

# Annual report

FOR THE YEAR ENDED 30TH JUNE 2004

## Council for 2003/2004

### President

T.R. Stacey

### President-elect

F.M.G. Egerton

### Vice-presidents

#### Senior

W.H. van Niekerk

#### Junior

R.P.H. Willis

#### Immediate Past-president

S.J. Ramokgopa

#### Honorary Treasurer

J.A. Cruise

## Members of Council

J. Barton*****	F. Malan*****
N.G.C. Blackham***	M.P. Mullins*
D.D.J. Clemente***	A.F. Mulaba-Bafubiandi**
A.M. Croll	J.C. Ngoma*
A.M. Garbers-Craig	K.C. Owen
J.M.A. Geldenhuis	F.W. Petersen*
F.P.S.F. Guilherme	R.G.B. Pickering
P. Hand*****	R.C.D. Phillis*
K.J. Hay	M.H. Rakale*
N.A. Herrick****	M.K.C. Roberts
F.W. Human	C.T. Smith****
P.J. Knottenbelt**	G.L. Smith
A.R. Kockott	J.N. van der Merwe
G.V.R. Landman	M.M. Valenta***
A. Mabbett*****	D.J. van Niekerk
A.S. Macfarlane	H.G. Waldeck
N.C. Machingawuta	

\*Co-opted members

\*\* Representing Non-Corporate Members

\*\*\*Observer (MMMA)

\*\*\*\*Observer (AMMSA)

\*\*\*\*\*Observer (SACMA)

\*\*\*\*\*Observer (SACPS)

\*\*\*\*\*Observer (GSSA)

\*\*\*\*\*Observer (SANIRE)

## Branch Chairmen

Johannesburg Branch	J.L. Porter
Free State Branch	F.P.S.F. Guilherme

Pretoria Branch	R.C.W. Webber-Youngman
Western Cape Branch	L.L. Lorenzen
Bushveld Branch	C.A.F. Sweet
Zululand Branch	I.J. Walton
Mpumalanga Branch	M.R. Mohring

## Past-presidents serving on Council

J.D. Austin	A.A.B. Douglas
N.A. Barcza	H.E. James
R.D. Beck	R.P. Mohring
A.N. Brown	M.H. Rogers
L.A. Cramer	D.A.J. Ross-Watt
J.R. Dixon	O.K.H. Steffen

## 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. State Liaison
7. International 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*

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- ▶ *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*
- ▶ *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

W.H. van Niekerk, Vice-chairman

J.D. Austin

N.A. Barcza

R.D. Beck

A.N. Brown

L.A. Cramer

J.A. Cruise

J.R. Dixon

A.A.B. Douglas

K.J. Hay

F.W. Human

H.E. James

A.S. Macfarlane

R.P. Mohring

R.G.B. Pickering

S.J. Ramokgopa

M.H. Rogers

D.A.J. Ross-Watt

G.L. Smith

T.R. Stacey

O.K.H. Steffen

D.J. van Niekerk

H.G. Waldeck

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.

Table 1

## Summary of new applications and membership movements for 2003/2004 and comparison of membership grades and total membership 2003/2004

Membership grade	Members July 2003	New members	Transfers in	Transfers out	Reinstatements	Resignations	Deceased	Struck-off	Net gain/(loss)	Members June 2004
Honorary Life Fellow	37	-	4	-	-	-	-	-	4	41
Honorary Fellow	4	-	-	-	-	-	-	-	-	4
Life Fellow	18	-	-	-	-	-	3	-	-3	15
Fellow	397	11	7	18	2	9	1	8	-16	381
Retired Fellow	139	-	16	1	-	6	4	-	5	144
Life Member	1	-	-	-	-	-	-	-	-	1
Member	673	30	16	10	5	14	6	34	-13	660
Retired Member	80	-	5	-	-	5	-	-	-	80
Associate	761	26	21	20	4	24	-	51	-44	717
Retired Associate	11	-	3	-	-	-	-	-	3	14
Student	214	134	-	21	-	1	1	-	111	325
Company Affiliate	144	40	-	2	1	12	-	1	26	170
<b>Total</b>	<b>2 479</b>	<b>241</b>	<b>72</b>	<b>72</b>	<b>12</b>	<b>71</b>	<b>15</b>	<b>94</b>	<b>73</b>	<b>2 552</b>

### 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
- 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

F.W. Petersen, Chairman

M. Booth

A.M. Garbers-Craig

P.J. Knottenbelt

G.V.R. Landman

A.S. Macfarlane

A.F. Mulaba-Bafubiandi

M.K.C. Roberts

R. Tait\*

\*Co-opted members

The Career Guidance Committee's objectives are:

- To promote the mining and metallurgical profession
- To promote the SAIMM as a professional institution.

In order to fulfil these objectives successfully, the committee developed a portfolio approach as a modus operandi. These portfolios include:

- *Advertising, website and overall promotion*—Draft drawings for new SAIMM brochures have been finalized, and are ready for printing. Upgrading of the career guidance subject field on the SAIMM website is currently under way. The Committee's secretariat has been active in terms of promotion of the SAIMM at various open days and science exhibitions, and will also participate at the upcoming Mining Week in September 2004
- *Continuous Professional Development (CPD)*—The Committee's secretariat is maintaining a register of all its members, and the colloquium and conferences attended by these individuals as a database for future CPD requirements
- *Synergies with other forums/initiatives*—In order to minimize the duplication of various career/outreach activities, the Career Guidance Committee has forged partnerships with various organizations/initiatives to optimize the overall contribution of the specific activity. In this regard, the Career Guidance Committee has partnered with the Minerals and Mining Promotion Implementing Structure (MMPIS) of the Department of Minerals and Energy on the provision of CDs and other promotional material to be distributed through the SAIMM to mining companies, schools and SAIMM provincial branches

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- ▶ *Education conference*—A conference on education, training and career development, which will be organized by the Career Guidance Committee with the SAIMM secretariat, and will be held in mid-November 2004. The focus of the conference will be on the challenges of managing the fluctuations of the South African mining and extractive industries
- ▶ *Technical Study on assessing the capacity of mining and metallurgical engineers, technologists and technicians in South Africa*: Council has approved a technical study to perform an independent assessment of the future needs of the mining industry for professional human resources
- ▶ *Capacity building in mining related university departments*—The Career Guidance Committee is currently investigating the merit of developing an SAIMM strategy approach towards ensuring that university departments have got adequate and appropriate staff to attract bright young individuals to study towards mining and metallurgy.

The Committee often met in person, but frequently augmented decisions/discussions via e-mail.

I would like to thank all the members for their individual contribution over the past year, and also Council for the commitment and support towards the activities of the Career Guidance Committee.

### 1.3 Promotion of the SAIMM

**Portfolio holder: T.R. Stacey**

#### *Technical Events*

The technical events organized by the SAIMM are its lifeblood. The Technical Programme Committees for Mining and Metallurgy are really the engine rooms of the Institute that generate the ideas for technical events and then convert these ideas into the actual functions. We are fortunate to have had two very active committees over the past year, and thanks go to the chairmen of those committees, Gordon Smith (Mining) and Kobus Geldenhuis (Metallurgy) for guiding the efforts of the committees.

With the incorporation of the South African National Council on Tunnelling into the SAIMM, a new SANCOT Committee has been formed, acts as a sub-committee of the Mining Technical Programme Committee. The SANCOT Committee will continue to look after the interests of tunnelling in South Africa, and will maintain membership of the International Tunnelling Association. The Committee organized a tunnelling colloquium during the year, the first of its kind to be organized for several years. Tunnelling interests are therefore again being served and we look forward to renewed activity in this area.

Technical events are also one of the Institute's contributions to its membership and to the mining and metallurgical industry in general. The aim is to organize events that will be of value to the industry, and the success of the events held over the past year is an indication that this aim is being met. We believe that our events are making a contribution to education and training in the industry, and we expect that, in the future, our events will be recognized when the Engineering Council of South Africa's continuing professional development programme is introduced.

#### *Liaison and discussions with other professional organizations*

The Mining, Minerals and Metals Professional Forum was abandoned during the year, and this initiative has been replaced by discussions and negotiations with several other professional organizations. The long-term aim of these discussions is to solidify industry representation in the future and also to build on current common interests. Such discussions have not yet led to any concrete developments, but have resulted in cooperation in technical areas. Representatives from the Geological Society of South Africa and the South African National Institute for Rock Engineering have been invited to attend the Institute's Council meetings. An SAIMM Council member has been nominated to attend GSSA Council meetings.

Ongoing liaison with other organizations is part of the continuing work associated with the SAMREC Code, and the proposed SAMVAL Code, which is currently at an advanced stage of drafting. These codes are considered to be very important, and the Institute has budgeted funds to ensure that significant continued input can be maintained.

The Institute continues to be involved with the Engineering Council of South Africa, and in the ongoing activities of the Mining Qualifications Authority. Thanks are due to Dirk van Niekerk who maintains this important interest on behalf of the Institute.

#### *Contributions to education*

The Institute has an active Career Guidance and Education Committee that aims to promote the industry among school leavers. There is also a Scholarship Committee that has established a trust that will provide funds for needy students. The Institute has again contributed R150 000 to the trust this year, and will continue to make such contributions in the future, depending on availability of funds. The Institute also again made substantial contributions to tertiary institutions for the purchase of books and drawing equipment to assist first-year mining students. The feedback about the demand for, and use of, the books has been very positive.

#### *Annual Banquet*

The banquet held in March was again a great success, attracting more than 1 000 guests. The entertainment consisted of about 30 minutes of the high energy 'African Footprint' and the remainder of the evening was available for dancing and socializing. From feedback from numerous guests, this format appears to have been very popular. Certainly there was much meeting of old friends and renewal of acquaintances, with the last guests easing out at about 03h30 in the morning.

#### *Journal*

The *Journal* continues to be the flagship of the Institute. Over the past year, the *Journal* has grown further in stature, and must be one of the best, if not the best mining journal in the world. It is attracting papers from authors in numerous countries, in particular Turkey and India. The number of issues this year has been increased to match the increased numbers of papers submitted, and readers will notice that the number of pages in each *Journal* has increased substantially from journals of several years ago. Richard Beck, editor of the *Journal*, is doing a fine job, and is enhancing the international standing of the Institute.

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The Institute's website falls under the Journal Committee. Thirty years of journal papers are now available on the website and can be downloaded free by members, and at nominal cost by non-members. Abstracts are available and can be downloaded free of charge. The presence of an active website has facilitated contact with the Institute, and has contributed to an increase in book sales, particularly to overseas buyers.

### Awards

Gold medals were presented to the top students in the faculties of Engineering and the Schools of Mining and Metallurgical Engineering at graduation ceremonies at the universities of the Witwatersrand and Pretoria during the year.

A gold medal has been awarded this year to the author of a suite of mining papers, published in the *Journal*. In addition, two silver medals have been awarded in the mining category and five silver medals in the metallurgical category. The standard of papers in the *Journal* was high this year—only two silver medals were awarded in the previous year.

### Conclusion

It may be concluded that 2003/2004 was another successful year for the SAIMM. It passed rapidly and smoothly thanks to the contributions of the Council members and the members of all the committees, who give so much of their own time for the benefit of the Institute. I should like to pay tribute to our very professional Secretariat, under the control of Ms Sam Moolla, to whom the smooth running of the Institute is mainly due.

### 1.4 Awards and Adjudication Committees

#### Awards and Adjudication Committee—Mining

M.H. Rogers, Chairman

R.D. Beck	G.L. Smith
J.R. Dixon	T.R. Stacey
A.A.B. Douglas	D.J. van Niekerk
F.M.G. Egerton	R.P.H. Willis
R.G.B. Pickering	

#### Awards and Adjudication Committee—Extractive Metallurgy

W.H. van Niekerk, Chairman

R.D. Beck	N.C. Machingawuta
A.M. Garbers-Craig	R.L. Paul*
J.M.A. Geldenhuis	F.W. Petersen*
K.J. Hay	

\*Co-opted members

#### 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	H.F. Oppenheimer
1981	W. Bleloch
1982	F.G. Hill
1983	A.W. Whillier (posthumously)
1984	D.G. Krige
1985	R.E. Robinson
1986	M.D.G. Salamon
1987	T.F. Muller
1988	W.J. (Wim) de Villiers

1989	R.A. Plumbridge
1990	W.G. Boustred
1991	P. du P. Kruger
1992	E. Pavitt
1993	D.A. Pretorius
1994	H. Wagner
1995	O.K.H. Steffen
1996	B.E. Hersov
1997	D.W. Horsfall (posthumously)
1998	B.P. Gilbertson
1999	L. Boyd
2000	A.H. Mokken
2001	T.L. Gibbs
2002	J. Ogilvie Thompson
2003	P.V. Cox

This year the award is being made to H.J. Smith 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 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:

Year to June	Member
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*
1934	A.C.M. Cornish-Bowden*
	H.E. Cross*
	E.F. Laschinger*
	E. Margo
1935	O.B. Swallow*
1936	O. Deane*
	T.L. Gibbs*
	R.C.J. Goode*
	F.G. Hill*
	D.M. Jamieson*
	D.J. Rogers*
1937	W. Bleloch*
	L.A. Bushell*
	K.W. Findlay*
1938	V.C. Barnes
	E.T.S. Brown*
	R.S. Cooke*
	J.K.E. Douglas
	A.L.A. Forder*
1939	G. Armstrong-Smith
	E.R.C. O'Connor*
	B.M. Roberts*
	A.A. von Maltitz*
	T. Waterman*
	J.W.V. Mortleman*
	K. Rood*
	A. Siff*
	O. Weiss*
	A.H. Mokken*
	H.L. Monro*
	R.M.F. Seawright*
	A.C. Pigott*
	J.S. van Zijl*
	L. Walter*
	J.J. Klein*
	C.D. Storrar
	C.A. McKechnie*
	J.A. Nixon
	E. Popplewell
	C.G. Sowry*
	E.W. Thiel*
	R.S. Pearson

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	D.E.R. Ayres	D.C.J. Squirrell*
	E.H.D. Carman	R.F.J. Teichmann*
	W.G.H. Jackson*	I.S. van Eyssen*
	T.A. Newman	S.J. Venning
1940	L.D.C. Bok*	G.D. Gettliffe*
	A.W.L. Brereton	G.G. Stanley
1941	A.H.H. Davison*	D. de V. Oxford*
	D.J. Forder	E. Pavitt
	A.R.C. Fowler*	A.C. Petersen*
	H.F.W. Ketelbey	E.R. Rudolph
	J.D. McNamara	P.W.J. van Rensburg*
	T.F. Muller*	
1942	R.E. Burnton*	O.L. Papendorf
	R.C. Espley-Jones	V.O. Steed
	N.M. Hayne*	J.E. van Leeuwen*
	R.T. Naudé	W.C. Walmsley*
1943	D.J. Molony*	R.P. Plewman
	J.D. McMorran	
1944	A.F. Dick	V.M. Reinecke*
	R.B. MacGillivray	A.S. Swartz
	L.J. Prince*	A.H. Taute
	J.F. Reid	P.B. Weehuizen
1945	J.L. Curtis*	K.E. Steele*
	E.T. Pinkney	
1946	W.I. Spence	
1947	G.H. Grange	J.D. Pollard
	W.B. Howe	V.C. Robinson*
	J. Marr-Levin	A.N. Shand*
	C.J. Parr*	G.R. Still
1948	D.F. Foster	J. Pope*
	M.H. Grusd	N.A. Stacey
	P.A. Laxen	J.A. Tyser
	G.Y. Nisbet	
1949	G.P. Bennett	J.P. Hugo
	J.F. Curtis*	D.A. Immelman
	O. Davel	
1950	D.F. Grieve	R.P. Plasket
	B.E. Hersov	V.C. Ward
	D.G. Maxwell	
1951	D.G. Krige	N.C. Pope
	B.H.L. Leach	W.T. Ruhmer
	M.J. Martinson	T. Zadkin*
	W.D. Ortlepp	
1952	A.N. Brown	E.P. Mortimer
	M.J. Deats	D.J. Murphy
	W. Lurie	H.J. Stucke
	N. Mertincevic	R.G. Williams
1953	B.G. Fordyce	G.D. Tainton
	G. Langton	J. Uys
	A.A. Sealey	N. Zolezzi

• Deceased since becoming members of the club

### Gold and Silver Medals

Papers published in the *Journal* from March 2003 to February 2004 by members of the Institute were considered for medals.

#### Gold Medals

J.N. van der Merwe for his suite of transaction papers published in the June issue of the *Journal* entitled 'A laboratory investigation into the effect of specimen size on the strength of coal samples from different areas', 'New pillar strength formula for South African coal' and 'Predicting coal pillar life in South Africa'.

#### Silver Medals

Silver medals were awarded to the following:

- ▶ K. Drescher and M.F. Handley for their transaction paper published in the June issue of the *Journal* entitled 'Aspects of time-dependent deformation in hard rock at great depth'.
- ▶ T.R. Stacey, X. Yu, R. Armstrong, and G.J. Keyter for their transaction paper published in the July/August issue of the *Journal* entitled 'New slope stability considerations for deep open pit mines'.
- ▶ P.C. Pistorius for his transaction paper published in the October issue of the *Journal* entitled 'Fundamentals of freeze lining behaviour in ilmenite smelting'.
- ▶ A. Singh, J.J. Louw, and D.G. Hulbert for their transaction paper published in the November issue of the *Journal* entitled 'Flotation, stabilization and optimization'.
- ▶ F.R. Camisani-Calzolari, P.C. Pistorius, and I.K. Craig for their transaction paper published in the December issue of the *Journal* entitled 'Quality prediction in continuous casting of stainless steel slabs'.
- ▶ P.C. Pistorius, N.-A. Quagraine, and C. Coetzee for their transaction paper published in the December issue of the *Journal* entitled 'Descaling behaviour of stainless steel following simulated reheating'.
- ▶ W. Stumpf for his transaction paper published in the December issue of the *Journal* entitled 'Grain size modelling of a low carbon strip steel during hot rolling in a Compact Strip Production (CSP) plant using the hot charge route'.

#### 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	A. Aiken	S.H. Pearce
	A.F. Crosse	J.P. Williams
	J. Littleton	
1923	J. Moir	
1930	H.A. White	
1931	P. Cazalet	J.A. Wilkenson
	A. Whitby	
1932	J.R. Thurlow	
1934	Wm. Cullen	A. McArthur Johnston
	W.R. Feldtmann	G.H. Stanley
	E.H. Johnson	
1938	G. Melvill	F.W. Watson
	S. Newton	
1941	J. Henderson	
1943	Sir R.N. Kotzé	
1946	J. van N. Door	T.K. Prentice
	C.J. Gray	R.S.G. Stokes
	Jas Gray	S.J. Truscott
	J.V. Muller	G.A. Watermeyer
	John Orr	J.A. Woodburn
1951	W.W. Mein	

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1953	P.E. Hall	B. St. J. van der Riet
1954	C. Biccard Jeppe	
1955	P.N. Lategan	
1958	R.A.H. Flugge-de-Smidt	
1960	G. Hildick-Smith	A.J. Walton
	A.J. Orenstein	F. Wartenweiler
	H.J. van Eck	
1961	C.S. McLean	
1966	F.G. Hill	F. Meyer
1970	H.E. Cross	D.M. Jamieson
	R.C.J. Goode	
1974	R.J. Adamson	C.J. Irving
	W. Bleloch	J.F. Reid
	H. Britten	
1975	M. Barcza	J.T. McIntyre
	J. de V. Lambrechts	
1976	D.G. Maxwell	Lt. Col. A.R.O. Williams
1978	J.K.E. Douglas	V.C. Robinson
	D.D. Howat	
1979	J.P. Hugo	P.W.J. van Rensburg
1980	Hon. S.P. Botha	R.P. Plewman
	Hon. P.G.J. Koornhof	R.E. Robinson
	A. Louw	
1982	M.G. Atmore	
1983	C.S. MacPhail	
1985	P.R. Jochens	M.D.G. Salamon
	D.G. Malan	
1986	D.G. Krige	G.Y. Nisbet
1987	A.N. Brown	
1988	J.D. Austin	D.A. Viljoen
	R.P. King	
1989	P.A. von Wielligh	
1990	S. Budavari	G.T. van Rooyen
	L.W.P. van den Bosch	
1991	H. Wagner	
1992	J. Lurie	
1993	No award	
1994	B.C. Alberts	
1995	R.D. Beck	H.E. James
	P.R. Janisch	
1996	R.J. Dippenaar	
	J.S. Freer	
	H.G. Mosenthal	
1997	J.A. Cruise	
1998	D.A.J. Ross-Watt	
1999	No award	
2000	N.A. Barcza	J.R. Dixon
	R.P. Mohring	
2001	M.H. Rogers	D.J. van Niekerk
2002	L.A. Cramer	R.F. Sandenbergh
	C.T. O'Connor	J.H. Selby
2003	A.A.B. Douglas	P.J. Knottenbelt

No awards were made in 2004.

### Student Prizes

Prizes were awarded to the following students and were presented at faculty prize-giving ceremonies held at the respective universities.

The prizewinners were as follows:

### University of the Witwatersrand

Mining	S. van der Merwe
Metallurgy	N. Dlamini

### University of Pretoria

Mining	A. Nel
Metallurgy	J. Steyn
Student Dissertation	B. Burger

### Technikon Witwatersrand

Mining	W. Nel
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### University of Cape Town

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

### University of Stellenbosch

Chemical Engineering	R.C. Snodgrass
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### Cape Technikon

Chemical Engineering	H. Deist
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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.

### 1.5 SAIMM Scholarship Trust Fund

L.A. Cramer, Chairman  
M.H. Rogers, Vice Chairman

N.A. Barcza  
R.D. Beck  
J.R. Dixon

The SAIMM scholarship fund is a recently launched trust fund designed to attract more students into the minerals industry by providing increased support for tertiary education in the mining and metallurgical disciplines. Funds are channelled from the various contributors through the tertiary education department heads to the deserving first- or second-year students.

### The minerals industry requires graduate/diplomates

The minerals industry, from mining through to the production of final metals and alloys, relies on the technical input of a core of Mining, Metallurgical and Chemical Engineering graduates for the success of their business. In the new globally competitive world, commodity prices in real terms continue to decline as the inventiveness of man finds ways to reduce the effort and thus the cost required to find, extract and purify the metals needed by modern society. Any commodity-driven business is largely a price-taker and as such survives by reducing its cost base; to a great extent this is dependent upon technical innovation and hence upon the number and skill levels of its core of mining, metallurgical and chemical engineering staff proficient in those core processes.

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Thus, it is in the interests of all mineral and metals industry business to expand the quality and quantity of graduates in the mining and metallurgical disciplines.

### **Graduate/diplomates require financial support**

Many students who wish to pursue a minerals industry career cannot do so due to a lack of financial support, particularly in the first years of tertiary education. In order to provide a mechanism to channel funds to these needy students, the SAIMM has established an independent trust (The SAIMM Scholarship Fund), which is registered as a public benefit organization. The Trust Deed records the objects of the fund to be 'to support and promote, foster and advance the interests of the minerals industry by providing the beneficiaries with funds to be used to support the education of students in the minerals industry'. The beneficiaries are defined as 'the minerals education Departments of those universities and technikons in South Africa as may be determined by the Trustees from time to time provide such institutions are approved as public benefit organizations in terms of sections 18A and 30 of the Income Tax Act, No. 58 of 1962.'

### **Donations are publicly recognized**

Donations to the Trust receive a Section 18A tax certificate from the Trust administrator and contributors are publicly recognized in the SAIMM *Journal*. The Trust is the ideal mechanism for smaller companies in the minerals/metals industry who wish to do their part to help education in the necessary fields but who do not wish to be burdened with the need to administer a bursary scheme. It also provides the opportunity for individuals who have benefited from their career in the industry to put something back into the future of the industry in a tax efficient manner. In future the SAIMM accounts will provide facilities for these donations.

### **Awards and distributions policy of the Fund**

The trustees consider all of the South African tertiary institutions that award degrees/diplomas in Mining and Metallurgy (or Chemical Engineering—Minerals Processing option) for inclusion in the programme and receipt of the awards. In order to have more impact, the majority of the funds available for distribution is reserved for the recognized 'centres of academic excellence' in the disciplines of Mining and Metallurgy

The trustees approach these 'centres of excellence' and work through those departments to award lump-sum grants for a single year to the departments; the departments in turn distribute funds to specific undergraduate students or utilize the funds for the collective educational benefit of the undergraduates (books or other educational material). The department heads concerned formally advise the trustees of the actual distribution and uses made of the allocated funds annually.

### **Distribution guidelines for the institutions**

The Trust's limited funds are directed to the best South African tertiary institutions with disciplines focused on the minerals industry. The intent of the Trust is to add to the financial support base of a larger number of students rather than to give

full scholarships to a much smaller number. The trustees depend heavily upon the departmental staff at the tertiary institutions for recommendations as to the distribution of funds to the students; but these are considered with regard to the following criteria:

- ▶ the student's level of commitment to employment in the minerals industry
- ▶ the student's assessed potential to complete his/her degree/diploma. This assessment can be based on matric results, academic results at the tertiary institution (if any), or assessment by lecturers
- ▶ the student's financial need (current full bursary holders must not be considered)
- ▶ recipients will be expected to be student members of the SAIMM

### **The goal**

The Trust's overall goal is to ensure that no deserving prospective student or student with potential is denied the opportunity to have a career in the minerals and metals industry as a technically qualified graduate in Mining, Metallurgy or Chemical Engineering (Minerals Processing) because of a shortage of adequate finance. In its first year of operation the trust fund was able to raise sufficient funds to allocate R80 000 to the university of choice in early 2004; further funds have continued to flow into the Trust such that a second contribution to the universities may well be possible before the end of the year.

### **1.6 SAIMM Gold Medal Awards**

The South African Institute of Mining and Metallurgy were pleased to assume the administration of the Gold Medals and Scholarships in 2001, which had previously been done by the Chamber of Mines. All contributions are held in a separate Fund within the SAIMM accounts.

A total of four awards is presented to the universities of Pretoria and the Witwatersrand for the best student in the Faculty of Engineering and the best student in the branches of Mining or Metallurgy as determined by the universities. The award comprises a gold medal and a postgraduate scholarship to the value of R25 000.00.

These awards are only made possible by the generous contributions from major organizations in the industry, viz., AngloGold, Anglo American, Anglo American Platinum Corporation, Anglovaal Mining, BHPBilliton, De Beers Consolidated Mines, Gold Fields South Africa, Impala Platinum, Kumba Resources, and Sasol Mining. The SAIMM and the two universities are grateful for their generous support.

### **1.7 Banquet Committee**

J.A. Cruise, Chairman

L.A. Cramer

J.R. Dixon

A.A.B. Douglas

F.M.G. Egerton

R.P. Mohring

M.H. Rogers

T.R. Stacey

W.H. van Niekerk

This year's banquet was again held at the Sandton Convention Centre and we again had over 1 000 guests.



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The main entertainment for the evening had been kept a secret and it appeared as though it might be an address by a notable person. The audience was caught unawares, when the M.C. announced the 'African Footprint' and said 'Let there be drums'. This was the signal for the loud beating of drums, at which point the curtains at the side of the hall were dropped and we were entertained by a selection of numbers from the acclaimed 'African Footprint' show

All in all, a good time was had by all.

### 2. Technical Meetings

Portfolio Holder: F.M.G. Egerton

#### 2.1 Technical Programme Committee—Mining

G.L. Smith, Chairman

W. Assibey-Bonsu\*\*

A.M. Clegg

A.M. Croll

J.A. Cruise

J.C. Ngoma

R.C.D. Phillis\*

R.G.B. Pickering

J.L. Porter\*

A.A.B. Douglas

F.M.G. Egerton

M.F. Handley\*

I. Home

L.A. Jagger

A. Kockott

G.V.R. Landman\*

A.S. Macfarlane

P.P. Mwasinga\*

B.C. Rip\*

M.H. Rakale

M.K.C. Roberts

T.R. Stacey

F.W. Taylor\*

J. Truter

H.G. Waldeck

J.N. Wallington\*

R.P.H. Willis

\*Co-opted members

\*\*Resigned during the year

The past year has been highly productive with ten successful events being convened during the year, of which three were international. Of these international events, the highly prestigious 10th International ISRM Conference clearly demonstrated, to a wide international audience, the quality of South African rock engineering expertise and the competence of the SAIMM in enabling this type of event. Other events convened during the year reflected topics and issues pertinent

Schedule of Mining Technical Conferences, 2003/2004					
Type of Event	Date	Title	Convenor	Venue	Attendance
School	30 July 2003	Rock Loading and Hauling in Massive and Narrow Hard Rock Mines	R.G.B. Pickering	Rustenburg Golf Club	129
International	08–12 September 2003	10th Congress of the ISRM Technology Roadmap for Rock Mechanics	J.N. van der Merwe	Sandton Convention Centre	333
International	28 September to 3 October 2003	XXII International Minerals Processing Congress (IMPC 2003)	C.T. O'Connor	Cape Town International Convention Centre	600
International	5–9 October 2003	30th International Conference of Safety in Mines Research Institutes	R.P.H. Willis	Caesar's, Gauteng	147
International	6–8 October 2003	Heavy Minerals Conference 2003 (HMC 2003)	J.H. Selby	Cape Town International Convention Centre	132
Colloquium	23 October 2003	Student Colloquium	F.M.G. Egerton	SA National Museum of Military History	97
Colloquium	29–30 October 2003	Diamonds from Source to Use	G.L. Smith	SA National Museum of Military History	116
Colloquium	20 November 2003	Tunnelling and Development in Southern Africa	E.J. Sellers	SA National Museum of Military History	54
Colloquium	27 November 2003	Procurement and the Mining Charter	G.L. Smith	VW Conference Centre, Midrand	197
School	20–22 January 2004	Process Dynamics of Oxygen Steelmaking and Fundamentals of Mould Fluxes for Continuous Casting of Steel	J.H. Geldenhuis	Emerald Casino, Vanderbijlpark	64
School	30 January 2004	Refractories	A.M. Garbers-Craig	Emerald Casino, Vanderbijlpark	42
International	25–28 January 2004	VII International Conference on Molten Slags, Fluxes and Salts	P.C. Pistorius	Holiday Inn, Cape Town	202
International	2–6 February 2004	Tenth International Ferroalloy Congress (INFACON X)	N.A. Barcza	Cape Town International Convention Centre	417
Seminar	23–25 February 2004	Second International Seminar on Deep and High Stress Mining	T.R. Stacey	SA National Museum of Military History	93
Colloquium	22 April 2004	Water Barriers in Underground Mines	H.G. Waldeck	SA National Museum of Military History	55
Colloquium	12 May 2004	Mechanised Mining and Support in the Bushveld Complex	R.G.B. Pickering	Rustenburg Civic Centre	77
Colloquium	18–19 May 2004	Innovations in Leaching Technologies	F.K. Crundwell	SA National Museum of Military History	71

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to the industry in areas as diverse as procurement and the Mining Charter, safety research, tunnelling, rock engineering, aspects of diamond mining, mechanized mining, rock handling and underground water barriers. These events were supported by about 1 400 members and guests.

The committee has further developed a programme of events ranging well into 2006 and has undertaken to facilitate events that reflect the diversity of the minerals industry and member interests.

The hard work and commitment of the committee members and the secretariat is acknowledged and highly appreciated. The success of the TPC-Mining depends on this dedication and the willingness to devote time and resources to advancing the objectives of the SAIMM, and meeting member needs. Thank you.

### 2.2 Technical Programme Committee—Metallurgy

J.M.A. Geldenhuis, Chairman

H.E. Bartlett*	R.T. Jones*
F.K. Crundwell	N.C. Machingawuta
J.P.R. de Villiers*	A. Mjacu*
G. Donoghue*	P.S. Mokgokong
M. du Plessis*	M. Moys*
M. Dworzanowski	D.S. Ngandu
A.M. Garbers-Craig	F.W. Petersen
M. Greyling*	R. Suss*
P. Hand*	W.H. van Niekerk
K.J. Hay	T. Vermaak*

\*Co-opted members

Several new enthusiastic members joined the TPC-Metallurgy during the 2003/2004 year with the objective of being creative and getting involved in organizing events that will contribute to and satisfy the needs of our mining and metallurgical industry. It is very important that this committee contributes to transferring knowledge and experience to the broader industry by creating seminars, schools and conferences, which serve as a platform in reaching this goal. A number of exciting events occurred during the past year. It started with the Clay and Industrial Mineral Colloquium, which was arranged in conjunction with the Geological Society, and was held in August 2003. The XXII International Mineral Processing Conference was held in September under the auspices of the Western Cape Branch of the SAIMM, in Cape Town. This conference received lots of appraisal from the more than 600 delegates and was a great success (366 papers and posters were presented). This was followed by the International Heavy Minerals Conference, which was held in October 2003 in Cape Town, and was also of a high standard.

The year 2004 kicked off in January with two successful events (presented in Vanderbijlpark), which focused on the steel industry. Two international experts, professors DeO and Boom, presented a school on Process Dynamics of Oxygen Steelmaking, while Ken Mills presented a course on Fundamentals of Mould Fluxes for Continuous Casting of Steel. This was followed by a school in Refractories for the Pyrometallurgical Industry, which was presented by another international expert, Lee. Another big conference, the 7th International Conference on Molten Slags, Fluxes and Salts, was held in Cape Town in January, where 117 plenary, keynote

and technical papers were presented. The feedback from the delegates (approximately 200) was very positive and again, this was a very successful conference.

This conference was followed (back to back) by the Tenth International Ferro Alloy Congress (INFACON X), which was arranged in conjunction with Mintek, and was also held in Cape Town in February. Again, this conference was very successful, with 91 papers being presented and more than 400 delegates attended. The last event in 2003/2004 was the Innovations in Leaching Technologies Colloquium, which was held in Johannesburg in May. This was also well attended by industry.

The 2003/2004 year was exceptional in terms of the number of international conferences that were arranged and presented by the SAIMM. However, although the international flavour of events that are planned in the year to come is not that strong, these events will appeal to our local mining and metallurgical industry. A sneak preview of things to come includes New Developments in South African Gold Processing and Small-Scale Mining (both in conjunction with Electra Mining Africa) in September, as well as the 1st International Platinum Conference 'Platinum Adding Value' to be held in October 2004.

Members of the TPC—Metallurgy actively participated in arranging/assisting at all the events and everyone made valuable contributions during the year. Some of the new committee members started arranging new events from the day that they joined the committee, which is also appreciated. Another exciting year lies ahead and the TPC—Metallurgy is committed to creating another successful calendar of events, which will serve our mining and metallurgical industries.

### 2.3 South African National Council on Tunnelling (SANCOT)

A.R. Kockott, Chairman

A. Boniface	R.G.B. Pickering
A.L. Cross	E. Sellers
J.A. Cruise	T.R. Stacey
G. Davis	F.B. Stevens
E. McCarter	J. Truter

This last year has been a watershed year for SANCOT. The dearth of civil tunnelling and construction activity in Southern Africa resulted in SANCOT's executive committee proposing to its members that SANCOT strengthen its ties with SAIMM by becoming a special interest group of SAIMM. The approval to do so was passed by all members who responded, which was more than the two-thirds majority as required by SANCOT's Constitution. At SAIMM's Special General Meeting held on 13 August 2003, SANCOT's incorporation as a committee was sanctioned.

A decision was taken for the existing executive committee to continue serving during this reporting period, with additional representation from SAIMM and another SANCOT member being co-opted onto the committee. The Chairman and J. Cruise represented SANCOT on the Technical Programme Committee.

To encourage the continued involvement of SANCOT members, its 'old' members not already members of SAIMM

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were offered a rebate on their membership subscription to SAIMM. Although this rebate was well received and most members joined SAIMM, this rebate will be phased out over a number of years.

This new partnership got off to an excellent start through a successful colloquium 'Tunnels and Development in Southern Africa' in November. Another successful event was the site visit to a sewer tunnel currently under construction in Johannesburg, and final arrangements have been made for an evening technical presentation at the AGM of the Johannesburg Branch of SAIMM. SANCOT has maintained its involvement in the International Tunnelling Association (ITA) and was represented by its Chairman at the 30th ITA conference held in Singapore in May of this year. The possibility of there being a renewed interest in civil tunnelling rests with the possible implementation of the following projects, namely, Gautrain, a pumped storage scheme in the Drakensberg and a sub-aqueous tunnel in Durban.

A special thank-you must go to the committee for their commitment and support during this past year and especially to Marilyn Muller (past secretary) and Peter Hume (resigned executive member) for their contribution to SANCOT over many years.

### 3. Publications

**Portfolio Holder: R.P.H. Willis**

R.D. Beck, Chairman

F.M.G. Egerton

A.M. Garbers-Craig

N.C. Machingawuta

K.C. Owen

F.W. Petersen

J.N. van der Merwe

H.G. Waldeck

#### 3.1 Journal

Ten issues, including the Presidential issue, were published this year. This is an increase by one issue over previous years. A student issue was again published in April 2004 and a special issue containing papers only from the Department of Metallurgical Engineering of the University of Pretoria was published in December 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.

It is pleasing to note that the number of transaction papers, which are peer reviewed and represent the peak of publishing technical quality, increased this year.

Forty-six transaction papers, 13 journal papers, 2 technical notes, 9 student papers and 2 comments on published papers were published this year. This represents a 48% increase in transaction papers and a 43% decrease in journal papers over the last year. Eighteen possible transaction papers were rejected; double the figure of the previous year. Only one of these was from South African authors. The number of metallurgical papers decreased slightly, with an increase in mining topics. The number of papers on general topics increased, with particular emphasis on mineral property valuation and prospective minerals industry legislation. Disappointingly, only 2 papers were published on environmental topics. 35% of papers were from overseas, representing 12 countries.

Advertising has been maintained at the same levels as last year, which is a good effort considering the additional issue. Our thanks go to Harriet Isserouw, our advertising agent and the support we receive from companies in the minerals industry.

The number of pages published per issue remained as for previous years, which is the maximum that can be published without additional binding costs.

Artwork costs were reduced after a change in process. The printing costs were below budget. Over-budget items were postage, which was increased to ensure that overseas members received their copies timeously, and expenditure on the Website.

Professor Robbie Robinson has continued with his thought-provoking *Journal* Comments throughout the year, for which we are very grateful. One comment drew discussion, which was welcomed.

Papers from all issues of the *Journal* since 1976 have been placed on the Website. Members are now able to search for and download any paper. Non-members can search, will be able to read the abstract, and can download the paper on paying a small fee.

The DTP department has again maintained the high standard of *Journal* layout and thanks go to Dawn van der Walt and Julie Malgas. Several words of praise were received from authors for their efforts.

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. Clegg

G. Olivier

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A.M. Croll  
V.G. Duke  
D.R. Fleming  
A.S. Macfarlane  
Q. Mokulubete  
P.P. Mwasinga

S.M. Rupprecht  
E.U.H. Sachse  
C. Sweet  
F.W. Taylor  
A.R.T. Thin

The 2003 to 2004 year, reviewed in this annual report, has been a reasonably successful period for the Branch. Overall, the membership of the Branch Committee has been extremely stable and the level of support and commitment remains undiminished. The attendance at meetings has been highly variable and—not surprisingly—is influenced by the relevance of the subject matter of the presentation. However, in the second half of the year, diminishing attendance has become a concern. Conversely, we have seen the distribution of attendees continue to tend towards more people from the mining industry 'supply side' companies and institutes of tertiary education. The average attendance for 2003 was 59 and the average attendance for 2004 is 60. Unfortunately, two meetings had to be cancelled at short notice.

The Branch Committee Annual General Meeting is scheduled for Wednesday, 28th July 2004, at which time a new committee members will be elected. The Chairman will be elected at the first committee meeting.

### Technical presentations

Thursday, 24 July 2003

*Financial and Risk Evaluation of Environmental Investments – Tools and Case Studies* by Charles H. Fourie—number of people attending the presentation: 45.

Manufacturing and mining industries in the modern world are under continuous pressure to improve their environmental performance and compliance with legislation. In this climate of increasing expectations, companies have to find ways not only to clean the emissions from existing production but also how to respond to the requirements and demands of various interest groups. Therefore, companies in the mining and process industries have two options from which to choose:

- ▶ they can alter the production process and/or
- ▶ change the product design, so that the production process is cleaner and the end-product causes little harm to the environment.

When faced with these choices, a company needs a decision-support tool that offers the opportunity to evaluate the risks, returns and costs associated with the various options. These choices are strategic in their nature and require an overall evaluation of the competitive situation, the expected regulatory environment, and consideration of the expectations of the various interest groups.

Thursday, 21 August 2003

*The South Deep Gold Mine/An Update on the Project Progress to date and what the future holds* by Pete Kolbe—number of people attending the presentation: 58.

Western Areas Gold Mine has been around since 1960, mining one of the most unique orebodies in the world. The Placer Dome Western Areas Joint Venture was established to exploit a massive extension to existing operations.

This presentation provided the audience with an update on safety, operations, the orebody and mining methods at one of the most challenging mining engineering projects in the world.

Thursday, 1 October 2003

*The Scorpion Zinc Project—An Update*—number of people attending the presentation: 61.

Skorpion Zinc is a wholly-owned Anglo American plc project located in southern Namibia, approximately 25 km north of the mining settlement of Rosh Pinah. Skorpion Zinc, which is a low-cost integrated zinc producer, represents a major technological breakthrough in the treatment of generally complex zinc oxide ores. This presentation described the project, key successes, special experiences, historical and forecast state of the zinc industry, and the increasing importance of zinc oxide ores.

Thursday, 20 November 2003

*An Overview of the Geological Potential North of the Target Mine*

Unfortunately this event was cancelled and rescheduled due to the low numbers booked to attend. The committee believed that this was due to the time of year, and it was rescheduled for 2004.

Thursday 22 January 2004

*AngloGold: From Risk Assessment to Enterprise Risk Management* by Dr. Kobus de Jager—number of people attending the presentation: 104.

Industry has for many years been focusing on risk assessment and, to a certain extent, the process has become more important than risk management. The presentation provided the audience an opportunity to hear an AngloGold perspective on the following topics:

- ▶ Enterprise-wide risk management
- ▶ Safety management systems
- ▶ Behavioural safety
- ▶ The causation model
- ▶ Leading indicators
- ▶ Safety information systems
- ▶ Safety management systems.

And, most importantly, how all of these components fit together to leave a simple message about your business.

Tuesday, 17 February 2004

*Controlling the Quality of Information from Field to the Database* by Barry Smee—number of people attending the presentation: 55 (est).

This event was originally planned as a Johannesburg Branch event but was converted to a conference arranged through the SAIMM because of the nature structure of the material to be presented. The event was also held in conjunction with the GSSA.

Barry Smee audits field and assay laboratory procedures and quality control on behalf of a long list of clients all over the world. He has become a regular visitor to South Africa where he is well known in the assay lab fraternity for the friendly and impartial way he conducts his unannounced visits.

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The talk was for exploration geologists, resource geologists and assayers in particular. However, it is also of particular importance to managers responsible for the preparation of feasibility studies, mineral resource managers and mining engineers.

South Africa is not quite in the forefront of sample and assay lab quality control. World securities administrators and financial institutions, led by the Canadians and their National Instrument 43-101 regulations, are now insisting upon the use of auditable best practices in order to ensure the data and databases used to calculate mineral resources are suitable.

Thursday, 17 June 2004

*An Overview of the Geological Potential North of the Target Mine* by Vaughn Duke—number of people attending the presentation: 34.

The development of the Target Mine from the existing Loraine Gold Mine in the Free State commenced in 1994. Its successful commissioning followed a culmination of over twenty years of exploration in the area known as the Bothaville Gap, one of the remaining unmined areas in the Witwatersrand Basin.

Target Mine was able to move away from the traditional mining methods usually employed in the Witwatersrand Basin. This was made possible by the unique nature of the Eldorado Formation where the vertical stacking of reefs allowed for the massive mining of several reefs in a stope.

Surface exploration drilling and evaluation to the north of the Target Mine continued in parallel with the development of the mine, with the intention of exploiting the remainder of the area up to the Mariasdal Fault, which is about 5.5 km from the current Target Mine workings.

The talk covered the history of the surface exploration drilling north of the Target Mine before explaining the geological model and the attraction of the mineral resources north of Target. Key insights that emerged during the several scoping and prefeasibility studies undertaken over the past six years were also briefly covered.

### Technical visits

*Year end function: visit to the Cullinan Village—13 December 2003*

*Year End Family Outing—attended by 21 adults and 3 children.*

The activities planned for the day were:

- surface tour of the open pit and mine infrastructure
- lunch: braai
- visit to the candle shop
- a walk around the village to enjoy the old buildings/houses
- visit to a diamond cutting factory.

Friday, 23 May 2003

Disappointingly, a planned visit to Marlin Granite was cancelled due to lack of interest.

### The year ahead

From the mixed performance during the year, it is clear that more work has to be done to ensure that the following objectives are achieved:

- Better planning of events that have higher interest value to the members
- Subject matter that also covers the metallurgical discipline
- Further collaboration between the GSSA and SANCOT
- To have at least two successful technical visits during the year
- Re-establish contact with the Australian exchange student programme.

### Acknowledgements

As Chairman, 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, on behalf of the outgoing Branch, I would like to welcome the Committee-elect to their tenure of office and wish them all of the best for the year ahead..

#### 4.2.2 Free State Branch

C. de Villiers, Chairman and Secretary

J.J.H. Bester	J. Mills
B. du Plessis	G. Mitchell
F.P. Guilherme*	M. Mortlock
J. Jooste	B. Northrop
J. Lucas	S. Subban

\*Ex member

No report was submitted this year.

#### 4.2.3 Pretoria Branch

R.C.W. Webber-Youngman, Chairman

T. von Moltke, Vice-chairman

K. Banks	M. Moripa*
D. Boshoff*	J. Morkel*
D. Gudmanz**	K. Sengani*
S. Havenga**	M.K.G. Vermaak
J. Klingenberg*	H. Visser*

\*Student representatives

\*\*Secretaries

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. A potjiekos and sports day were held for the first time on 15 of May 2004 and here students and lecturers of the departments of Mining Engineering, Metallurgical Engineering and Geology got together and enjoyed the event thoroughly. Various prizes were made available for the day and here the hard work of Mrs Sarah Havenga must be acknowledged. What makes this event unique was the fact that the idea was born at one of the

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Mini colloquia, past year events, and future planning: Pretoria Branch of the SAIMM: 2003/2004		
Date	Title	Presenter
2003-08-27	Anglo Platinum's Corporate Strategic Planning Process for Expansion	L. Cramer, Anglo Platinum
2003-09-10	Fluorensic investigations done by the SAPS	J. Botha, South African Police Services
2003-09-17	The mind of the fox	C. Sunter, Anglo American
2003-10-24	Research Colloquium	Departmental participation
2004-01-30	Electrolytic production of titanium metal	D. Fray, Cambridge University
2004-02-05	Morphology and kinetics of the peritectic transformation in steel	R. Dippenaar, University Wollongong, Australia
2004-02-18	The advanced metals initiative (AMI)	R. Bean, CSIR
2004-03-02	Metallographic Examination of Heavily Eroded Structural Steel from World Trade Center Buildings 1, 2 and 7.	G.F. vander Voort, Buehler, USA
2004-03-24	Engineering qualifications, the future	M. Handley
2004-04-20	The Forensic Assessment of Fire Damage to Vehicles, using the Methodologies and Principles of API RP 579	R. Mostert Megchem Engineering and Drafting
2004-05-15	'Potjiekos competition, Geology Mining and Metallurgy	
2004-07-21	AGM: The Mechanisation of UG2 mining in the Bushveld Complex	Presidential address, SAIMM President, Chairman's report, SAIMM Pretoria
2004-08-25	Title of paper to be announced	L. van Niekerk ISCOR
2004-09-15	Future blasting practices in the mining environment	J. Cloete, AEL
2004-10-22	Research Colloquium	Departmental participation

SAIMM Pretoria branch monthly meetings, where the students expressed the need for such a day.

The first event was the Annual General Meeting of the Branch and was held on 23 July 2003. It was indeed a pleasure to have the then President-elect, Dick Stacey, 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 colloquia. 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 were held after these meetings and served as a get-together of 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 Pretoria Branch once again hosted the Research Seminar of the School of Mining and Mineral Sciences at the University of Pretoria on 24 October 2003, and it was attended by members of industry, the departments of Mining Engineering, Metallurgical Engineering, and Geology.

I would also like to thank my committee for their support, and also Professor Nielen van der Merwe, Head of the Department Mining Engineering and Chris Pistorius, Head of Department Metallurgical Engineering, University of Pretoria, for their continued support during the past two years. I would also like to thank the SAIMM for giving me the opportunity to be of service in my two years as chairman of the Pretoria Branch of the SAIMM. Last, but not least, I would specially like to thank the people that worked behind the scenes and really put in a special effort to keep the SAIMM Pretoria Branch alive, namely Sarah Havenga, Daleen Gudmanz, Hannes Visser, and Jacqueline Morkel.

#### 4.2.4 Western Cape Branch

L. Lorenzen, Chairman  
D. Bradshaw, Vice-chairman  
M. Winter, Secretary/Treasurer

C. Aldrich  
D. Deglon  
J. Eksteen  
P. Gaylard  
M. Harris  
R. Knutsen  
C. Lang  
A. Mainza  
A. Nesbitt  
C. O'Connor  
M. Powell  
P. Slatter  
H. Sundström  
P. van der Plas  
A. van der Westhuizen  
M. Wright

The Western Cape Branch of the South African Institute of Mining and Metallurgy enjoyed yet another successful year. The 2003/04 term of office started with the highly successful XXII International Mineral Processing Congress, which took place at the new Cape Town International Convention Centre in Cape Town from 28 September to 3 October 2003. The report to the Council, from the chair of the organizing committee, is attached at the end of this report.

Our annual student evening in the Western Cape will be held at the University of Stellenbosch on Friday 27 August 2004 in collaboration with the Western Cape Branch of the South African Institution of Chemical Engineers. The speaker will be Carlo Costa of Infruitec who will talk to the students about the olive oil and food industries. It is anticipated that the event will be attended by more than 120 people from the three tertiary institutions, i.e. Cape Peninsula University of Technology, University of Cape Town and University of Stellenbosch. It will be followed by a cocktail party and an introductory seminar of the SAIMM's activities to the students.

During April 2004 the annual student tour took place. This year the tour was organized by Elton Thyse of the University of Stellenbosch. The tour started on Saturday evening, 3 April around 6 p.m. when the students were picked up from their respective institutions. The bus arrived in Krugersdorp on Sunday afternoon where we checked in at the Rocky Valley Christian Camp. The first industrial visit was on Monday at Mintek in Randburg. The visit started at 08h00 with a one hour technical presentation on the role of Mintek in the minerals industry, followed by tours of the biotechnology, minerals processing, and hydrometallurgical divisions and then

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lunch. Marula Platinum mine was visited on Tuesday starting at 10h00 with a plant tour guided by the operations manager. The plant tour was followed by a one-hour technical/company presentation and lunch. Highveld Steel & Vanadium Corporation and Kleinkopje Colliery were visited on Wednesday and Thursday, respectively. A highlight of the tour was a visit to Matla Power Station on the same day after Kleinkopje Colliery. The total number of participants, including 29 students, 5 staff members and 2 bus drivers, was 36.

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.

### **Report to the Council of the South African Institute of Mining and Metallurgy**

The XXII International Mineral Processing Congress was hosted by the Western Cape Branch of the SAIMM and took place from the 29 September to 3 October 2003 at the Cape Town International Convention Centre. In the tradition of the IMPCs, the congress provided a forum for the presentation of new knowledge in the science and technology of mineral processing as well as an opportunity to discuss and evaluate the application of research results in industry.

A total of 520 abstracts was submitted from 42 countries in response to the worldwide invitation to participate in this event. After the initial review of abstracts, 366 were selected, consisting of 224 oral presentations and 144 poster presentations. The Congress Technical Programme was conducted in four parallel sessions during which the oral presentations were made. The Congress covered 12 themes, or subject categories, and these included flotation, hydro- and biometallurgy, simulation and control, pyrometallurgy, comminution, safety, health and education, classification and simulation, dewatering, waste management, modelling and simulation, mineralogical characterization, and environmental processing. The formal congress proceedings consisted of manuscripts which were approved by peer review by international experts and consisted of 195 abstracts out of the original 220 accepted. These manuscripts were included as full length refereed papers on the CD that contained the official congress proceedings. All the abstracts selected, i.e. the short oral presentations and poster presentations, were also included on the CD, as well as in the book of abstracts. The South African Institute of Mining and Metallurgy undertook to publish the hard copy of the full conference proceedings and these were published in 3 volumes.

One of the highlights of the Congress was the high quality of the plenary papers. The Congress was opened by the Hon. Minister of Mineral and Energy Affairs, Ms P. Mlambo-Ngcuka. The opening lecture on 'Globalization in the Mining and Mineral Processing Industry' was presented by Brian Gilbertson. Mr Gilbertson ensured that the congress got off to an outstanding start and his presentation drew great praise, not only from the participants but was also featured extensively in the media. The other plenary lecturers were Professor Richard Williams from the University of Leeds, who looked at the potential impact of current fundamental discoveries, Professor Jim Finch from McGill University, who spoke on 'Mineral Processing Education', Professor Jannie van

Deventer from the University of Melbourne, who addressed issues related to sustainability in the minerals industry, and Robin Batterham, the chief scientist of Australia, who addressed the question of 'The Mine of the Future'. Eight keynote papers were presented in areas relating to comminution, modelling and control, base and precious metal ore processing, optimization of waste management, flotation, simulation, control and modelling, and pyrometallurgy.

The congress was attended at its peak by over 600 delegates. The overwhelming response that the Organizing Committee received from delegates, both during and after the event, was that this was arguably one of the best congresses in living memory and many 'elder statesmen' who had attended IMPCs as far back as Leningrad in 1968 indicated that they believed that this was the best ever. One of the highlights of the Congress was the award of the IMPC Lifetime Achievement Award to Professor Peter King. As is well known, Professor King was for many years one of the leading minerals processing experts in South Africa before moving on to the University of Utah. This award is made by peer review of nominations submitted from around the world.

The Organizing Committee wishes to take this opportunity to express its very sincere appreciation to the Council of the SAIMM for having agreed to underwrite the congress and who made an initial loan of R60 000 to assist us in the early days of organization in terms of cash flow. The congress is happy to announce that a reasonable profit was made. The Organizing Committee was not only able to refund the R60 000 loan, but has also been able to make grants of R290 000 to the Council of the SAIMM as well as a grant of R60 000 to the Western Cape Branch for its use in promoting the interests of students at the Western Cape tertiary institutions in the area of minerals processing.

Finally, I wish to take this opportunity, as chairman of the Organizing Committee, to extend my very sincere thanks and appreciation to the two outstanding deputy chairs of the Organizing Committee, namely, Professor Leon Lorenzen and Dr Francis Peterson. Professor Lorenzen was also chair of the Technical Programme Committee and editor of the Proceedings. This was a monumental task, which he and his colleagues on the Programme Committee saw to in a most professional way. The members of the Organizing Committee largely consisted of staff from the universities of Stellenbosch and Cape Town as well as the Cape Technikon and my sincere thanks and appreciation are extended to them and, in particular, to Meg Winter, head of the organizing secretariat, for the outstanding work that she did in organizing this event. There is no question that the successful conclusion of this rather large task has brought considerable praise to the SAIMM and we believe that, notwithstanding the enormous time and effort it demanded from all members of the Organizing Committee, it was well worthwhile.

#### **4.2.5 Bushveld Branch**

C.A.F. Sweet, Chairman

The Bushveld Branch covers a very wide area and its operations have been under a lot of pressure over the past few years with the affect of the rand, restructuring, and the like. Arranging visits to interesting sites has not been easy.

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Due to a number of reasons and some difficulty in arranging suitable visits during the year, the Bushveld Branch has had a quiet year. Recently Concor Mining and Construction has agreed to host a visit to the COEGA harbour project and currently arrangements are being made to set suitable dates, as well as arranging some suitable transport options at reasonable costs.

We have been speaking to several operations over the past months and we should be able to have 2 interesting visits as well as the Coega harbour site visit during the year ahead.

There will also be a drive to get new members into the fold, as well as getting some more people to assist with branch activities.

### 4.2.6 Zululand Branch

I. Walton, Chairman  
E. Williams, Treasurer  
Member: E. Clare

The Zululand Branch of the SAIMM has unfortunately had a very quiet year in terms of technical presentations. We have, however, maintained our association with the Institute of Electrical Engineers, the Institute of Measurement and Control, the Institute of Refractory Engineers, the Zululand Rock Club, and the Zululand Geological Society and, as such, our members have been invited to attend the presentations that we have jointly hosted with our fellow institutes.

### Technical activities

- ▶ Ondeo Nalco hosted a talk on various facets of the water treatment industry
- ▶ The Institute of Refractory Engineers hosted a talk on the refractory industry followed by a sponsored golf day for the members of the mining and metallurgical disciplines
- ▶ Roche Mining hosted a talk on electrostatic separators.

The Branch was also involved in the organization of the Heavy Minerals Conference, which was held in October 2003. This was by all accounts a huge success.

### Social activities

The annual SAIMM Zululand Branch golf day was held in October at the Richards Bay Country Club. Once again a full field of golfers, supported by very generous sponsors, ensured that the Branch would be financially sound for another year.

Our mountain bike race around the golf course and quiz evening will again be held to raise funds for the Institute.

### 4.2.7 Mpumalanga Branch

M.R. Mohring, Chairman  
J. Nxele, Vice Chairman  
H. Rakgale, Secretary  
E. Dhlamini  
B. Khumalo  
D. Smith  
C. Mosoane

A branch meeting was held on 26 November 2003 and 22 members attended at Greenside Colliery.

At this meeting a committee of 7 persons was formed. A committee meeting was subsequently held at Greenside Colliery on 19 January, where a plan of action for the year was drawn up.

The official relaunch of the branch was to have been held in March, but did not materialize due to job commitments of the committee members. The plan is to hold that function in the last quarter of the year, after a membership drive in the region.

## 5. Engineering Science and Technology in South Africa

Portfolio Holder: R.P. Mohring

### 5.1 Engineering Council of South Africa (ECSA)

	<i>Mining</i>	<i>Metallurgy</i>
<i>Representative</i>	R.P. Mohring	R.F. Sandenbergh
<i>Alternates</i>	J.A. Cruise	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 applicants for registration as Professional Engineers. The Institute also provides the administration and assessors for the ECSA Professional Review, a prerequisite for registration.

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>
<i>Representative</i>	R.P. Mohring	R.F. Sandenbergh
<i>Alternates</i>	J.A. Cruise	

#### PAC Mining

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

#### Mining

Council has reviewed a number of its policies and procedures, and operating procedures for the various committees are almost complete. Of significance to the SAIMM are the draft rules for recognition of voluntary associations. In terms of the current draft, the SAIMM does not qualify for recognition; however, your representatives will attempt to ensure that the SAIMM maintains its current status with ECSA, thereby benefiting both ECSA and Institute members. 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 ECSA annual fee.

#### 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



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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.

A number of professional engineers have already been admitted to the South African Register of International Engineers.

It is expected that the Register for Professional Technologists will be launched shortly.

### **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.

Significant progress has been made in developing qualifications and standards. The M.Q.A, through our representative D.J. van Niekerk, have played a leading role in this initiative.

### **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. The issue of reservation of work is linked to compulsory registration and as such has many hurdles to cross before becoming a reality.

### **Continuing professional development**

The 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 in the process of developing its requirements for CPD.

### **PAC Metallurgy**

R.F. Sandenbergh, Chairman

N.A. Barcza

R.D. Beck

L.A. Cramer

J. Els

R.H. Eric

H.E. James

W.H. van Niekerk

D.I. Watson

### **Metallurgy**

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 contribute to this mission by considering matters specific to the discipline and also contributes to wider policy matters as required.

During 2003/2004 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 tried by ECSA. The PAC participated in the deliberations and indicated its preference for a strong involvement of the SAIMM in such a process for metallurgical engineers. Members of the committee were also involved in accreditation visits to universities. Ms J. Els resigned from the committee as she moved overseas during the year.

### **5.2 South African Academy of Engineering**

R.F. Sandenbergh, Chairman

The objectives of the Academy of Engineering are to promote excellence in the science and application of engineering for the benefit of all members of the public in South Africa. The Academy comprises South Africa's most eminent engineers of all disciplines and related professionals with proven ability and achievement. During the year the representation of mining and metallurgical engineers in the SAAE was increased to recognize their achievements and to facilitate interaction and contributions over a broader front of engineering.

The South African Academy of Engineering and the University of Pretoria took over the responsibility for coordinating the annual Hendrik van der Bijl Lecture at the University of Pretoria in consultation with the professional institutes. This year's Hendrik van der Bijl Lecture, with the title 'The Platinum Highway', was presented on 26 May 2004 by Ralph Havenstein and was co-organized by the SAIMM.

## **6. State Liaison**

Portfolio Holder: T.R. Stacey

### **6.1 Outcomes-based Education and Training (OBET)**

D.J. van Niekerk, Chairman

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

- ▶ unanimous agreement by the ExCo (30 June 2004) to recommend the following three Foundational Source Documents for approval to the MQA Board:
  - Levels 5 to 8 Qualifications Design, Registration and Licensing Principles and Models
  - Registration as an Elective Option in the SA M&MS, and
  - Licensing as an Elective Option in the SA M&MS.
- ▶ unanimous ratification of the Policy Implementation Guideline for the provision of generic Supervision, Management and Leadership (SML) competencies for the SA M&MS
- ▶ preparation of a collated exposé on the legal opinions received to date relating to the interpretation of reference to 'the Public Interest' in the Engineering Profession Act, 200 (Act No 46/2000) and the Occupational Health and Safety Act, 1996 (Act No 29/1996 as amended)
- ▶ unanimous agreement/support by the stakeholder groupings of the three categories of 'Engineering Work in the SA M&MS that will be reserved for persons registered

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with ECSA ('compulsory registration') at an IDoEW Workshop held on 14 June 2004 under the auspices of the M&M SGB:

- '(i) Engineering design and synthesis of materials, components, systems or processes\* subject to the nature and type of design specified
  - (ii) Education, training and development of learner practitioners who are registered with ECSA in terms of Section 18 (1) (b) of the Engineering Professions Act, 2003, in one of the following categories
    - candidate Engineer
    - candidate Engineering Technologist
    - candidate Engineering Technician, and
    - candidate Certificated Engineer.
  - (iii) Persons performing consultancy work for financial gain'.
- ▶ the establishment of a task team to determine the competency profile for the mine over-seer/middle management qualification
  - ▶ publication of a draft position document relating to 'Transitional Arrangements for Qualifications in the SA M&MS', and
  - ▶ referral to the ESGB of the concern relating to the future of the N4 to N6 technical colleges qualifications as a possible progression/articulation route to the certificated engineer/manager.

The main achievements of the Engineering SGB (ESGB) for the year under consideration include the following:

- ▶ registration of the competency standard for the Stage 1 qualification B. Eng./BSc. Eng. on the National Qualifications Framework by the SA Qualifications Authority
- ▶ conclusion from standards generation in the SGG: Stage 1 Universities of Technology (UoT) qualifications that 'workplace-based-learning' previously referred to as ('experiential learning') is not likely to make up 120 credits
- ▶ finalization of the draft Stage 1 × 360 and 480 credit qualifications in Engineering Technology. These two qualifications have been distributed for comment to the Reference Groups of the respective SGGs as part of the ESGB's broader consultation initiative before they are submitted for consideration/approval by the ESGB
- ▶ letter to the DoE and DoL requesting updating/clarification regarding the status of the 'Study Team Report on the NQF', and
- ▶ performing a new calibration cycle in respect of the Stage 1 range statements and qualifications.

The following challenges face the SA M&MS in respect of the implementation of an appropriate OBET-compliant dispensation in the industry:

- ▶ the resolution of the potential conflict between the ECSA/Department of Public Works and the SA M&MS in respect of the 'IDoEW/Compulsory Registration'
- ▶ the finalization of at least the competency profiles for the following certificate of competence issued by the DME
  - Mine overseer:
  - Mine manager/Certificated manager, and
  - Certificated engineer
- ▶ resolution of the future of the N4 to N6 qualifications as a possible articulation/progression route for Stage 1 qualifications for the certificated engineer/manager, and

- ▶ the replacement of the certificates of competency currently issued by the Department of Minerals and Energy under the Mine Health and Safety Act, 1996 with new OBET-compliant qualifications.

### 7. International Liaison

**Portfolio Holder: T.R. Stacey**

#### Key Performance Areas

*To achieve its objectives, the SAIMM*

- ▶ *participates in and represents South Africa on bodies such as the Institute of Materials, Minerals and Mining (IMMM), 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 APCOM

F.A. Camisani-Calzolari, Chairman

There was no APCOM Conference held this year.

The next conference will take place in 2005 in Tucson, Arizona.

#### 7.2 INFACON

*National representative* N.A. Barcza

The first International Ferroalloy Congress, INFACON 74, was held in 1974 in Johannesburg, South Africa. The event was sponsored by the Ferroalloy Producers' Association of South Africa (FAPA), the National Institute for Metallurgy (NIM—Mintek as it is known today), and the South African Institute of Mining and Metallurgy (SAIMM). Dr Robbie Robinson, past-president of the SAIMM, was the chairman of the first Organizing Committee of INFACON 74 and again in 1992 during INFACON Six. INFACON X was held in Cape Town in February 2004.

INFACON X was awarded to South Africa by the International Committee on Ferroalloys (ICFA) at the meeting held during INFACON NINE in Quebec City, Canada in June 2001. The Ferroalloy Producers Association (FAPA), Mintek, ESKOM, SASSDA and the SAIMM were stakeholders that supported the hosting of INFACON X. FAPA generously agreed to underwrite the financial commitments for INFACON X and to provide bridging finance during the initial stage of planning and promotion of the congress. The ICFA unfortunately decided to withdraw as a stakeholder a few weeks before the event because of concerns about the attendance at the technical sessions ICFA had been organizing. The INFACON Organizing Committee decided to incorporate as many of the papers into the main body of the INFACON X technical programme as possible.

The organizing committee comprised the following members:

N.A. Barcza, (Chairman, Mintek)

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R.J. Linnell, (Vice-Chairman, Sponsorship and FAPA)  
L.R. Nelson (Technical Programme)  
J. Basson (Pre- and Post-Congress Tours)  
C.S. Mahony (Sponsorship and ESKOM)  
L.A. Cramer (Finance and SAIMM)  
W.A. Gericke (Technical Programme and ICDA)  
D. St. J. Slater (SASSDA)  
N.C. Machingawuta (Publications and Audio-visual)  
B.J. van der Walt (Publicity and Web site).

The congress secretariat was managed by Sam Moolla (SAIMM), assisted by Lara Winning and Anna Panana and the technical programme and exhibition secretariat by Candice Dessington (Mintek).

INFACON X was very well supported by the generous contribution from sponsors. Their contributions were the major factor in INFACON X making a surplus that will be invested in the future of the ferroalloy industry by supporting research and development work at appropriate institutions as outlined below.

The IDC was the gold sponsor of the welcoming cocktail function, and ESKOM of the gala banquet. BHPBilliton sponsored the CD-ROM of the INFACON X proceedings and Outokumpu the bound volume of the proceedings. In addition, Samancor sponsored the creation and maintenance of the Web site.

The theme of INFACON X 'Transformation through Technology' was chosen to reflect the regional and global developments in the ferroalloy industry and the very important role that technology plays. Thanks to the contributions of the authors and speakers, the Technical Programme Committee led by Lloyd Nelson was able to attract a comprehensive selection of interesting papers. This contributed largely to the active participation of delegates in the various technical sessions during INFACON X. INFACON X also provided delegates the opportunity to meet and exchange views with the most senior experts in the world of ferroalloys.

The congress technical programme was one of the most comprehensive in the history of INFACON, with the total of 91 papers presented far exceeding previous offerings. Spread over 2½ days of plenary and technical sessions, with up to 3 concurrent parallel sessions, this is considered the maximum practical technical content that should be considered for the future, without detracting from the ability of delegates to attend sessions of interest. Great care was taken to arrange the timing of papers in sessions so as to afford delegates the maximum flexibility to move between sessions. The programme comprised 8 plenary addresses (2 foreign), and 10 keynote and 73 standard presentations, of which 69% were authored by foreign delegates. This demonstrates the truly international nature of the event. The programme was divided into opening and closing plenary sessions and 21 technical sessions organized in 3 parallel sessions. The latter were further divided into commodity specific sessions (3 chromium, 3 manganese and 1 silicon); 2 each of furnace design and modelling and simulation sessions; and one each of fundamentals, raw materials, reductants, electrodes, post-taphole, sensors and controls, markets and applications, energy and refractories, Environment, and environment and health sessions. Noteworthy was the range of presenters and attendees from academics, to vendors, to practitioners, to industry luminaries, to marketers and even end-users. The

collection of such a diverse audience at a single venue continues to characterize INFACON as somewhat unique on the ferroalloys' event calendar.

Allocation of a dedicated session to reductants was an innovation that was well received by delegates. Withdrawal of the ICDA Health and Environment Symposium at the eleventh hour presented some organizational challenges.

Accommodation of two papers under the chromium operations session and 3 papers in a dedicated environment and health session was to the benefit of authors who had already submitted refereed papers for presentation, as well as to interested delegates who attended these sessions.

The overall running of the event went very well and Sam Moolla and her team from the SAIMM and Candice Dessington from Mintek are to be congratulated on a job well done! Thanks are also due to African Conferences & Incentives (ACI) who conducted their activities on the accommodation and travel arrangements in a very professional manner. The publication of the proceedings of INFACON X and the CD-ROM were also managed in a professional manner by Nigel Walker of Document Technology Systems. The very important interface with Nigel Walker was well managed by Lloyd Nelson and Noel Machingawuta.

The Cape Town International Convention Centre (CTICC) was in general a very suitable, albeit somewhat impersonal venue mainly because it is so large. The audiovisual arrangements by AV Alliance were run in a professional manner, too. The pre- and post-congress activities were very successful in spite of last minute concerns about participation and thanks are due to Johan Basson and to the tour leaders and especially to the hosts.

The tradition of INFACON is to move between the continents and it was gratifying to have interest from several countries in hosting the next INFACON. The nomination was awarded to India. We look forward to INFACON XI in India in 2007 being a great success and a really worthwhile follow-up to INFACON X. The organizing committee of INFACON X recommended that the SAIMM, Mintek and FAPA should assist the Indian Ferroalloy Association with the transfer of information from INFACON X to support INFACON XI and that a small amount of the surplus generated by INFACON X be set aside for this purpose to be administered by the SAIMM and FAPA.

The attendance at INFACON was 416 delegates and 34 affiliates. Although the attendance was good, the committee felt that we had missed out on between 50 and possibly up to 100 potential registrations due in part to difficulty in maintaining continuity of contact with prospective delegates since INFACON NINE.

INFACON X was a financial success thanks mostly to the generous support from the gold, silver and bronze sponsors. The slightly lower than expected attendance was largely compensated for by savings in running costs. The overall surplus was R1.5 million. The INFACON X Organizing Committee has recommended to the SAIMM and to FAPA that the funds be used to support research and development for the ferroalloy industry. This follows on from the tradition established in 1992 when INFACON was last held in South Africa. The stakeholders of INFACON X agreed to establish a special trust fund from the profit generated by INFACON X. These funds will be administered by the South African Institute of Mining and Metallurgy (SAIMM) in consultation with the Technical Committee of FAPA.

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## 7.3 SAMREC

J.R. Dixon, Chairman

The SAMREC committee successfully coped with a flurry of Competent Persons Reports submitted to the JSE Securities Exchange (JSE) during the year. The quality of reports has continued to improve as Competent Persons (CP) become more aware of the requirements.

The issue of membership of overseas organizations being recognized by SAMREC as one of the qualifications for a CP has been addressed through the JSE who have invited a wide range of overseas organizations to submit their code of ethics and to express a willingness to discipline their members if they transgress the SAMREC code when submitting reports to the JSE. The Australasian Institute of Mining and Metallurgy (AusIMM), the Institute of Materials, Minerals and Mining (IMMM), the Australian Institute of Geoscientists (AIG), and the Institute of Geologists of Ireland (IGI) have been subsequently recognized.

Similarly, the SAIMM will be requesting that its membership be recognized as a qualification for a CP submitting reports in Australia, the United Kingdom, Canada and the USA.

The working group under Ferdi Camisani has worked diligently in finalizing the ongoing reporting requirements for mining and exploration companies listed on the JSE. This work has emphasised the difficult task of accommodating the many different points of view across the industry.

Camisani also represented SAMREC at an SME-organized conference in Virginia, USA, where important discussions took place on international matters regarding reporting of mineral resources and mineral reserves and the various codes that regulate such reporting. The Combined Reserves International Reporting Standards Committee (CRIRSCO), of which SAMREC is a member, convened at the same venue subsequent to the conference.

The award for the best standard of reporting of mineral resources and mineral reserves was won by Gold Fields Limited and was presented at the annual Investment Analyst Society banquet.

My thanks to all the members of the SAMREC committee and the working groups who give unselfishly of their time to ensure that South Africa remains in the forefront of maintaining standards in all aspects of reporting mineral resources and mineral reserves.

## 8. Management and Administration

### Portfolio Holder: F.M.G. Egerton

The Secretariat consisted of:

Ms Sam Moolla (Manager)

Ms Shabnum Asmal (Conference Co-ordinator)

Mrs Zuliakha Malgas (DTP Operator)

Miss Nazli Mamdoo (Conference Publications Co-ordinator)

Mrs Shahida Moosa (Receptionist/Senior Administration Clerk)

Mrs Ginette Oliver (Membership Secretary)

Mrs Anna Panana (Personal Assistant to the Manager)

Mrs Apathia Sello (Administration Clerk)

Mrs Hawa Valli (Journal Secretary/Publications Co-ordinator)

Mrs Dawn van der Walt (DTP Supervisor)

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

This year has been another financially successful year for the Institute, which now makes it four good years in a row. With all the changes around us in our industry, we are conscious of the fact that a period of fat years could be followed by lean years. This last year we had a number of international conferences, which are cash cows. This coming year looks lean on the international conference front, so we need successful local events.

Subscriptions have increased with Company Affiliates increasing at a greater rate than the escalation in fees at R362 634 (R275 936). This is due to an increase in membership. Individual Membership showed a slight increase at R894 444 (R880 309).

Conferences, colloquia and schools brought in a surplus of R1 483 812 (R1 344 868). Interest and dividends received increased substantially to R407 229 (R263 204). This was due in the main to the healthy cash position that was maintained throughout the year.

The annual revaluation of our investments showed a positive value of R402 037 compared to the negative value of R469 787 in 2002/2003. The net income from special publications fell sharply to R8 399 (R72 158).

Thus, the total income for the year increased to R3 580 001 (R2 840 900).

Expenditure decreased for the year to R2 196 556 (R2 266 030). This was achieved in spite of an increase in secretarial costs to R586 283 (R472 987). This is due to an increase in the number of staff. The *Journal* costs rose to R1 266 414 (R1 088 392) due to the publication of an increased number of issues during the year. Offset against this was increased advertising revenue of R532 552 (R486 948) and sales of R120 960 (R175 013). Administration expenditure rose to R788 195 (R674 684). Subscriptions written off were maintained at R90 964 (R91 992).

In summary, the surplus for the year is R1 383 445 (R574 870). This difference is mainly accounted for in the turnaround in the valuation of investments from a negative R469 787 to a positive R402 037.

Our listed investments have increased to R3 358 262 (R2 147 593) and our cash and cash equivalents have risen to R3 969 571 (R2 870 770). Our accounts receivable dropped dramatically to R553 729 (R1 951 384). This was due in part to an aggressive debt collection exercise embarked on during the year. Our accounts payable also dropped to R1 134 586 (R3 268 189).

Our financial success this year is due to the efforts of our technical committees. They are the ones who create our surplus—they brought in R1 485 812 and our surplus was R1 383 445. This continues our policy of not having to rely on conferences, colloquia and schools to cover the running of the Institute. Running costs are borne by subscriptions. Finally, I would like to thank our Secretariat who have put an extra effort into debt collection. To Mrs Winning, our accountant, go my thanks for providing detailed accounts for each monthly Council Meeting, and to KPMG for producing the audited financial statements in good time.

# Annual report

## Addendum

### New Members

#### Fellows

C.E. Brechtel, D.S. Fricker, A. Gumbie, E. Ngube, N.J. Odendaal, C. Pouroullis, L.F. Scheepers, M.H. South, F. Tailoka, J.A. Walker, A.D. Wilson.

#### Members

O.A. Alvarado, A.P. Botha, J.B. de Jager, A.M. Delaney, H. Dong, R. Egrahim-Trollope, M.S. Gallagher, S.C. Gouws, I.F. Home, J.L. Human, K. Kapembwa, B.J. Krause, M. Mabuza, M.L. Machaka, S.M. Mandoza, A.J. McClelland, G.R. Mitchell, L.J. Motsepe, K. Nyembwe, K. Otto, A. Potgieter, M. Pouroullis, M.J. Rainier-Pope, J.J. Rajan, R.B.W. Seymour-Wright, N. Singh, S.D. Thomson, N.A. van der Mey

#### Associates

J. Badenhorst, C. Bedesi, V.K. Chimfwembe, L. de Wit, T.L. Foster, L. Fouche (née Bruwer), J.C.L. Horn, B.E. Khumalo, R.B. Khumalo, N.J. Kobe, D.J. Maade, P. Malope, A.T. Mc Bride, B. Mills, P.R.F. Oliver, R. Opperman, M. Pelsler, K.I. Phalakatshela, M.G.L. Ramashilabele, K.L. Steyn, A.J. van Zyl, L.M. van Zyl

#### Students

A.A. Axsel, F.J. Baloyi, J.D. Bekker, A.W. Bester, M.I. Bhengu, E.C. Blomerus, D. Boshoff, E.T. Boshoff, G. Botha, S. Botha, D. Bothma, M.F. Breed, J.J. Breytenbach, B. Burger, R.H. Chauke, T.K. Chauke, M.A. Chebeleu, N.L. Chibi, M.J. Cindi, C. Coertzen, E. Dadoo, M.L. Daniels, S.S. Debedu, J.H. Dengeinge, P.S. Dladla, N.S.P. Dlamini, C.H. du Buisson, A.J. du Toit, F. Engelbrecht, H. Froneman, R. Govender, T.V. Gwebu, R.T. Ihuhua, T.G. Ipangelwa, T.T. Itholeng, A.J. Jacobs, C.L. Kgope, J.H. Klein, J.A. Klingenberg, T. Konighofer, J.J. Kroon, D.J. Kruger, M.K. Lenoir, P.D.M. Lourens, B. Lubbe, E. Lwamba Si-Bomve, D. Mabunda, R.S. Mabuza, M. Mahlambi, M.J. Mahlatji, McG. Majeng, N.L.F. Makhafola, M.B. Mamabolo, G. Marape, M. Masango, D.M. Maseko, F. Masemula, S.E. Mashoeng, M.C. Mathenjwa, V.A. McClune, S.T.A. Mchunu, T. Modiba, D.M. Mogosetsi, T.D. Mokaila, T.J. Mokgokong, E.K. Monametsi, S. Monnanyana, M.F. Moripa, M.E. Moshakgomo, T.J. Motlhamme, M.L. Mphasha, T.J. Mpholo, S.J. Msibi, M. Mtabela, S.S. Mtambo, L.S. Mulaudzi, S.P. Muller, P. Muthaphuli, R. Naidoo, P.V. Ncombo, N. Nefale, A. Nel, T.G. Nemakhavhani, A.T. Ngcobo, T.N. Ngobeni, R.J. Nicholson, A.K. Nkoana, A.T. Nkolele, F. Nkuna, M.D.G. Nojekwa, N.M. Ntseke, C.D. Ntsileng, L.O.D. Nyembe, C.C. Oosthuizen, P.C.G. Oosthuysen, M.J. Opperman, N.N. Phahlamohlaka, J.C. Radebe, C. Rajkumar, K.E. Rakgase, R. Rampersaoh, R.K. Ratlhagarea, E.M. Rush, F. Sathekge, P. Scheepers, M.I. Sebola, S.M. Seema, T.P. Segwatlwe, D.K. Selepe, L.K. Sengani, O. Setshogwe, L.N. Shago, I. Simataa, V. Smit, M.S. Smith, V.I. Sokupha, S.J. Stander, J.J. Taute, B.M. Titana, K.G. Tshilombo, D. Tshishonga, H.G. Turner, H.S. van der Linde,

S. van der Merwe, G.P. van Greunen, P.vd B. van Rooyen, C.J.W. van Straten, N. Vele, S.A. Zikalala, S. Zitha, T.B. Zondi.

#### Company Affiliates

Arcus Gibb, Assoc Mining Contractors, BHPBilliton (JCC), BKS Inc., Bluhm Burton Engineering, Chaimber of Mines, Concor Hochtief Construction, Concor Mining Council for Geoscience, Dantex Explosives, Dept. of Water Affairs & Forestry, DLFL Mining SA (Pty) Limited, Durban Metro, Generation Consumable Supplies cc, Geofranki, HR Africa Consulting, Jacked Pipelines, Jeffares Green, Johannesburg Water, Keeve Steyn, Knight Hall Hendry, LTA Civil & Earthwork, Ninham Shand (Pty) Ltd, Rucpac, SA Institution of Civil Engineering, SA National Roads Agency, SAFCEC, SAIEG, Sanire, Steffen Rob Kirsten, Trans Caledon Tunnel, Transnet/Protekon, TWP (Pty) Ltd, Umgeni Water, VKE Engineering.

#### Resignations

##### Fellows

D.W. Bosch, D. Cawthorne, P. Fouche, R.L. Howard, R.A. Macaulay, R.D. MacPherson, G.T. Mans, J.N. Viljoen.

##### Retired Fellows

J.V. Cleasby, J.G. Cockburn, G.T.G. Emere, C.E. Fivaz, M.B. Forsyth, G.A. Fourie, H.J. Smith.

##### Members

W.E. Archer, A.W. Breed, D.O. Del Castillo, J.C.J. Ever, M.E.J. Grummitt, A.L. Hannaford, R. Harverson, G.B. Horscroft, K.S. Ireland, C.G. Jonker, W.C. Knott, S. Mahomed, J.G. Smithies, J.S. Stickling, G.V. Thompson.

##### Retired Members

D.J. Clarke, P.S.B. Colback, J.B.D. MacIennan, O.A.M. Nicolle, P.L. Rossouw.

##### Associates

E.J. Abelho, C. Adamson, R.K. Baker, E. Barnardo, W.K.C. Boemer, P.S. Colvin, D.G. du Toit, R.G. Freeman, V.A.G.W.R. Freiherr von Ketelhodt, J.V.D.M. Grimes, S.W. Hanrahan, S.N. Herselman, P.B. James, E.C. Johnson, K.J. Knott-Craig, G.W. Lok, R.E. Lourens, G.C. Methven, H. Olivier, S.B. Sampson, W.L. van Aarde, R.A.H.M. van Nieuwenhoven, R. Webb, G.B. Wurr.

##### Students

T.S. Masibi.

##### Company Affiliates

Afrox Limited-BoC Gases, Anglo Coal Environmental Services, Assmang Limited, Avgold Limited, Elandsrand Gold Mining Co. Limited, Grinaker-LTA Civil, Knight Piesold, Kvaerner E & C South Africa (Pty) Limited, Macintosh Berg & Sturges, McKinsey & Co, Sulzer SA Ltd, Victor Industrial Equipment (Pty) Ltd.

# Annual report

## **Members Transferred to Higher Grade**

### *Transfer from Member to Fellow*

I.D. Ralston, E.J. Magri, M.P. Hay, C. Heili, G.V.R. Landman.

### *Transfer from Associate to Fellow*

M. Lotriet.

### *Transfer from Associate to Member*

C.G. Gilbert, A.W. Breed, W.T. Musara, J.P. van Dyk, A.W. Laubscher, G.C. More O'Ferrall, T.A. du Toit, I. Ashmole, J.H. Bothma, D.E. Erasmus, J.H. Immink, C.G. Sweet, J.A. Sweet, G.J. van Hout, R.M. Lamy, L.J. Gardner, N.A. Mjacu, M.J. Roberts.

### *Automatic Transfer to Associate*

N.O.N. Myeza (née Cele), T.M. Letsie, P.D. Oberholzer, E. Fouche, M. Smit, D. Ncube, J.J.V.R. Burger, P.B. Hlatshwayo, S. Maplanka, M.L.M. Mokitimi, M.D. Seke, J. Steyn, M.K. Magwai, M.K. Makgakga, E.T. Ngwenya, F.P. Nong, W.J. Theron, A.J. van Zyl, B.D. Carpentier Alting, M. Maoketsa, K.L. Seyfried.

## **Members who retired**

### *Fellows*

D.J. Mulligan, F.J. Beeftink, J.L. Nel, B. Schmitz, R.P. Viljoen, D.R. Fleming, G.A. Fourie, P.N. Vernon, C.M.G. Wortley, B. Lowther, B.G. Bell, J.A. Wells, M.J. Daly, J.M. Wells, M.G.H. Yates.

### *Members*

A.W. Bagnall, L.A.E. Carter, D.J. Theron, J.P. Loo, A.M. Harris.

### *Associates*

E.B. Crocker, H. Engel, W.J.G. Young.

## **Deceased**

### *Life Fellows*

F.D. Cartwright, K.W. Findlay, A.H. Mokken.

### *Retired Fellows*

C.J. Csatory, M.H. Grusd, R.B. MacGillivray, S.J. Venning.

### *Members*

C.T. du Preez, A.M.P. Henderson, J.C. King, A.W. Laubscher, J.J. Lessing, T. Pahla.

### *Fellow*

G.W. Tregoning.

### *Student*

S. Nyalunga.

## **Members who were reinstated**

### *Reinstated as a Member*

M.S. Bilen, F.K. Crundwell, H.J. Fourie, G.N. Polley, K.J. Richardson.

### *Reinstated as Associates*

J.T.M. Chauke, T.R. Kahl, D.J. Smith, M. Maoketsa.

### *Reinstated as a Fellow*

S.A. Oosthuizen, G.A. Fourie.

### *Reinstated as Company Affiliates*

Anglo Coal Environmental Services. ♦