane, T.E. Mushi, E.J. Pieters, S.J. Rodger, M.R. Tlala, S. Uludag, X.R. Wagner.

Students

K.B. Andreas, T. Ayenakin, M.C. Baitseng, Q. Botha, J.J. v.R. Burger, D.J. Campbell, N.D.R. Chabula, S. Chimbodza, M. Coetzee, E.H. de Vos, B.P. Dikima, E.L. du Toit, M.A. Ekoko, J. Greyling, A.E. Hanekom, T.H. Hattlingh, B.A. Jantjie, H.P. Jordaan, C.M. Joubert, P.G. Kekana, F.P. Kotzee, D.S. le Roux, F.P. Leteane, T.M. Letsie, M.K. Magwai, M.S. Malapane, N.A. Malemela, L.J. Masilo, D.S. Mathebula, D.S. Mdhlalose, S.L. Mgedesi, K.M. Mogoba, M.L.M. Mokitimi, M.D. Moseki, K. Motlaleng, R. Nell, P.G. Nortje, Z. Opper, M. Osman, E.T. Phala, J.A. Rabe, N. Ragoonanthun, J. Roodt, M. Roux, M.J. Seepe, N.K. Sefaisa, M.D. Seke, E.P. Shaw, M. Smith, W.J. Snyman, J. Steyn, J.C. Steyn, D. Takalani, A.T. Taute, P.J. Valenzuela, P.T. van der Meer, F. van der Merwe, W. van der Walt, H.J. Visser, N.K. Wells.

Company Affiliates

Blue Cube Systems (Pty) Ltd
Lafarge Aluminated Southern Africa
Lidonga Minerals (Pty) Ltd
Sable Data Works (Pty) Ltd.

Resignations

Fellows

C. Allen, H.-H. Haase, D.R. Hardman, M.A. Keen, T.P. Philip.

Retired Fellows

B.R. Fleetwood, R.O. Heckroodt, D.A. Immelman.

Members

G.S.M. Becker, T.J. Bradbury, M.J.J. Cobbett, R.J. Ferris, C. Grobler, J.J. Marais, S. Marx, J. McLuskie, R.P. Muntz, D.J.K. Murray, J.A. Oberholzer, G.L. Palmer, J.D. Priestley, M.C.W. Schroder, P. Soni, P. Stuiwer, J.W. Summers, J.J. Sutherland, J.C. van den Berg, G. de B. van Niekerk, A.D. van Zyl, H.S. Venter, S.W. Vorster.

Retired Members

T.C. Law, S.J. Marais.

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Associates

C.J. Bircher, R. Bryla, J.J. Coetzee, G.D. Culley, A. Daehnke, M.J. de Beer, P.L. de Rooy, A.F. Drake, E. Fourie, B.M. Fraser, B.J.A. Geerdink, R.J. Gerber, I.P. Greager, P.J. Hill, R.C. Honey, J.J. Horn, A. Kruger, L. Lezar, M.N.-A. Mogammed, R.G. Monteith, R.E. Mthembu, D. Nel, H.G. Oltmann, S. Peenz, J.P. Pienaar, D.M. Pretorius, M.J. Shirran, T.P. van den Berg, A.J. van Ghent, T.V. van Heerden, M.A. van Nierop, S.D. Wood.

Students

P.J. du Preez, G.E.K. Jarvis, J.C. Scott, C. van Rooyen, M.J. van Wyk.

Company Affiliates

Debex (Pty) Ltd, Electronics Division
Goldberg Personnel
Mineral Resource Management (Pty)
Palabora Mining Company Limited, Samat Mining Projects
SAMREC (Pty) Ltd

Members Transferred to Higher Grade

Transfer from Member to Fellow

Pr Eng R. de Pretto, J.J.L. du Plessis, A.P. Guthrie, C.M. Rule.

Transfer from Associate to Fellow

K.T. Bladwell, J. Pearson-Taylor, F.W. Petersen, N. Schoeman.

Transfer from Associate to Member

B.R. du Plessis, R.F. Kotze, M.A.R. Kruger, P. Malan, C.W. Mienie, D. Nel, M. Stewart.

Automatic Transfer to Associate

P.J. Chetty, M.H. Cramer, P.G. De Beer, A.C. Deneys, B.M. Fraser, S.N. Herselman, H. Hutchison, M.A. Mahlangu, D. Mamphitha, L.I. Marumole, M.P. Molapo, H. Moller, M.M. Motlhageng, G.J. Nel, F. Nematswerani, S.S. Nkosi, M.W. Phillips, E.J. Pieters, S. Pule, M.C. Raedani, J.J. Rossouw, S.J. Sekhukhune, M.L. Sithole, M. Stewart, A.S. Tshotetsi, L.S. Tsotetsi, W.L. van Aarde, D.C.S. van der Merwe,

D. van Deventer, S.J.J. van Heerden, A.T. van Niekerk, T.C. Zungu, G.S.D. Zwane, M. Coetzer, T.A. Mohase, M.J. Nkoana.

Members who retired

Retired Fellows

J.P. Deetlefs, B.R. Fleetwood, T.J. Kotze, J.J. Geldenhuys, W.N. Cartner, N.E. Roberts, R.J. Whyte.

Retired Members

D.C. Brink, M.G. Wishart, A. Granville, J.R.W. Lindsay, J.C.G. van der Colf, N. Kamp, J.L. Alderton, H.F. Bartels.

Retired Associates

S.I. du Preez, J.R. Forbes.

Deceased

Life Fellows

C.H. Coxon.

Retired Fellows

A.W.L. Brereton, R.A. Lee, J.B. Mudd.

Members

C.M. Chatira, C. Sevume.

Retired Members

E.A. Cole, A. Marsh.

Associates

R.H. Hummel.

Members who were reinstated

Reinstated as a Member

B.C. Rip, J.A. Robertson, E.J. Magri.

Reinstated as Associates

B.M. Fraser, M.W. Phillips, R. Roach, T.A. Mohase.

Reinstated as a Student

B.C. Melamu, T.A. Mohase. ◆