

# Annual report

FOR THE YEAR ENDED 30TH JUNE 2011

## Council for 2010/2011

### President

G.V.R. Landman

### President-elect

J.N. van der Merwe

### Vice-presidents

#### Senior

G.L. Smith

#### Junior

M. Dworzanowski

#### Immediate Past-President

J.C. Ngoma

#### Honorary Treasurer

J.L. Porter

## Members of Council

N.A. Barcza

R.D. Beck

D.Z. Botha\*

S. Bradshaw

F. Cawood####

J.A. Cruise

C. Deacon

J.R. Dixon

V. Duke

A.G. du Plessis

J. du Plessis

M. Dworzanowski\*\*\*

F.M.G. Egerton

W.R.J. Erasmus

P.A.P. Fouche\*\*\*

A.M. Garbers-Craig

M.F. Handley

R.T. Jones

W.C. Joughin

P.J. Knottenbelt\*\*

W. Kutekwatekwa

M. Lebitsa

E. Lwamba

A.S. Macfarlane

T. Mahlangu

R.P. Mohring

O. Mothibi

J. Mothomogolo

\* Co-opted Members

\*\* Representing non-corporate members on Council

\*\*\* Observer MMMA

\*\*\*\* Observer AMMSA

\*\*\*\*\* Observer SACMA

M. Motuku\*

M. Mthenjane\*

A.F. Mulaba-Bafubiandi\*\*

S.C. Mulenga

D. Munro

J.C. Ngoma

R.G.B. Pickering

J.L. Portera

S.J. Ramokgopa

M.K.C. Roberts

M.H. Rogers

A.J. Ross-Watt

S. Rupperecht\*\*

C. Smith##

G.L. Smith

T.R. Stacey

G. Stenzel\*\*\*\*\*

C.A.F. Sweet

D. Tudor#

T. van den Berg\*\*\*\*

N.J. van der Merwe

P.J. van der Plas

D.J. van Niekerk

W.H. van Niekerk

J. van Zyl Visser####

D. Walters#####

D. Wardle

R.P.H. Willis

# Observer SACPS

## Observer GSSA

### Observer SANIRE

#### Observer IMSSA

##### Observer MVSSA

† Branch Chairmen

## Branch Chairmen

Bushveld Branch

Vacant

Botswana Branch

Vacant

Johannesburg Branch

V. Duke

Namibian Branch

B.M. Litana

Pretoria Branch

O. Mothibi

Western Cape Branch

S. Bradshaw

Zambian Branch

S.C. Mulenga

Zimbabwean Branch

W. Kutekwatekwa

Zululand Branch

W.R.J. Erasmus

## Past-Presidents serving on Council

N.A. Barcza

R.G.B. Pickering

R.D. Beck

S.J. Ramokgopa

J.A. Cruise

M.H. Rogers

J.R. Dixon

D.A.J. Ross-Watt

F.M.G. Egerton

T.R. Stacey

A.M. Garbers-Craig

W.H. van Niekerk

R.P. Mohring

R.P.H. Willis

## 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 Southern 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: J.C. Ngoma

### Key Performance Areas

Just to recapitulate what the SAIMM does and how it serves the interests of individual members, the SAIMM

- *Assesses 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*

## Annual report

- ▶ Prepares and publishes career guidance brochures, bursary handbooks and audiovisual programmes, optional school curricula material, etc., and participates in activities to encourage learners to select careers in the minerals and metals sector of the Southern African economy
- ▶ Arranges conferences, colloquia, schools, and seminars where technical information on mining, metallurgical, and related issues are disseminated. Both members and the general industry benefit from these interchanges
- ▶ 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 Southern 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.

In terms of membership spread across the Southern African region, South Africa still predominates with total membership standing at 2904. This is broken down as follows:

|                         |      |
|-------------------------|------|
| ▶ Fellows               | 327  |
| ▶ Life Fellows          | 3    |
| ▶ Honorary Fellows      | 3    |
| ▶ Honorary Life Fellows | 32   |
| ▶ Retired Fellows       | 113  |
| ▶ Members               | 809  |
| ▶ Life Members          | 1    |
| ▶ Retired Members       | 85   |
| ▶ Associates            | 1047 |
| ▶ Retired Associates    | 11   |
| ▶ Company Affiliates    | 130  |
| ▶ Students              | 343  |

The SADC region has a total of close to 260 members. Of these 110 are in Zimbabwe, 83 in Zambia, 41 in Namibia, 18 in Tanzania, 3 in Lesotho, 2 in Mozambique, and 1 each in Uganda and Swaziland. West Africa has a membership of 5, split between Nigeria with 2 and Mali with 3.

I would urge more professionals in the minerals and metals industry within sub-Saharan Africa to join our Institute so that they can share in the benefits that many of our members are already enjoying.

### 1.1 Membership Committee

J.N. van der Merwe

N.A. Barcza

J.A. Cruise

J.R. Dixon

A. du Plessis

J. du Plessis

F.M.G. Egerton

M.F. Handley

P. Knottenbelt

R.P. Mohring

J. Mothomogolo

R.G.B. Pickering

J. Porter

S.J. Ramokgopa

M. Roberts

M.H. Rogers

D.A.J. Ross-Watt

G.L. Smith

T.R. Stacey

O.K.H. Steffan

D.J. van Niekerk

W.H. van Niekerk

P. Willis

#### Membership

The SAIMM membership comprises 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 35 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.

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Table I

### Summary of new applications and membership movements for 2010/2011 and comparison of membership grades and total membership 2010/2011

| Membership grade     | Members July 2010 | New members | Transfers in | Transfers out | Reinstatements | Resignations | Deceased | Struck off | Net gain/(loss) | Members June 2011 |
|----------------------|-------------------|-------------|--------------|---------------|----------------|--------------|----------|------------|-----------------|-------------------|
| Honorary Life Fellow | 37                | 0           | 0            | 0             | 0              | 0            | 3        | 0          | -3              | 34                |
| Honorary Fellow      | 4                 | 0           | 0            | 0             | 0              | 1            | 0        | 0          | -1              | 3                 |
| Life Fellow          | 9                 | 0           | 0            | 0             | 0              | 0            | 1        | 0          | -1              | 8                 |
| Fellow               | 423               | 4           | 13           | 12            | 3              | 6            | 2        | 3          | -3              | 420               |
| Retired Fellow       | 134               | 0           | 12           | 1             | 0              | 3            | 5        | 0          | 3               | 137               |
| Life Member          | 1                 | 0           | 0            | 0             | 0              | 0            | 0        | 0          | 0               | 1                 |
| Member               | 946               | 144         | 19           | 15            | 12             | 9            | 1        | 21         | 129             | 1075              |
| Retired Member       | 98                | 0           | 5            | 0             | 0              | 2            | 4        | 0          | -1              | 97                |
| Associate            | 977               | 169         | 194          | 22            | 12             | 42           | 0        | 140        | 171             | 1148              |
| Retired Associate    | 13                | 0           | 0            | 0             | 0              | 0            | 0        | 0          | 0               | 13                |
| Student              | 972               | 102         | 1            | 194           | 0              | 501          | 0        | 0          | -592            | 380               |
| Company Affiliate    | 128               | 9           | 0            | 0             | 3              | 6            | 0        | 2          | 0               | 132               |
| Total                | 3 742             | 428         | 244          | 244           | 30             | 570          | 16       | 166        | -298            | 3448              |

**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 about change in designation, change in employer, payment address, or change in postal address. Without this the communication link to members is broken. Also, members must ensure that, where subscriptions are paid by a company, the Institute has on record the correct payment address.

#### Benefits of membership

Individuals derive various benefits from membership of the Institute:

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

- A 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 about 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 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

P.J. van der Plas, Chairman

S. Carthy

P.J. Knottenbelt

G.V.R. Landman

L. Petrick

I. Wermuth

The Career Guidance and Education Committee is focused on the activities of assisting new graduates in mining and metallurgy and educating school learners about these topics.

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In order to assist new graduates, the Committee revised the 'Best practice for graduate development' document that was produced the previous year, and simplified it even further for quicker reference by students.

It was decided to enhance the promotion of the industry among scholars at career expos by developing a series of interactive games to engage the scholars at these expos. Teachers' packs with comprehensive information on the industry were compiled for distribution at these events, as it has been found that distributing information to children in a physical format is not appropriate.

The Committee is also undertaking a project with the Sci-Bono maths and science centre in Newtown to build a mining and metallurgy exhibition in the centre. This will be a permanent feature at the centre, which thousands of scholars visit on a monthly basis.

An additional means of information distribution was undertaken by the Committee through visits to schools within the Gauteng area. Each visit included a presentation on the industry as well as frank discussions with the students about how mining and metallurgy filter through to their daily lives, as evident by the existence of cell phones and other everyday items that would not exist were it not for mining and metallurgy.

The Committee is currently compiling a set of career pamphlets containing information on both professional and artisanal careers in the industry, where studies can be undertaken, and the career paths that can be followed.

### 1.3 Promotion of the SAIMM

**Portfolio holder: G.V.R. Landman**

The SAIMM enjoyed a most successful year. This was due to the hard work and support from members, the working committees, and the efficient service provided by the secretariat.

#### Conferences

The SAIMM conferencing department hosted 14 events which were attended by a record 2064 delegates.

Geographically, the events were spread all over Southern Africa and apart from South Africa, events were held in Namibia, Zambia, and Zimbabwe. Delegates in attendance represented countries around the globe including Australia, Austria, Botswana, Canada, China, DRC, Finland, Germany, Namibia, Poland, United Kingdom, USA, Zambia, and Zimbabwe.

The SAIMM partnered with other professional organizations such as AMMSA, SANIRE, and the GSSA to host shared events. Examples of these are the Second Hard Rock Safe Conference and the Rock Engineering for Managers in Hard Rock Tabular Mines schools. Barter agreements to support information sharing were also put in place with ACG and the GSSA.

The SAIMM also partnered with the Department of Science and Technology to host the Advanced Minerals Industry (AMI) conferences and is proud to announce that a contract has been negotiated to host the next three AMI conferences.

SAIMM conferences received invaluable support from industry in terms of sponsorship and participation, support that is highly appreciated.

#### Membership

The SAIMM started the financial year with 3739 members and ended with a total of 3443.

This decrease was the result of a clean-up of the student member's category in the database. Of the student members, 501 did not want to transfer to full membership. The underlying trend is that membership is growing and it is hoped that a figure of 5000 members will be reached in the next two to three years.

#### Accounts

The SAIMM enjoyed a very successful financial year. Record revenue for the year was achieved (R20.1 million), debtors were most satisfactorily controlled, and the SAIMM investment fund grew strongly. More detail can be obtained in the financial statements. A clean audit report was received and the reporting of management and statutory accounts were improved upon.

#### Publication department

The *Journal* was published every month with the additional comment by the President, Dr Gys Landman, published under the heading of the 'President's Corner'. This comment, together with Professor Robinson's *Journal* Comment, are proving very topical and popular with our readers. They are both featured on our website and members and website users were encouraged to login and comment on these articles.

The total advertisement revenue was slightly under the budgeted amount but, considering the economic climate, the advertising agent has done well to achieve just over R1 000 000 of advertising sales. The advertisers are also showing interest in having adverts or banners placed on the website. The Institute was audited by the ABC circulation board earlier this year and now distribution of the *Journal* is recorded in their register for advertising purposes. Most sponsors will not advertise in a magazine or journal if not registered with the ABC.

A new program has been acquired which will assist in keeping control of all papers submitted for publishing in the *Journal*. The program will also be used to form part of a database of referees. The program will improve the communication between referees, authors and the Institute. The editorial board was expanded to include leading international specialists, with reciprocal opportunities for South Africans to referee papers in other international publications.

Every month an e-mail is sent to our members with the *Journal's* contents page, short abstracts, and links to the papers that are featured—so that papers of interest may be downloaded. In addition members now have access to the 'OneMine' global technical database via the SAIMM website. These initiatives have assisted in doubling the visitation of users to the website ([www.saimm.co.za](http://www.saimm.co.za)).

#### Strategy

Strategic initiatives over the last year were aimed at ensuring increased relevance in the geopolitical region we represent and relevance in the mining environment that the Institute will operate in during the next few years. A few aspects are mentioned:

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- ▶ A BRICS initiative was initiated. The SAIMM reached out to the IMM of India and China and further options with Russia and Brazil are being investigated. The good relationships with the other Commonwealth and North American mining institutes were sustained.
- ▶ The SAIMM aims to expand its role to be more co-operative and act as a facilitator to create forums where particular industry issues can be discussed and considered. For example, the Mine Safe conference is now organized by the SAIMM, in conjunction with the AMMSA and SACMA and includes active participation of labour and government.
- ▶ Government relations improved and the SAIMM now partners with the Department of Science and Technology to host the Advanced Mineral Industry Conferences.
- ▶ To enable members to participate in debates on the economic future for the Southern African mining industry, a Minerals Economics Committee was established. The first *Journal* containing papers of a mineral economic nature was published in July 2011.
- ▶ Since the SAIMM is disseminating technical knowledge and is representing technical excellence in mineral science and engineering through its members, it is felt that a deeper understanding is required of research being done in the region. SAIMM could start playing a value adding role in assisting to give direction as to what research is required and then bring research funders and research institutions together to drive cooperative programmes for the benefit of mining in Africa.
- ▶ A particular example of what this thinking has produced is the 'green mine concept', based on a Chinese initiative that recognizes excellence in mining practice incorporating environmental, human and resource responsibility, as well as technology implementation and transparency of management processes.

The SAIMM is now established as being representative of the whole Southern African region and is serving the engineers, scientists, and technologists whose work makes mining in Africa a vibrant and active industry benefitting millions of people not only in Africa, but around the globe.

### 1.4 Awards and Adjudication Committees

#### Awards and Adjudication Committee—Mining

M.H. Rogers, Chairman

|                  |             |
|------------------|-------------|
| J.R. Dixon       | G.L. Smith  |
| F.M.G. Egerton   | T.R. Stacey |
| R.G.B. Pickering |             |

#### Awards and Adjudication Committee—Metallurgy

M. Dworzanowski, Chairman

|                    |           |
|--------------------|-----------|
| R.D. Beck          | R.L. Paul |
| A.M. Garbers-Craig |           |

#### 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              |                        |
| 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           | 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           |                        |

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|      |  |                                |
|------|--|--------------------------------|
| 1995 | R.D. Beck<br>P.R. Janisch                      | H.E. James                     |
| 1996 | R.J. Dippenaar<br>J.S. Freer<br>H.G. Mosenthal |                                |
| 1997 | J.A. Cruise                                    |                                |
| 1998 | D.A.J. Ross-Watt                               |                                |
| 1999 | No award                                       |                                |
| 2000 | N.A. Barcza<br>R.P. Mohring                    | J.R. Dixon                     |
| 2001 | M.H. Rogers                                    | D.J. van Niekerk               |
| 2002 | L.A. Cramer<br>C.T. O'Connor                   | R.F. Sandenbergh<br>J.H. Selby |
| 2003 | A.A.B. Douglas                                 | P.J. Knottenbelt               |
| 2004 | No award                                       |                                |
| 2005 | F.A. Camisani-Calzolari                        |                                |
| 2006 | T.R. Stacey                                    |                                |
| 2007 | No award                                       |                                |
| 2008 | E.U.H. Sachse                                  |                                |
| 2009 | I. Walton                                      |                                |
| 2010 | R.T. Jones                                     |                                |

No awards were made in 2011.

### 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                     |
| 2004 | H.J. Smith                   |
| 2005 | P. Motsepe                   |
| 2006 | G.T. van Rooyen              |
| 2007 | D.H. Laubscher               |
| 2008 | T.R. Stacey                  |
| 2009 | C.J. Fauconnier              |
| 2010 | C. O'Connor                  |

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

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|      |   |   |
|------|---|---|
| 1943 | N.M. Hayne*<br>R.T. Naudé*<br>D.J. Molony*<br>J.D. McMorrان*  | J.E. van Leeuwen*<br>W.C. Walmsley*<br>R.P. Plewman*                            |
| 1944 | A.F. Dick<br>R.B. MacGillivray*<br>L.J. Prince*<br>J.F. Reid* | V.M. Reinecke*<br>A.S. Swartz<br>A.H. Taute*<br>P.B. Weehuizen*<br>K.E. Steele* |
| 1945 | J.L. Curtis*<br>E.T. Pinkney                                  |   |
| 1946 | W.I. Spence   |   |
| 1947 | G.H. Grange<br>W.B. Howe<br>J. Marr-Levin<br>C.J. Parr*       | J.D. Pollard<br>V.C. Robinson*<br>A.N. Shand*<br>G.R. Still<br>J. Pope*         |
| 1948 | D.F. Foster<br>M.H. Grusd*<br>P.A. Laxen*<br>G.Y. Nisbet      | N.A. Stacey<br>J.A. Tyser   |
| 1949 | G.P. Bennett*<br>J.F. Curtis*<br>O. Davel                     | J.P. Hugo<br>D.A. Immelman  |
| 1950 | D.F. Grieve<br>B.E. Hersov<br>D.G. Maxwell                    | R.P. Plasket*<br>V.C. Ward  |
| 1951 | D.G. Krige<br>B.H.L. Leach<br>M.J. Martinson<br>W.D. Ortlepp* | N.C. Pope<br>W.T. Ruhmer<br>T. Zadkin*  |
| 1952 | A.N. Brown<br>M.J. Deats<br>W. Lurie*<br>N. Martincevic       | E.P. Mortimer<br>D.J. Murphy<br>H.J. Stucke*<br>R.G. Williams                   |
| 1953 | B.G. Fordyce<br>G. Langton*<br>A.A. Sealey                    | G.D. Tainton<br>J. Uys*<br>N. Zolezzi   |
| 1954 | R.C. Bertram  | R.B.W. Wiggill  |
| 1955 | R.A.O. Chelius*<br>S.P. Ellis<br>C.T. Fenton                  | G.R. Parker<br>W.B. Parker  |
| 1956 | G.A. Brown<br>D.R. Chelius<br>M.F. Dawson<br>L.M. Falcon      | M.A. Madeyski<br>D. Rankin<br>G.C. Thompson                                     |
| 1957 | K. Babich<br>J.J. Blom<br>R. Campbell                         | A.M. Edwards<br>R.C. More O'Ferrall<br>N.C. Officer                             |
| 1958 | J. Dear<br>R.H. Swan  | B.S. Tatterson<br>P.J. van der Walt   |
| 1959 | H.E.K. Allen<br>D.C. Brink<br>G.D. Louw                       | H.A.G. Slater<br>G.T. Van Rooyen  |
| 1960 | R. Hemp<br>G. Joynt<br>B. Moore<br>R.E. Robinson<br>C. Roper  | C.T. Shaw<br>L. van den Bosch<br>H. von Rahden<br>M. Wishart                    |

\* Deceased since becoming members of the club

### Gold and Silver Medals

Papers published in the *Journal* from March 2010 to February 2011 by members of the Institute were considered for medals.

### Gold Medal

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

No Gold Medals were awarded in 2011.

### Silver Medals

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

A Silver Medal is awarded to:

H.T. Chiwaye and T.R. Stacey, for their Transaction paper published in the October 2010 issue of the *Journal* entitled 'A comparison of limit equilibrium and numerical modelling approaches to risk analysis for open pit mining'.

B.P. Watson, J.S. Kuijpers, and T.R. Stacey, for their Transaction paper published in the October 2010 issue of the *Journal* entitled 'Design of Merensky Reef crush pillars'.

### Student Prizes

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

The prize winners were as follows:

### University of the Witwatersrand

|                |                            |
|----------------|----------------------------|
| Mining         | P.N. Neingo                |
| Metallurgy     | K. Molabe                  |
| Prestige Prize | P.N. Neingo<br>A.J. Paverd |

### University of Pretoria

|                      |            |
|----------------------|------------|
| Mining               | T. Aipanda |
| Metallurgy           | A. Muller  |
| Student Dissertation | J.A. Maree |

### University of Johannesburg

|        |            |
|--------|------------|
| Mining | M. Nyarela |
|--------|------------|

### University of Cape Town

|                    |              |
|--------------------|--------------|
| Mineral Processing | H. Nyakunhwa |
|--------------------|--------------|

### University of Stellenbosch

|                    |             |
|--------------------|-------------|
| Mineral Processing | C. Cilliers |
|--------------------|-------------|

### Cape Peninsula University of Technology

|                    |               |
|--------------------|---------------|
| Mineral Processing | W. du Plessis |
|--------------------|---------------|

The prizes for the universities of Cape Town and Stellenbosch, and the Cape Peninsula University of Technology were awarded at the Western Cape Branch Annual General Meeting on 4 August 2011.

### 1.5 SAIMM Scholarship Trust Fund

M.H. Rogers, Chairman  
R.P. Mohring, Vice-Chairman

|                |                  |
|----------------|------------------|
| J.R. Dixon     | W.H. van Niekerk |
| F.M.G. Egerton |                  |

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Individual and Company members contributed some R113 000 to the Scholarship Trust Fund during the year. The SAIMM continued its most welcome support of the Trust Fund with a contribution of R150 000. Awards totaling R 450 000 were made to needy students at the Universities supported by the Trust Fund.

The funds are used by the Universities to ensure that no deserving student with potential is denied the opportunity to have a career in the mining and minerals industry as a graduate in mining or metallurgy because of a shortage of finance. Full scholarships are not awarded to a few students, but the funds are used rather to provide accommodation, food, and transport for needy, unsponsored students or to purchase books for the libraries

The Trustees gratefully acknowledge the support received.

Proceeds from sales of the TWP Holdings DVD documentary on platinum continued to flow to the Trust Fund. The DVD can be purchased from the Institute's office and at Institute events.

Members are reminded that contributions to the Trust Fund are tax deductible and that contributions can be made directly to the Trust's bank account. Details are available on the SAIMM website.

There was no change to the Trustees during the year

### 1.6 SAIMM Gold Medal Awards

The Southern African Institute of Mining and Metallurgy was pleased to assume the administration of the Gold Medals and Scholarships in 2001, which had previously been the responsibility of 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.

### 1.7 Banquet Committee

|                |                  |
|----------------|------------------|
| J.R. Dixon     | M. Mthenjane     |
| P.A.P. Fouche  | R.G.B. Pickering |
| G.V.R. Landman | M.H. Rogers      |
| R.P. Mohring   |                  |

The unofficial theme for this year's banquet focused on the environment and the perils it is facing at present.

Following 2010's excellent turnout it was decided to return to a bigger venue option, and consequently this year's banquet was hosted at Gallagher Estate in Midrand.

The guest speaker was Mr Lewis Pugh, a British environmental campaigner, maritime lawyer, and endurance swimmer. Lewis Pugh is the first person to complete a long distance swim in every ocean. He frequently undertakes swims in vulnerable ecosystems to draw attention to their environmental threats. Pugh is best known for undertaking the first swim across the North Pole in 2007 to highlight the melting of the Arctic sea ice, and for swimming across a glacial lake under the summit of Mount Everest in 2010 to draw attention to the melting glaciers in the Himalayas, and the impact the reduced water supply will have on world peace.

With close on a thousand guests, the evening was a great success, with many friends and acquaintances catching up with each other and the news within the industry.

## 2. Technical Meetings

Portfolio Holder: G.L. Smith

### 2.1 Technical Programme Committee – Mining

D.D. Munro, Chairman

R.T. Jones, Metallurgy Representative

|                 |                 |
|-----------------|-----------------|
| D. Anderson     | J. Ngoma        |
| C. Deacon       | G. Njowa        |
| A. Dougall      | H. Nkosi        |
| A. Du Plessis   | S. Nong         |
| C. Fredericks   | J. Oelofse      |
| C. Fredericks   | G. Olivier      |
| G. Guler        | R. Phillis      |
| R. Hul          | R. Pickering    |
| A. Johnson      | J. Porter       |
| W. Joughin      | S. Rupprecht    |
| A. Kinghorn     | B. Sekano       |
| C. Kuhl         | R. Sivalingum   |
| G. Landman      | C. Smith        |
| M. Letlhogonolo | G. Smith        |
| D. Limpitlaw    | T. Stacey       |
| J. Lotheringen  | J. Theron       |
| A. Macfarlane   | J. Truter       |
| L. Marumole     | D. Van der Berg |
| I. Matunhiree   | T. Van der Berg |
| N. Meijer       | I. Wermuth      |
| J. Mothomogolo  | M. Wertz        |
| M. Mthenjane    | M. Woodhall     |
| D. Munro        | J. Zietsman     |

\*Co-opted members

\*\*Resigned

Looking back over the past twelve months and comparing the number of events to the previous year, it is evident that the 2009/2010 year was a bumper year for conferencing and colloquia. 2010/2011 has seen slightly fewer events, all of which have been incredibly successful, with the schools becoming even more popular.

The year started with the a re-run of the Drilling and blasting School at Misty Hills. This focused on refreshing the manager in office regarding trends in both surface and underground drilling and blasting techniques and the more technical aspects of these. Authors were targeted from the major suppliers and a full set of notes was produced for use in subsequent schools. It is intended that schools are run on a bi-annual basis and updated accordingly.

This was followed by the annual Hard Rock Safe conference at Emperor's Palace in Kempton Park. As its name suggests, this two-day technical and one-day industry event focused on mining safety, with the award ceremony being a fitting occasion to reward safety achievements in the industry. This event drew an attendance of 487 attendees and attracted R345 000 in sponsorship. This joint event with AMSA, Unions, the Chamber of Mines and the DMR has been gaining popularity and it is expected that in 2011 this event will be even better subscribed.

The first Rock Mechanics for Mine Managers School was held over two days in September 2010, with an attendance of 102 people. A re-run of this school was held in June 2011 to



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| Schedule of Mining/Metallurgy Technical Conferences, 2010/2011 |                     |  |                                |            |
|--|---------------------|--|--------------------------------|------------|
| Type of Event  | Date                | Title  | Convenor                       | Attendance |
| Conference   | 4–6 August 2010     | Hardrock Safe Conference 2010                            | F. Egerton and T. van den Berg | 487        |
| School   | 8–9 September 2010  | Rock engineering for managers in hard rock tabular mines | W. Joughin                     | 102        |
| Conference   | 27–29 October 2010  | Light Metals   | AMI                            | 109        |
| Conference   | 16–17 November 2010 | Fines Beneficiation, De-watering and Agglomeration 2010  | Z. Botha                       | 114        |
| Conference   | 11–14 October 2010  | Platinum   | M.H. Rogers/G.L. Smith         | 393        |
| Conference   | 2–3 December 2010   | SANCOT–Ingula Project                                    | A. Wilson                      | 43         |
| Conference   | 15–17 February 2011 | Water in the Southern African Minerals Industry          | W. van der Merwe               | 84         |
| Conference   | 6–9 March 2011      | Pyrometallurgy   | R.T. Jones                     | 183        |
| Conference   | 21–25 March 2011    | Minefill   | H. Ilgner                      | 168        |
| Conference   | 18–20 April 2011    | Sulphuric Acid   | T. Claassens                   | 137        |
| School   | 1–3 June 2011       | Hard Rock Tabular Mining for Managers                    | W. Joughin                     | 44         |
| School   | 21 June 2011        | Drilling and Blasting                                    | G.V.R. Landman                 | 33         |

meet the demand from those who were unable to be accommodated at the first event. Plans are afoot to take this format to the relevant branches.

The flagship Platinum 2010 event was held at Sun City from 11 to 14 October with 393 attendees and raised R802 000 in sponsorship for the Institute. This Platinum focused event covered the entire spectrum of platinum mining and drew speakers from across the industry. The bi-annual event will next be held in 2012, again at Sun City.

The traditional December SANCOT/SAIMM event was held at Ladysmith this year and focused on the Ingula Water Project. 43 people were present over the two days at which R38 000 sponsorship was raised.

The year started with the bi-annual Minefill 2011, held at the Table Bay in Cape Town. This joint event with the Metallurgy Technical Programme Committee drew 168 delegates and raised R157 000 in sponsorship. Plans are already afoot for the 2013 event.

The first school outside of South Africa, a re-run of the successful Drilling and Blasting School, was held in Namibia on 21 June at Swakopmund. This event has highlighted the need for further schools and events in the area to support the growing branch there.

The year has also ended on a high with two large events in the final month, the first being the Mineral Project Valuation School. This was held on 11 to 13 July at the new Mine Design Laboratories at the University of the Witwatersrand, Johannesburg, and a month before the event was already fully subscribed. As such a re-run is already in the planning.

In addition, the 6th Base Metals Conference, 2011 conference was held at the Hans Merensky Sports Resort in Phalaborwa. This three day conference was rounded off with a trip to Palabora Mining Company. Final delegate numbers and sponsorship details were not available at the time of writing.

The events organized by the Technical Programme Committees contribute greatly to the knowledge of the industry and without the professionalism of the secretariat and organizing committees of each of the conferences, significantly less knowledge transfer would be possible.

I would therefore like to thank all the members of the Technical Programme Committee and contributors to the various Conferences, Colloquia, and Schools for their dedication and hard work during the past year and look forward to another successful, educational year, in 2012.

### 2.2 Technical Programme Committee – Metallurgy

R.T. Jones, Chairman

M. Dworzanowski, Vice-Chairman

H. Bartlett

N. Blackham

T. Bookless

Z. Botha

S.M. Bradshaw

L. Chown

T. Claassens

P. den Hoed

E. Dhlamini

P.A.P. Fouche

A.M. Garbers-Craig

R. Grobler

D.R. Groot

R. Lamya

T. Malefetse

A.F. Mulaba-Bafubiandi

H. Simonsen

J.D. Steenkamp

P.J. van der Plas

W. van der Merwe

P.J. van Staden

K. Vreugdenburg

The Metallurgy Technical Programme Committee has supported a good selection of topical technical conferences for the continuing education of metallurgical professionals throughout the year. These events provide an important forum for the efficient dissemination of information about new processes and techniques for improvements in the industry, as well as promoting networking between industry professionals working in the metallurgical field. SAIMM conferences have continued to receive accreditation from the Engineering Council of South Africa (ECSA) for the requirements of continuing professional development (CPD).

Attendance figures this year varied from about 80 (for some localized events) to 400 (for a well-established multi-day international conference). Sponsorship from industry has continued at a very significant level, and this support is highly appreciated.

Formal proceedings of high-quality peer-reviewed papers were published for many of the conferences (in book form with an accompanying CD). Conference proceedings are also

## Annual report

published in their entirety on the SAIMM website, in order to make the information searchable and available to as wide an audience as possible. SAIMM continues to promote open access to information, by making website publications freely available online to the general public, in recognition of the time and effort freely contributed by authors.

The 2010/2011 year has included a variety of events, and some highlights are mentioned below.

The Western Cape Branch of the SAIMM held their 28th annual Mineral Processing Conference & Workshop in Cape Town in August 2010. This well-established event features close interaction between the local universities and industry.

A 'Copper Belt 2010 Conference' was held in Zambia in September 2010. Eighty-two delegates attended the six presentations that made up the event, and the day was regarded as very successful.

The largest event of the year was the 'Fourth International Platinum Conference', held at Sun City in October 2010, where 393 delegates were present. The theme of the conference was 'Platinum in Transition—Boom or Bust'. Keynote speakers included Neville Nicolau (Anglo Platinum), Mike Solomon (Wesizwe Platinum), and Niall Carroll (Royal Bafokeng Holdings), who provided valuable perspectives from the point of view of their respective mining companies. Stephen Forrest (SFA) spoke about PGM markets, and Professor Bruce Hewitson (University of Cape Town) discussed climate change scenarios and their impact on southern Africa.

The annual Student Colloquium was held during October 2010, and was attended by about 120 students from a number of universities in Gauteng and surrounding areas. The purpose of the colloquium is to introduce the minerals industry to talented newcomers about to embark on a career in mining and metallurgy, and to provide these future leaders with an opportunity to present their work. This event is subsidized by SAIMM from the surplus funds from other events, in support of the various tertiary educational institutions. This event continued to provide a showcase for students to present their final-year projects. SAIMM provided adjudicators to select the prizewinners, and a selection of papers was published in the April 2011 SAIMM Journal.

The 'Light Metals 2010' conference was held in Muldersdrift in October 2010. This was organized in conjunction with the South African Department of Science and Technology (as part of their Advanced Metals Initiative), and was attended by 109 delegates. The purpose of the conference was to bring together researchers, industry, and government stakeholders to share and debate the latest trends, research, and innovative solutions in the field of light metals, focusing on titanium, aluminium, and magnesium.

A new set of topics was covered by the 'Fines Beneficiation, De-watering, and Agglomeration' conference, held in November 2010 and attended by 114 delegates. There was a favourable response from participants.

'Water in the Southern African Minerals Industry' was the subject of a conference in February 2011, attended by 84 delegates. This has been a topic very much in the news, and there were a number of competing events dealing with this very important matter.

The SAIMM 'Southern African Pyrometallurgy 2011' international conference took place in March 2011, and was attended by 183 pyrometallurgists from 13 countries. The

conference provided an opportunity for people from southern African pyrometallurgical operations to present their work, and provided a forum for the exchange of ideas between delegates from southern Africa and from elsewhere around the world. The conference began with a one-day short course on 'The estimation of slag properties', presented by Professor Ken Mills of Imperial College, London. Two days of technical presentations covered pyrometallurgy of numerous commodities, such as steel, ferro-alloys, silicon, PGMs, nickel, and copper. Further topics included electric arc furnaces, steam drying, co-generation of power, mineralogy, physical properties, and refractories. The social functions included a choice of visits to the Sterkfontein Caves, the Wonder Cave, and the Aloe Ridge Observatory (which houses the largest privately owned telescope in the country). The conference celebrated its grand finale by attendance at the first ever performance of the Cirque du Soleil in South Africa.

The 'Sulphur, Sulphuric Acid, & SO<sub>2</sub> Abatement 2011' conference was held at Sun City in May 2011, and was attended by 137 people. Some re-planning was required as the national municipal election day, declared a public holiday, fell in the middle of the conference. There were two days of technical presentations as well as a one-day technical visit to Impala Platinum.

In addition to the events actually organized by the SAIMM, there was also SAIMM participation in the organizing committees of a number of overseas international events, as well as co-sponsorship of events (which also entails publicizing the events to SAIMM members).

The Metallurgy Technical Programme Committee continued to be supported by a growing number of highly capable members, and many enjoyable meetings were held during the year. The conferencing group within the SAIMM secretariat are to be commended for their highly professional approach in handling conference arrangements, giving rise to many favourable comments from attendees. The combined effort of all these people has resulted in a number of worthwhile technical events being provided for the benefit of the metallurgical community of Southern Africa.

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

J.A. Cruise, Chairman

|                  |                    |
|------------------|--------------------|
| A. Boniface      | J.L. Porter        |
| G.N. Davis       | E.J. Sellers       |
| P.H. Ferreira    | T.R. Stacey        |
| A.L. Griffiths   | F.B. Stevens       |
| W. Joughin       | H.J. Tluczek       |
| M. Lebitsa       | J.N. van der Merwe |
| E.A. McCarter    | A. Wilson          |
| R.G.B. Pickering |                    |

*\*Co-opted members*

*\*\*Resigned*

SANCOT held its annual one day seminar 'Engineering the Ingula Pumped Storage Scheme' in December 2010 in Newcastle, KwaZulu-Natal. This was followed by a half day visit to the site the following day. The Ingula Pumped Storage Scheme is currently the largest civil tunnelling project in South Africa and the aim of the seminar was to focus on the design parameters and the construction experience gained. This

## Annual report

included the purpose and overview of the scheme, some of the construction challenges, the design of the underground works and steel liners, and a comparison of the anticipated and actual rock behaviour as measured by the instrumentation. In addition, there were two presentations on other projects, namely the Kabompo Gorge Hydroelectric Project in Zambia and the Metalong Dam in Lesotho. This was followed by a report back on the International Tunnelling Association's (ITA) World Tunnel Congress held in Vancouver and finally, a presentation of the tunneling tradition concerning the patron saint of tunnellers, St Barbara. The site visit actually took place on St Barbara's Day, when site worked is stopped by tradition.

Last year's tunnelling seminar on Vertical Tunnelling (a.k.a. Shaft Sinking) produced a South African initiative which has been endorsed by the ITA to revolutionize shaft sinking techniques, and to improve the industry's safety record by embracing the 'Zero Harm' philosophy. In this regard, the Centre for Mechanised Mining at the University of the Witwatersrand is planning a one week postgraduate course on Raise and Tunnel Boring in September this year.

Through the SAIMM, SANCOT was again represented at the ITA's World Tunnel Congress, which was held this year in Helsinki. SANCOT continues to be represented on three of the ITA's Working Groups namely, Research, Contractural Practice and Use of Sprayed Concrete.

### 3. Publications

**Portfolio Holder: M. Dworzanowski**

D. Tudor, Chairman

|                    |               |
|--------------------|---------------|
| R.D. Beck          | R.T. Jones    |
| J. Beukes          | W.C. Joughin  |
| P. den Hoed        | C. Musingwini |
| A. du Plessis      | R.E. Robinson |
| M. Dworzanowski    | N. Singh      |
| A.M. Garbers-Craig | T.R. Stacey   |
| M.F. Handley       |               |

#### 3.1 Journal

Monthly publication of the *Journal* continued during the year, and included a special WITS Mining edition in October 2010 and the customary Student edition in April 2011. A monthly print run of 3 700 copies was maintained.

The breakdown of the published papers is as follows:

|                | July 2010–June 2011 |            | July 2009–June 2010 |            |
|----------------|---------------------|------------|---------------------|------------|
|                | Mining              | Metallurgy | Mining              | Metallurgy |
| Transaction    | 12                  | 25         | 11                  | 27         |
| Journal        | 28                  | 30         | 15                  | 26         |
| Technical note | 0                   | 1          | 1                   | 1          |
| Total          | 40                  | 55         | 27                  | 53         |
| Combined Total | 95                  |            | 80                  |            |

Some inroads have been made into the backlog of papers that are in the refereeing process. The Publications Committee (PC) gratefully acknowledges the contribution of those members who offer their services as referees of the papers that are submitted for consideration for publication.

A total of 6 papers were rejected as unsuitable for publication in the *Journal*. Where appropriate, the authors were directed to other possible avenues for publication of their papers.

The lack of a steady supply of top quality South African based research work from the mining and metallurgical disciplines, which would lend itself to publication in the SAIMM *Journal*, is of concern to the PC and the Institute. Despite the amount of research work that is conducted at research centres throughout the country, very little of it filters through to the SAIMM *Journal*. It is anticipated that the presence of Coaltech as a member of the PC will go some way to improving this situation.

A staff reorganization within the Institute in May resulted in Caron Lance being replaced as Journal Coordinator by Edith Dube. Caron has moved on to Conferencing and Edith comes in from Membership. My thanks to Caron for a job well done and I extend a warm welcome to Edith.

Advertising revenue for the year amounted to R1 060 009 which is down on 2010's revenue of R1 192 313. In the prevailing economic climate in the advertising industry this was considered to be a satisfactory performance by our Advertising Executive, Barbara Spence. However the outlook for the year ahead is challenging!

At a special meeting in November between the PC and the President of the Institute, it was proposed that the Institute establish an International Board of referees for the SAIMM *Journal*. Terms of reference and responsibilities for such a Board were in draft form at year end.

I extend my thanks and appreciation to Robbie Robinson for his thought-provoking and entertaining *Journal* Comment which he continues to produce each month and to the members of the Publications Committee, Dawn van der Walt and Zulaikha Malgas, for their continued hard work during the year and for meeting the *Journal* publication deadlines.

### 4. Regional Development

**Portfolio Holders: J.N. van der Merwe**

|                 |                  |
|-----------------|------------------|
| A. du Plessis   | J. Porter        |
| M. Dworzanowski | M.J. Mothomogolo |
| P.A.P. Fouche   |                  |

#### 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 SAIMM Branches

##### 4.1.1 Botswana Branch

H. Marsden, (incoming branch Chairman)

No report was submitted.

##### 4.1.2 Bushveld Branch

C.A.F. Sweet, Chairman

No report was submitted.

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### 4.1.3 Johannesburg Branch

M. Woodhall, Chairman

|              |               |
|--------------|---------------|
| I. Ashmole   | X. Pan        |
| V.G. Duke    | J. Porter     |
| C. Heili     | G. Ralph      |
| M. Lekota    | K. Richardson |
| M. Mabaso    | U. Sachse     |
| S. Mashinini | G. Stripp     |
| M. Mokgojwa  | W. Taylor     |
| M. Mthenjane | M. Woodhall   |
| J. Ngoma     |               |

#### Introduction

As Chairman, I am pleased to report on the activities of the Johannesburg Branch of the SAIMM for the period July 2010 to June 2011. Our committee considers the past year to have been reasonably successful. Our events were well attended and we enjoyed a diverse range of topics. The Branch's programme for the coming year promises to be as eventful. We have already identified a pipeline of events which remains constantly under review.

#### Committee

Membership of the committee has been relatively stable with representation across various mining companies and consulting professionals.

Julian Upshall has joined our committee and we look forward to his contribution. Although not on the committee, it is important that we all appreciate the work done by our caterers who never fail to perform on the day.

On behalf of both myself and the committee, I would also like to register a special thanks to the SAIMM Secretariat for their dedicated support of the Johannesburg Branch.

#### Events

The table captures the specific range of technical topics we were fortunately able to enjoy.

Roger Baxter and Mariette Lieferrink spoke particularly well, encouraging a good degree of audience participation.

#### Finances

Despite numerous profitable events, the SAIMM has had to fund a deficit in the cashflow of R6 134.71. The attendance of student contingents from both the University of Johannesburg and the University of the Witwatersrand continues to be welcomed. Negotiations with the incumbent caterers has allowed the Branch to limit sponsorship requests for the venue and catering facilities to only R9 500.

#### AGM

The Branch AGM will be held on Thursday 18 August 2011, where I expect that the committee will continue as is for an additional year. Emphasis will be placed during the coming year on recruiting new committee members for a better representation in terms of gender, race, and qualifications.

This ends my first year as Chairman and I would like to make special mention of Ian Ashmole, Graham Stripp, Mike Woodhall, Udo Sachse, and Gary Ralph, who together with Ginette Oliver and my personal assistant, Anne-Marie McCrate, contributed materially to the success of the past year.

| Past year technical presentations: Johannesburg Branch of the SAIMM: 2010/2011 |   |                |                             |                |                          |
|--|---|----------------|-----------------------------|----------------|--------------------------|
| Date   | Title   | Presenter      | Sponsor                     | Responsibility | Venue                    |
| 2010-06-3  | AGM   | No Speaker     | SAIMM                       |                |                          |
| 2010-07-15   | Mine optimization and its application using the Anglo Platinum Mine Optimization Tool   | G. Lane        | Cyest Corporation           | G. Ralph       | Military Museum          |
| 2010-08-19   | The Burnstone Gold Mine   | J. Oelofse     | Great Basin Gold            | J. Ngoma       | Military Museum          |
| 2010-09-16   | Using effective resource management and technology-driven industrial strategies for development: Policy and practical insights for South Africa's extractive industry | P. Jourdan     | GMSA                        | M. Woodhall    | Military Museum          |
| 2010-09-17   | Committee Dinner Johannesburg Branch  |                | SAIMM                       | V. Duke        | Boston Barbeque          |
| 2010-10-21   | Ground improvement solutions  | J. Gil         | Protech Khuthele            |                | Military Museum          |
| 2010-11-18   | Royal Bafokeng Platinum—Poised for Growth   | U. Sachse      | Royal Bafokeng Platinum     | S. Sachse      | Military Museum          |
| 2010-12-4  | SAIMM Johannesburg Branch family outing   |                |                             | M. Lieferrink  | Marievale Bird Sanctuary |
| 2011-02-17   | Going for growth, realizing the true economic potential of South Africa's mining sector   | R. Baxter      | Sound Mining Solutions      | U. Sachse      | Military Museum          |
| 2011-03-17   | Chilean mine rescue   | H.J. Laas      | Murray & Roberts            | V. Duke        | Military Museum          |
| 2011-04-14   | Acid Mine Drainage (AMD)  | M. Lieferrink  | Sound Mining Solutions      | V. Duke        | Military Museum          |
| 2011-05-19   | Human fatigue management  | G. Ralph       | Anglo Mining and Technology | V. Duke        | Military Museum          |
| 2011-06-23   | Mining equipment in the future  | C. Swart       | Atlas Copco                 | G. Ralph       | Military Museum          |
| 2011-07-21   | Mineral processing pilot plants using drill core to better represent a deposit  | T. E.-S. Group | S. Group                    | J. Upshall     | Military Museum          |

## Annual report

### 4.1.4 Namibian Branch

B.M. Litana, Chairman

H. Anyolo

F. Chitonga

L. Emvula

A. Kalili

R. Nyambe

T. van der Linde

#### Introduction

The Drill and Blast school held in Windhoek on 21 of June was a success, although I couldn't make it due to other commitments. It is still my wish to get the Namibian professionals to contribute to these events not just by attending but also by giving presentations and submitting papers. There were no other activities planned for this year.

#### Committee

The Branch committee will be meeting on the 23rd of July 2011 in Swakopmund to discuss the upcoming Uranium Conference planned for next year, membership issues, and how the branch can involve academics and students in its activities.

#### Events

The next event to be held by the Branch is the much anticipated Uranium Conference. The first draft of the conference programme should be available before the AGM in August 2011.

#### Finances

The Branch needs to increase its membership and organize more events. There is not much to report on the finances at this stage.

#### AGM

The Branch is planning to have its first AGM before the end of this year to discuss the events planned for 2012 and how to get more professionals become members of SAIMM.

### 4.1.5 Pretoria Branch

O. Mothibi, Chairman

D. Groot

T. Mahlangu

J. Steenkamp

The SAIMM Pretoria Branch in the period July 2010 to date organized monthly seminars in conjunction with the departments of Materials Science and Metallurgical Engineering and Mining Engineering. These seminars were given by

presenters from outside the University of Pretoria, with the audience being principally students and lecturers of the two departments and occasionally professionals.

The main highlight of the year was the presentation by the incoming President of the Southern Africa Institute of Mining and Metallurgy, Dr Gys Landman.

Special thanks to the committee members, the heads of departments for both Mining (Professor Ronny Webber-Youngman) and Materials Science and Metallurgical Engineering (Professor M. du Toit) for being excellent hosts for the Branch. 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 and Daleen Gudmanz.

### 4.1.6 Western Cape Branch

S.M. Bradshaw, Chairman

M. Aziz, Vice Chairman

J. Petersen, Secretary

G. Akdogan

A. Burger

C. Cutler

D.A. Deglon

J.-P. Franzidis

T. Ojumu

J. Sweet

E. Thyse

The activities of the Western Cape Branch are centered largely on those of the academics and students from the three main tertiary institutions in the region, viz. Cape Peninsula University of Technology, Stellenbosch University, and the University of Cape Town. As such, the branch events are focused on promoting mineral processing as a career path for students and providing a forum for both students and academics to discuss their research within the broader mineral processing community.

The annual Mineral Processing Conference, held in August and attended by between 150 and 200 delegates from across the country, provides support for the mineral processing research being undertaken in the region. The event has grown over the last 30 years from beginnings as a small, research-based colloquium to the current two-day event that attracts both international and industry speakers. The conference is the highlight of the year's activities, and the branch AGM and annual dinner take place at the same time. An annual student evening for final year students from all three institutions aims to promote mineral processing as a career path, and also serves to provide the opportunity for social interaction.

#### Mini colloquia, past year events, and future planning: Pretoria Branch of the SAIMM: 2010/2011

| Date       | Title   | Presenter                                  |
|------------|---|--|
|            | Electronic detonators   | G.V.R. Landman, <i>President, SAIMM</i>    |
| 2010-10-01 | High energy synchrotron radiation for investigation of materials behaviour during welding<br><i>In situ</i> analysis of hydrogen desorption in ferrous alloys using neutron imaging | T. Kannengiesser and K. Beyer              |
| 2011-04-13 | Extractive metallurgy of copper   | K. Sole                                    |
| 2011-05-18 | Embedded monitoring equipment (in copper blocks) for the smelter industry and other applications  | M. Hopf                                    |
| 2011-07-18 | Steel cleanliness, reaction kinetics, ironmaking, and electrochemistry  | C. Pistorius                               |
| 2011-07-20 | Presidential inauguration dry run   | G.V.R. Landman                             |
| 2011-08-17 | Pyrometallurgy topic  | T. Goff                                    |
| 2011-11-16 | Student Colloquium  | Sanlam Auditorium (University of Pretoria) |

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### *Mineral Processing 2010 Conference*

The two-day conference, the 28th in the series, was held successfully at The Vineyard Hotel in Cape Town in August. The conference was preceded by a one-day workshop. Given the rightful attention that safety in the mining and mineral processing industries is receiving both nationally and worldwide, the workshop theme was Safety and Risk Management in the Mineral Processing Industry. Wynand van Dyk and Carel Roode presented an excellent workshop to 26 delegates. In 5 modules spread through the day, delegates were taken through risk management concepts, through a discussion of human factors, via a case study to a look at leading practice in the field.

Roger Paul of Mintek presented the first plenary session of the conference, in a thought-provoking and extremely interesting study entitled "The Impact of Risk Analysis on the Adoption of New Technologies". In the risk-averse era of the new millennium, in which funding decisions are made by financial institutions, the talk highlighted the great opportunities that exist for research as we tackle the alarming growth in demand for metals in the face of declining ore grades and the drive for more efficient use of energy. Paul Jourdaan presented the second plenary paper entitled "Towards a Resource-based African Technology Strategy", showing how Africa's exceptional resources can form the basis for a growth and development strategy if exploitation concessions are handled correctly. The conference sessions covered themes such as physical processes, bio-, hydro- and pyrometallurgy, as well as comminution and flotation. In 42 oral presentations, 24 poster snapshots and with almost 20 posters on display, a rich variety of work was presented, ranging from newly started postgraduate projects to mature industrial process developments. With 159 registered delegates, the conference once again proved an ideal forum for interaction between industry and academia. The students presenting their research work at the conference were also afforded an opportunity to get valuable feedback from experienced researchers and practitioners. It is clear by the support for the conference in a challenging financial environment that it is viewed by many as an essential part of the annual mineral processing calendar.

### *Student evening 2011*

This year the student evening was hosted by Stellenbosch University. Steven Bradshaw from Stellenbosch University addressed the students on the role of the SAIMM in promoting the profession and urged students to become a part of the Institution. Engineers from Lonmin then made presentations, outlining the challenges and opportunities facing graduate engineers when starting out in the mineral processing industry, and providing great insight into the years immediately following graduation. A pleasant social event rounded out the evening.

### *Other activities*

The Postgraduate Fund of the Western Cape Branch was launched in 2007 to assist postgraduate students to attend national or international conferences. Two awards were made, to Bulelwa Ndlovu of UCT and Christie Dorfling of Stellenbosch University to enable them to present at IMPC in Brisbane in

September 2010. A single award of R 15 000 was made in the first half of 2011 for Mr H. Appa to present his work at the 8th International Conference on Computational Fluid Dynamics to be held in Trondheim, Norway in June 2011. A further award for attendance at a conference in the second half of the year will be made by the trustees of the Fund from the remaining strong applications.

The SAIMM Prestige Prizes for the best final year students in Mining and Metallurgy at each of the three tertiary institutions were presented at the 2010 conference dinner by Gys Landman, the President Elect of the SAIMM. The recipients were Mohamed Yaseen Gani (CPUT), Chris Biley (Stellenbosch), and Tapiwa Chimbganda (UCT).

### *4.1.7 Zambian Branch*

S.C. Mulenga, Chairman  
E. Theron, Vice-Chairman

|              |             |
|--------------|-------------|
| W. Banda     | F. Simwanza |
| P. Haken     | H.imba      |
| S. Simukanga |             |

### *Committee meeting*

The SAIMM Zambian branch held a committee meeting on 25 August 2010. The meeting was called to discuss the Zambian event that was planned for 15 September 2010.

### *Zambian branch event*

The Zambian branch event was successfully held on 15 September 2010 at the Protea Hotel in Chingola. A number of technical papers were presented during the event and the SAIMM President, Dr. Landman graced the occasion.

### *Zambian events for 2011*

A committee meeting for the SAIMM Zambian branch was held on 1 February 2011 with a view to planning and scheduling the Zambian events for the year 2011. The first event was planned for early May 2011 to coincide with the Zambian Mining and Energy Indaba that was to be held in Lusaka. The committee resolved that SAIMM should exhibit its activities during this occasion. However, the Indaba was postponed to June 2011 at short notice and as such SAIMM could not participate. The committee is, however, planning to hold the next Zambian event in early November 2011.

### *General*

The Chairman, Dr Sixtus Mulenga, attended the South African Mining Indaba in Cape Town in February 2011. This was meant to give a feel to the Chairman as to how mining Indabas are organized as he was involved in the organization of the Zambian Mining Indaba planned for May/June 2011. The Secretary, Mr. Henryimba, was selected by SAIMM to referee a paper on 'The estimation of Platinum Flotation Grade from Froth Image Features by using Artificial Neural Networks.' The Secretary also attended the SAIMM Council meeting held in Johannesburg on 18 February 2011.

*Note:* Eric and Peter were co-opted onto the committee during the year to replace John Mutambo and Julian Taylor who left Zambia on other work-related assignments.

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### 4.1.8 Zimbabwean Branch

W. Kutekwatekwa, Chairman

|           |                 |
|-----------|-----------------|
| S. Gaihai | S. Mandoza      |
| M. Gumbie | S. Ndiyamba     |
| E. Gwane  | I. Nyamukondiwa |
| L. Mabiza | M. Sowa         |

The Zimbabwe branch was launched on 7 May 2010 in Harare. This inaugural event was attended by 127 people.

The branch committee for 2010/2011 comprised the Chairman Wenceslaus Kutekwatekwa, and committee members Stephen Ndiyamba, Simon Mandoza, Masimba Sowa, Irvin Nyamukondiwa, Louis Mabiza, and Edwin Gwaze.

The objective for the year under review was to hold quarterly branch events, especially at the mines but this was not achieved. A half-day event was held in Harare on 3 December 2010.

The Branch organized a full day Branch conference at the School of Mines in Bulawayo on 19 July, 2011 where nine technical papers were presented, and 35 new membership applications were received.

Membership has grown phenomenally during the year and an improvement is expected on branch activities during the coming year.

### 4.1.9 Zululand Branch

W.R.J. Erasmus, Chairman

|            |           |
|------------|-----------|
| E. Clare   | C. Mienie |
| S. Gracie  | J. Selby  |
| B. Maramba |           |

The Zululand Branch of the SAIMM had a very exiting year in 2010. There were no major conferences in the area this year.

The Branch once again maintained its association with the other professional institutes in the KZN area. Members from Richards Bay Minerals, Exxaro Sands KZN, and the Bayside and Hillside Smelters have supported Branch activities. Suppliers to these industries such as Mineral Technologies and Spectrum Technical have also given us great support during the year.

#### Branch technical activities

Technical meeting this year.

South African electricity supply issues, both current and future by David Erasmus –

Delegates attending this presentation were more focused on electricity and the future of the commodity. Attending this presentation by David Erasmus were 19 delegates.

#### Site visits

- *RBCT-Richards Bay Coal Terminal*—We had a great turn out of about 27 members. The visit lasted for 3 hours and at the end of the visit all of us had a better understanding of what happens to all the coal that is mined in RSA.
- *Bell Equipment*—There were 15 delegates attending the visit to Bell. Bell Equipment manufactures and distributes an impressive range of equipment - articulated dump trucks, front end loaders, tractor loader backhoes, tri-wheeled loaders (timber/sugarcane

harvesting and loading machines), haulage tractors, dozers, graders, excavators, and a wide range of forestry equipment.

#### Branch social activities

In December 2010 we planned a branch braai as part of the year-end function but due to weather conditions it was cancelled.

#### The year ahead

The following activities are planned for the year ahead.

- Richards Bay Harbour site visit 21 June 2011
- Electrostatic separation. 18 to 21 July 2011  
Denham Ferguson of RBM will present a paper
- Water in RSA 24 August 2011  
A presentation on the climate/ water availability/supply and use. Whiskey tasting following the presentation on water
- Forensic Analysis (Megchem). 21 September 2011  
Megchem is a group of physical metallurgists and chemical/mechanical engineers that had a management buy-out with Sasol. They have a couple of interesting case studies (mechanical failures on boilers, pressure vessels, pipeline, casting moulds, etc.) that they will share with us
- ESKOM 26 October 2011  
This presentation will be a follow on from David's presentation, where Eskom will come and share their views with us
- Year end function November 2011  
The committee will meet and plan for this event in July.

## 5 Engineering Council of South Africa (ECSA)

### Professional Advisory Committees

#### PAC Mining

J.A. Cruise, Chairman  
M.H. Rogers, Vice Chairman

|                  |                    |
|------------------|--------------------|
| J. du Plessis    | G.L. Smith         |
| F.M.G. Egerton   | T.R. Stacey        |
| R.P. Mohring     | P. Tobias          |
| M.J. Mothomogolo | J.N. van der Merwe |
| C. Musingwini    | D.J. van Niekerk   |
| J.C. Ngoma       | R. Webber-Youngman |
| R.C.D. Phillis   | L. Zindi           |
| V. Seboni        |                    |

#### PAC Metallurgy

R.F. Sandenbergh, Chairman

|             |            |
|-------------|------------|
| N.A. Barcza | G. Jonck   |
| R.D. Beck   | R.T. Jones |

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L.A. Cramer  
M. Dworzanowski  
M. du Toit  
R.H. Eric  
I.J. Geldenhuys

K.C. Mistry  
J. Phiri  
W.H. van Niekerk  
M. Vermaak

### *Professional Advisory Committee (PAC)*

One of the critical functions of ECSA is to ensure that, through a peer evaluated system of quality assurance, persons working within the profession are educated and trained according to widely accepted standards, so as to render a professional service for the benefit of the public and the country as a whole.

The Professional Advisory Committees of ECSA are responsible for evaluating applications for registration as professional engineers within their disciplines and also for contributing to wider policy matters as required.

The Institute nominates members to the PAC's for Mining and Metallurgy.

During the past year the PACs for mining and metallurgy continued their important work of evaluating the qualifications and experience of applicants for registration as Professional Engineers. The Institute also provides the administration and assessors for the Professional Reviews, a prerequisite for registration.

### *The Identification of Engineering Work: compulsory registration*

The Identification of Engineering Work Steering Committee again drafted proposed regulations for compulsory registration of persons conducting 'identified engineering work'

These draft regulations were submitted to the Council for the Built Environment (CBE) and other interested and affected parties for their comment. The CBE have again rejected these draft regulations as they contend that the ECSA submission does not conform to their requirements that a common template be used for all the Built Environment professions. ECSA disagree with this contention. ECSA and the CBE are currently still attempting to resolve the impasse.

### *Recognition of voluntary associations*

The SAIMM is a recognized Voluntary Association in terms of ECSA's policy. An important benefit to members of the SAIMM is that registered persons are entitled to a significant reduction in their ECSA annual fees.

### *Continuing professional development (CPD)*

Renewal of registration (on a five-year cycle) through undertaking acceptable CPD became mandatory on 1 January 2006. Registered Persons were required to start undertaking and recording CPD activities as from 1 January 2006.

The implication of the introduction of CPD is that Registered Persons are required to present evidence of continuing professional development at predetermined intervals in order to maintain their registration.

The SAIMM is an approved provider of CPD activities and is tasked with vetting all outside courses for CPD purposes in mining and metallurgy.

Details can be obtained on ECSA's website ([www.ecsa.co.za](http://www.ecsa.co.za)).

### *PAC Mining*

The National Society for Black Engineers challenged the legitimacy of the appointments to Council and took the Minister of Public Works, the Council for the Built Environment, the Engineering Council, and all fifty appointees of ECSA to court.

At the request of the Minister for Public Works, a compromise was reached, in that new criteria were drafted for appointment to Council, resulting in the event that the current Council will be dissolved at the end of this year and a new Council appointed.

Measures have been taken by ECSA to accelerate the registration process for professional engineers, and these are now showing results.

### *PAC 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 2010/2011 the PAC Metallurgical Engineering again considered applications for registration as Professional Engineers by means of paper evaluations and interviews, in which volunteers from the SAIMM participated. The requirement for Continuing Professional Development of Professional Engineers for all registered persons opens up opportunities for the SAIMM to support the profession by offering seminars and conferences. The Committee wishes to record its thanks to the organizing committees and the secretariat of the SAIMM for the issuing of CPD certificates.

## 6. State Liaison

**Portfolio Holder: D.J. van Niekerk**

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

#### *Mining Qualifications Authority (MQA)*

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

- ▶ The Classification of Mines Task Team (CoMTT) of the SGB for Mining and Minerals (M&MSGB) has succeeded in developing a draft Occupational Health and Safety related Risk-based Model to classify mines. This model is intended to be used to determine, amongst others, the appropriate competency standards for practitioners at mines for level 4 through 8 on the National Qualifications Framework (NQF)
- ▶ QCTO-complaint profiles are being finalized for mining occupations (practitioners) inclusive of Team Leader, Miner/Rockbreaker, Shift Overseer/Shift Boss/Mining Foreman, and Mine Overseer/Operations Overseer. Following the ratification of the said progression of Mining Profiles/Occupations, the Community of Expert Practitioners (CEPs) will embark on developing the complete QCTO qualifications



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- ▶ The M&MSGB has resolved, at its meeting held on 12 May 2011, that the SAM&MS do not require a Policy: How to deal with Supervisory/Management and Leadership competency (SML) standards for persons who have a dual competency profile i.e. combined Technical and SML components. This means that the *status quo* will persist i.e. mining companies will use their own company-specific programmes and courses to develop SML competencies for their employees who will, regrettably, not enjoy portability and recognition of SML-related competencies
- ▶ The work of the Certificated Engineering Steercom has been resumed following an engagement between the Chief Executive Officer of the MQA and a Mines' Professional Associations' (MPAs) delegation. The said Steercom assisted by two working groups will develop appropriate and generic Stage 2 (professional development) programmes intended to be used by employers in the SAM&MS.

### Mine Planning and Design (MP&D)

The main achievements pertaining to Mine Planning & Design Practitioners in the SAM&MS include the following:

- ▶ ABEEDA Associates has been appointed by the MQA to undertake a needs analysis for generic and portable MP&D competency standards for levels 2 through 8 on the NQF for use by the SAM&MS. The MP&D Steercom assisted the consultants with the finalization of the questionnaire and list of persons/institutions to be consulted/involved in the said survey. A MP&D workshop was held on 12 and 13 April 2011 to consider the consultants' preliminary progress report/findings
- ▶ The M&MSGB at its meeting held on 12 May 2011 approved the said Report's conclusion that 'The SA Mining and Minerals Sector needs generic and portable competency standards for MP&D practitioners for levels 2 to 8 on the 10-level NQF'. The M&MSGB resolved, as the way forward, to appoint an appropriately composed technical reference group (TRG) to develop the said competency standards
- ▶ It should be noted that MP&D practitioners substantially practising engineering work (yet to be legislated) at the following levels would need to be registered in the appropriate professional category in terms of Section 18(2) of the Engineering Profession Act 2008 Act 46/2000:
  - Engineering Technician: Well-defined Engineering Work (level 6 on the NQF)
  - Engineering Technologists: Broadly-defined Engineering Work (level 7 on the NQF)
  - Engineering (level 8 on the NQF): Complex Engineering Work (Level 8 on the NQF).

### The Engineering Standards Generation Body (ESGB)

The main achievements of the ESGB for the year under consideration include the following:

- ▶ The ESGB developed a level 7: Advanced Diploma in Engineering and a level 8: B. Eng. Tech (Honours) to complete the framework of qualifications specifically required for learners in the Technology pathway

- ▶ The ESGB has established a task team that will investigate the appropriateness of using Quality Council for Trades and Occupations (QCTO)-compliant qualifications for the training and development (Stage 2) of engineering practitioners in the professional categories; and
- ▶ The ESGB in collaboration with the Mines' Professional Associations (MPAs), of which the SAIMM is a member, has developed a Position Document: A New Model for Certificated Engineers.

### Outstanding/unresolved OBET-related issues

The following OBET-related issues need to be resolved:

- ▶ The development of OBET-compliant training and development (Stage 2) programmes for certificated managers and engineers in the SAM&MS
- ▶ Replacement of the Government Certificates of Competency (GCCs) for managers and engineers with registration in the appropriate category with the Engineering Council of SA (ECSA) as the appropriate and preferred means of regulating the Engineering Professional in the SAM&MS (refer New Model for Certificated Engineers)
- ▶ Compulsory Licensing (authorization) and registration in the SAM&MS
- ▶ Compulsory Currency-of-Competency in the SAM&MS
- ▶ The appropriateness of using QCTO-compliant qualifications for the training and development (Stage 2) of engineering practitioners in the professional categories
- ▶ The development of appropriate generic and portable OBET-compliant competency standards at levels 2 to 8 on the 10-level National Qualifications Framework for Mine Planning and Design practitioners in the SAM&MS.

### Regulation of the engineering profession in the SAM&MS

The progress made with the regulation of the Engineering Profession included the following:

- ▶ In terms of section 20.(1)(b) of the Built Environment Act 2000, Act No 43 of 2000 'the Council must consult with any person, body or industry that may be affected by the identification of Engineering Work
- ▶ In terms of section 20.(2) of the Built Environment Act the Council must, after consultation with the Competition Commission and in consultation with the Councils for the professions, identify the scope of work for every category of registered person
- ▶ The registration of the said 'Proposed IDoEW Regulations' have to date been delayed by the Council for the Built Environment (CBE) for a period of nearly 24 months. A Joint ECSA and CBE Task Team has been established to resolve the current impasse in regard to the said IDoEW
- ▶ Geology, Mine Environmental Engineering, Rock Engineering, Mine Surveying, and Mine Planning and Design practitioners who substantially perform identified engineering work are expected to be the most affected by the implementation of the said IDoEW Regulations
- ▶ The Council for the Built Environment (CBE) has notified the COO: ECSA that it intends proceeding with its own version of the proposed Identified Engineering Work (IEW) regulations. This means that the CBE rejects and disregards the IDoEW Regulations proposed by ECSA.

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### *Potential implications: regulation of the engineering profession*

The employer grouping and the participating MPAs have jointly undertaken an 'Acid Test Survey' to determine the potential implications of the imminent promulgation and implementation of the proposed IDoW regulations in the SA Mining and Minerals Sector. The report concluded that the majority of persons who are considered to be performing Identified Engineering Work would be eligible to register with ECSA, but that only about 22% of the said persons are in fact currently registered in the appropriate category with ECSA.

### 7. International liaison

**Portfolio Holder: J.C. Ngoma**

#### Key Performance Areas

*To achieve its objectives, the SAIMM*

- ▶ *Participates in and represents South Africa on bodies such as 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 institutions in other countries to promote international exchange of scientific and technical information.*

#### 7.1 APCOM

F.A. Camisani-Calzolari, Chairman

The AusIMM, through its Illawarra Branch, in association with the University of Wollongong, will be hosting the 35th APCOM Symposium. The Symposium will be held from 26–30 September 2011, at the University of Wollongong, Australia. The 35th APCOM is aimed at maintaining the common APCOM goal of playing a significant part in contributing to effective decision-making processes in the mineral industries.

The proceedings will cover the following fields:

- ▶ Geological modelling
- ▶ Resource estimation and geostatistics
- ▶ Process optimization and control
- ▶ Mine design
- ▶ Mine planning and production scheduling
- ▶ Mine ventilation
- ▶ Rock mechanics and ground control
- ▶ Information systems and data management
- ▶ Mine automation
- ▶ Health, safety, and environment
- ▶ Investment planning, project
- ▶ E-commerce
- ▶ Remote sensing/GIS/GPS applications
- ▶ Simulation
- ▶ Artificial intelligence and neural networks applications
- ▶ Visibility, tracking, and traceability applications
- ▶ Mineral policy analysis
- ▶ Mineral processing
- ▶ Metal production

- ▶ Nanotechnology applications.

Selected high-quality papers may be submitted for publication in one of the prestigious AusIMM/IOM3 Transactions journals: Mining Technology, Applied Earth Science, or Mineral Processing and Extractive Metallurgy.

These papers will also qualify for consideration for the AusIMM Best Paper Prize, which is awarded annually at the AusIMM Awards Dinner.

For information please contact Ms Kristy Pocock, Manager, Publications, the AusIMM. Telephone: +61 3 9658 6155 | Facsimile: +61 3 9662 3662 Email: kpocock@ausimm.com.au, or the Organising Committee Chairman Associate Professor Ernest Baafi, APCOM 2011 Symposium, Email: ebaafi@uow.edu.au.

#### 7.2 INFACON

N.A. Barcza, Chairman

*International Committee on Ferroalloys*

The INFACON Congress was founded in South Africa in 1974 by the SAIMM, Mintek and the Ferroalloy Producers Association (FAPA). The first INFACON was held in Johannesburg. INFACON has already been held three times in South Africa, the last being in Cape Town in 2004. However the most recent Congress, INFACON XI, was held in Helsinki in 2010. The next Congress, INFACON XIII, will be held in Almaty in Kazakhstan in 2013.

The International Committee on Ferroalloys (ICFA) was founded by the participating ferroalloy producing regions that attended the first INFACON with encouragement and support from the SAIMM, FAPA and Mintek. Mintek provides the secretariat for ICFA.

The primary objectives of the International Committee on FerroAlloys (ICFA) which was formed during the first INFACON, is to promote the holding of the INFACON Ferroalloy Congress every three years in appropriate locations and to ensure that the high technical standard is maintained.

ICFA arranges the meeting of representatives from ferroalloy producing and consuming countries during each INFACON to discuss the relevant technical content for INFACON and decide on the country that will host the subsequent INFACON Congress. Prospective host countries are invited to make submissions in advance to ICFA accordingly. Criteria for selection include the appropriate professional standing of the organizing entity, the suitability of the location, and the necessary level of local and regional support from stakeholders such as industry, government, and relevant technical institutions.

The current members of ICFA include ABRAFE (Brazil), CSM (Chinese Society for Metals – China), IFPEO (Europe, including Scandinavia), IFAPA (India), JFA (Japan), TFA (North America), FAPA (South Africa), and invited attendees include Russia, Kazakhstan, and the Ukraine.

INFACON has been held on 12 occasions in the following countries and locations:

- ▶ Brazil (1) in 1986 in Rio de Janeiro by ABRAFE
- ▶ Canada (1) in 2001 in Québec City by the TFA
- ▶ China (1) in 1998 in Beijing by the CSM
- ▶ Finland (1) in 2010 in Helsinki by Outotec

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- ▶ India (1) in 2007 in New Delhi (IFAPA)
- ▶ Japan (1) in 1983 Tokyo by the JFA
- ▶ Norway (1) in 1995 in Trondheim by SINTEF
- ▶ South Africa (3) in 1974, 1992, and 2004 in Johannesburg (1), Cape Town (2) by FAPA, Mintek, and the SAIMM
- ▶ Switzerland (1) in 1980 in Lausanne by IFPEO
- ▶ USA (1) in New Orleans in 1989 by the TFA

INFACON contributes to the exchange of research and development information by publishing refereed papers covering the major and minor ferroalloys. Participants include universities and technical colleges, research and development organizations, suppliers of services, engineering and equipment and the industry, who have contributed to this wealth of knowledge since INFACON was founded in 1974.

INFACON XIII was awarded to Kazakhstan during INFACON XII at the ICFA meeting in Helsinki held in June 2010.

The host organization for INFACON XIII is the Chemistry and Metallurgy Institute based in Karaganda, Republic of Kazakhstan. Professor Manat Tolymbekov is the Chairman and Mr Sergey Kim the Congress Secretary. The Organizing Committee for INFACON XIII has been formed and is following the lead of INFACON XII in establishing an Extended Technical Programme Committee with participation from previous INFACON organizers and stakeholders including ICFA. Outotec has already provided valuable assistance to the INFACON XIII Organizing Committee

The SAIMM is the custodian of the INFACON Bursary Fund, which contributes primarily to postgraduate research and development in the field of ferroalloys. The Fund was established from the surplus generated from the previous INFACON XI Congress in South Africa. Contact the SAIMM directly for further details.

INFACON XIII Contacts:  
 INFACON XII Organizing Committee  
 Professor Manat Tolymbekov  
 Congress Chairman  
 Mr Sergey Kim  
 Congress Secretary  
 Chemistry and Metallurgy Institute (CMI)  
 63 Ermekov str., 100009, Karaganda,  
 Republic of Kazakhstan  
 phone/fax: +7 7212 433161  
 infacon13@mail.ru  
 sergeykim@inbox.ru  
 hmiscience@mail.ru,

ICFA Contacts:  
 Mr Tom Curr  
 Secretary General  
 ICFA c/o Mintek  
 Tom.Curr@mintek.co.za

Dr Nic Barcza  
 Chairman  
 ICFA  
 nicb@mintek.co.za

### 7.3 SAMREC/SAMVAL

M.F. O'Brien, Chairman

Meetings of the Main SSC Committee were held in June and November 2010 and March 2011. Minutes of the meetings may be found on the SSC website (<http://www.samcode.co.za>).

The revised CRIRSCO set of standard definitions to be considered in updates and revisions of the various National Reporting Organisations (NROs) was received and reviewed. Revision of the JORC (AusIMM) and NI43-101 (Canada) standards are reaching finality, so it is anticipated that a

revision of the SAMREC Code will be due in 2012. The SAMVAL Code is intended to be reinvigorated with a dedicated task team under the SAMREC/SAMVAL Working Group. A response by the SSC to the Committee of European Securities Regulators (CESR) proposed amendments to CESR's recommendations for the consistent implementation of the European Commission's Regulation on Prospectuses regarding mineral companies was submitted by the SSC in June 2010.

Mike O'Brien is moving overseas with effect from end-June 2011, and the role of Chairperson of the SSC has been passed to Ed Swindell (BHP Billiton and Council Member of the GSSA).

Ongoing activity:

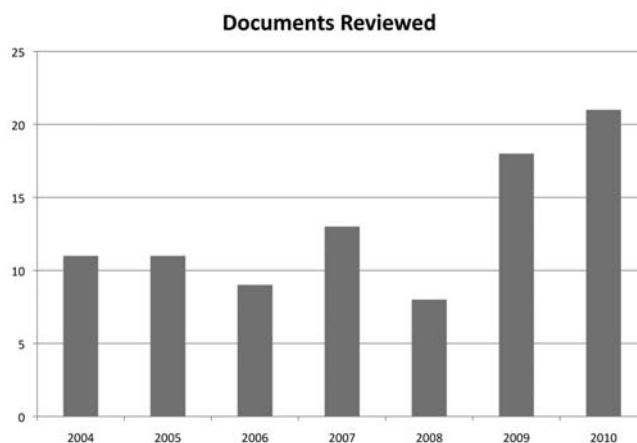
- ▶ Marketing and Education (The codes need to maintain their visibility in the industry)
  - Conference presentations should be used as an opportunity to place the codes in the limelight (ongoing in any case)
  - More education of government organs (DMR particularly), would be beneficial in the light that application of government regulation, and especially where it impacts on security of tenure, are critical modifying factors for Mineral Reserve definition.
- ▶ Challenges:
  - Managing perceptions that some members of the Working Groups are driving their own agendas
  - Maintaining interest in internationally accepted Mineral Resource and Reserve Reporting Codes in a local industry beset with critical governance and tenure issues.

### SAMREC/SAMVAL working group

Dr Alastair Moyes has taken the reins as Chairperson of the Working Group. An issues paper on 'Reporting standard and format of mineral reserves' was developed and will be useful for the next revision of the codes.

### The JSE/SSC readers panel

This panel reviews Competent Person Reports submitted to the JSE for compliance with the Listing Rules (incorporating requirements from the SAMREC and SAMVAL Codes). Changes to the mandate of the Panel have been proposed by the JSE and these proposals are to be reviewed by the Readers Panel and

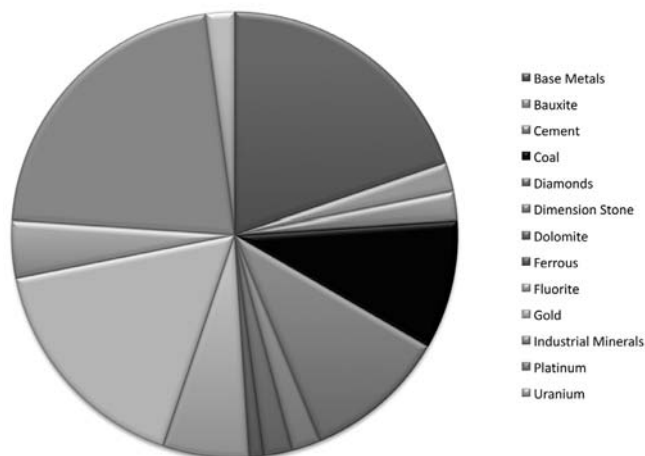


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the SSC. While compliance with the minimum public reporting standards described in the codes is important, there is some debate about the level of technical scrutiny that should be applied to CPRs to reduce the risk of providing misleading information to the investment community.

Review of mineral company documents by the Readers Panel has increased significantly since the 2008 crash.

96 documents reviewed, 2004-2011



| Commodity           | %    |
|---------------------|------|
| Base Metals         | 19.6 |
| Bauxite             | 2.1  |
| Cement              | 2.1  |
| Coal                | 9.3  |
| Diamonds            | 10.3 |
| Dimension Stone     | 2.1  |
| Dolomite            | 2.1  |
| Ferrous             | 1.0  |
| Fluorite            | 6.2  |
| Gold                | 16.5 |
| Industrial Minerals | 4.1  |
| Platinum            | 21.6 |
| Uranium             | 2.1  |

## 8. Management and administration

### Portfolio Holder: G.V.R. Landman

The Secretariat consists of:

Miss Julie Dixon (Manager)  
 Mr Alf Bettoni (Accountant)  
 Mrs Mirelle Cain-Mtshali (Switchboard/Receptionist)  
 Miss Edith Dube (Journal and Subscriptions Co-ordinator)  
 Miss Caron Lance (Junior Conference Co-ordinator)  
 Miss Portia Malatji (Accounts Assistant)  
 Mrs Zuliakha Malgas (DTP Operator)  
 Miss Nazli Mamdoo (Publications Co-ordinator)  
 Miss Kelly Matthee (Assistant to the Institute Manager)  
 Mrs Ginette Oliver (Membership and Subscriptions Supervisor)  
 Mrs Anna Panana (Conference Assistant)

Mrs Apathia Sello (Administration Clerk)  
 Miss Keabetswe Shumba (Membership Assistant)  
 Mr Raymond van der Berg (Conference Co-ordinator)  
 Mrs Dawn van der Walt (DTP Supervisor)  
 Mrs Jacqui van der Westhuizen (Head of Conferencing)  
 The SAIMM, office bearers, and Council record their appreciation to the above for their service.

## 8.1 Finance

J.L. Porter, Honorary Treasurer

While writing this year's financial report I found it all too easy to get lost in the business of analysing the numbers; trying to anticipate questions, identifying trends, looking for risks. But the real story behind these numbers is actually all about people: the SAIMM staff, your Council, our sponsors, and in particular our members. It is a story that I am delighted to be able to tell because we all like a good success story and it is a real credit to all those in the cast.

So, once upon a time in a treasurer's office far far away ...

The 2010 to 2011 financial year saw a number of performance records set in the key areas of:

- ▶ Total assets: R27 106 868 (up 33%)
- ▶ Total reserves: R25 077 818 (up 32%)
- ▶ Total revenue: R21 062 185 (up 112%)
- ▶ Income from conferences: R 17 713 742 (up 185%)
- ▶ Cost of sales: R13 723 262 (up 67%)
- ▶ Operating expenses: R4 823 471 (up 204%)
- ▶ Operating surplus: R2 515 452 (up 2 704%)
- ▶ Total surplus: R5 900 497 (up 130%).

This record financial performance of the SAIMM in the year under review is the result of key decisions made cumulatively in recent years. These decisions have been about investments: investment in the quality of our conferences and publications, investment in recruiting and developing our staff, investment in expanding our membership footprint throughout Southern Africa, and decisions about how to make our excess of income over expenditure work for the Institute. Therefore, considered and well implemented decisions by your elected Council Members have built, over several years, a momentum of consistent financial results.

I would like to make some further comments of explanation to the abovementioned key results:

The balance sheet shows that non-current assets rose by an impressive 52% to R18 790 094 (R12 368 945) with current assets increasing marginally to R8 316 774 (R7 981 978). Growth is largely as a result of our investment activities growing by 54% to R18 017 773 (R11 701 438). It is worthwhile noting that the total investment growth of R 6 313 335 is made up of:

- ▶ Fair value adjustment (42.2%)
- ▶ New investments (54.0%)
- ▶ Other (3.8%).

The 32% jump in reserves is attributable to the increase in accumulated surplus from the operating activities as the reserves held in the various SAIMM funds (R4 191 930) have remained static, with the exception of earned interest of R180 514.

## Annual report

Turning to the Income Statement (as at 30 June 2011), we can report that total revenue rose to R21 062 185, the highest turnover in our history and driven by several large and successful conferences. It is of some concern that revenue from our Company Affiliates has fallen by 47%, but some of this is offset by a 16% increase in revenue from new members. However, Company Affiliate organizations are a cornerstone of the SAIMM and this will require investigation.

Cost of sales has increased substantially due, in large part, to additional spending on the larger conferences and capacity to manage the workload. I am sure that you will agree that the increase in CoS of 67% is justified against the 185% growth in conference revenues. In addition, operating expenditure or overheads has increased in order to build the capacity to handle the additional workload. For example, of particular note is the fact that staff and Office Bearers now need to allocate time for travelling to support and mentor the newly established Regional Branches.

The net result is a surplus of R5 900 497 in comparison to the previous years' R2 564 365.

In my view there are three areas that require specific commendation.

Firstly, the performance of our Technical Programme Committees. Through the efforts of the Conference organizers we saw a 26% increase in the physical number of delegates attending our conferences, which translated into a 30% rise in revenues from all conference activities.

Secondly, strict credit control management. The professional manner in which our Conferencing and Membership Departments now manage the collection of payments due by delegates, sponsors, and members has impacted positively on cash flow. The value of unpaid debtors older than 60 days is at an all-time low of just 3% of the total invoiced value. Ladies and Gentlemen—this is an excellent business!

Thirdly, the hard work that has gone in to restructuring our financial discipline and management. This has had a considerably positive impact on cash flow, and has enabled us to make more frequent contributions to our investment fund to the extent of R3 412 384 for the year.

As I mentioned at the beginning, it is the activities of people in their various roles that have written this year's story. The enthusiasm of members in the new Regional Branches, the dedication of our hard working staff, and the time given by our Council members and Branch organizations. It is unfortunate that these accolades for our staff are only recognized once a year at the AGM.

At this point I think that it is prudent to caution our members that the performance of last year is not likely to be repeated. The reasons are that there are not as many large events in the year ahead, and also it is very unlikely that we will see a repeat of the growth in our investment portfolio. Of course the SAIMM is a non-profit organization; our purpose is not to grow a balance sheet. Having said that, it has been a very clear objective of the Institute for several years to build its investments and cash reserves to the point where we have a very secure and stable future. It is now time to consider how we can make these resources work for the Institute and its membership in alignment with our Constitution.

Thank you to Alf Bettoni, our accountant; Robert Kitching, our auditor; Julie Dixon, our Manager, and all of the wonderful cast in this story for assisting me in my first year as your Treasurer. It is a great honour for me and lastly thanks again to John Cruise, the master storyteller ... I have a long way to go.

### New Members

#### Fellows

J. De Bruin, S. Harrison, C.I.A. John, C.G. Knobbs, M.D. MacFarlane

#### Members

B. Adebayo, D.I. Adebisi, M.J. Andrews, N. Andrews, M. Aziz, N. Bagirathi, I.N. Bamusi, P. Batsotsi, L.S. Bbosa, D. Bester, N.T. Beukes, M.J.P. Bierman, Z. Borowitz, A.A. Brown, A.J. Bukanga, D.J. Burger, T. Chagonda, I.T. Chalale, T.O. Chengu, O. Chihota, T.M. Chisanga, N.I. Chliakova, C.F. Christmas, I.C. Claassen, R.F. Coelho, K.C. Corin, D.A. Cowen, D.J. Crafford, J. Dandadzi, J. de Kock, S. Deb Roy, A.M. Deiss, E.G. De Villiers, C. du Plessis, S.C. du Plessis, D.A. Elder, B. Elezaj, P.A. Escorcio, L.B. Fengu, P.D. Finney, R.H. Gamatham, G. Ganizani, E. Garcia, G. Gips, P.A. Gonggang, P.D. Haken, J. Hamuyuni, R. Hayes, W. Hefer, M.B. Hobbs, E. Hove, R. Ilgner, J.M.C. Itlhobogeng, H. Jacobs, P.W. Jordaan, K. Kabaah, T. Kadakure, T.E. Kanyimo, A. Karigani, M. Karonga, K. Kereke, I.E. Kitchin, T.N. Kotze, V. Kurup, J.I. Kwofie, G.P. Labuschagne, S.A.B. Laubscher, P.J.K. Leeuw, A.E. Lewis, A. Lubbe, K.T. Luden, S.B. Madolo, A. Madzhia, V. Mahwire, P. Man'ombe, M.R. Masakona, N. Mavhunga, K.D. Meiring, C. Mhlanga, N. Midzi, D.P. Mitchell, M. Miya, E.N. Mkhize, E. Mnisi, R.T. Moalosi, S.M. Modiselle, J.W. Molokoane, M. Mostert, O.T. Mothibi, M. Motuku, N.C. Mouton, D. Muchena, T.R. Muganyi, L.L. Muller, J.G. Murgatroyd, H.S. Mutamba, P. Naidoo, M.N. Ndlala, B.M. Ndlovu, L.M. Ntondini, A.R. Nundlall, H.T. Nyamagodo, V. Nyamondo, S.C. Nyoni, A. O'Callaghan, S. Opoku, C. Pogisho, J.J. Prinsloo, S. Reid, S.K. Robotom, T. Rogers, B. Ruzive, I. Rwatirera, T. Samanga, S.W. Sebokedi, P.I. Segatto, A. Shemi, D. Sibanda, A. Sithole, M. Sithole, V. Sithole, J.D. Slabbert, S. Slabbert, K.K. Smith, J. Smuts, A.A. Strydom, A. Supriyanto, C.D. Swanepoel, S.R. Takavingei, G. Takundwa, R.M. Tayelor, J.C. Terblanche, R.C. Thomas, M.T.D. van de Steen, M.M. van den Bosch, J.V. van Rooyen, H.P. van Staden, T.A. van Zyl, B. Vorster, E.J. Walls, J. Waters, J. Van Breda, D.P. van den Berg, J.F. van Graan.

#### Associates

C. Acheampong, G.T. Achmat, J.R. Adapa, H.K. Anyolo, M.S. Babusi, B.J. Bane, M. Becker, W.M. Bester, D.S.P. Bille, Z. Buthelezi, C.S. Bwalya, N.M. Chalibbulaca, D. Chamunorwa, E. Chanda, P. Charingira, N. Chembe, S. Chidziya, H.M. Chikashi, Y. Chikonkolo, C.E. Chikuka, W. Chileshe, I. Chiluba, P. Chimbodza, P. Chishaya, K.D. Chitaukire, J. Cunningham, B. Daka, N. Dawson, E.L. De Beer, J.F. Du Toit, G.C. Edwards, A. Enslin, C.C. Enslin, T.J. Faber, J.M. Felix, J.D. Fourie, M.T. Frans, J.P. Gous, T. Gowera, R. Green, M. Gumbie, T. Guveya, K.T. Hamadziripi, E. Hamman, G. Harper, A.M. Harris, P.S. Hlabela, P. Iyambo, B. Jacobs,

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S.R. James, Y. Janse van Rensburg, C. Jansen van Vuuren, M.B. Kabandama, M. Kabwe, S.P. Kadhila-Amoomo, R. Kahn, T. Kale, M. Kalenga, S. Kalombo, J. Kasonde, S. Katena, L.C. Kayuni, M.J. Khoase, T.M. Khumalo, I.M.-B. Kime, Q. Kleinhans, J. Kruger, R. Lahee, W.J. Laing, A.K. Lal, T. Legau, R.C. Lubaine, M.P. Mabelane, W.V. Madzimure, S. Magomo, J.S. Mahlaba, S. Makhubela, C.M.L. Makobe, J. Makotsi, A.D. Makurumidze, L. Malindi, R. Malogwa, K. Mandanji, A. Mandeya, A.T. Manuwa, J.A. Maritz, P. Masimira, B.D. Masisi, M. Matimba, A. Matongera, E.N. Matsau, N. Mavimbela, J.P. Mayungo, A. Mboma, R.A. Meyer, G. Michalakis, M.W. Molepo, T.R.P. Molepo, P.W.A. Moller, M.R.B. Mounde, J.P. Mubita, E. Mugova, M. Mulela, P. Mulenga, S.K.M. Mulenga, J. Muller, K.M. Mushonga, T. Mutezo, T. Mwanza, R. Mweemba, A. Narain, S. Ndlovu, T.M. Nemavhola, H. Netshifhire, A. Neveling, C. Ngulube, N.T. Nkosi, W. Nyamachi, M. Nyamhuga, F. Ochonogor, C. O'Keefe, E. Oosthuyzen, O.P. Oshokoya, A. Pandey, F.C. Passarelli, M. Penny, J.M. Phiri, D. Rakometsi, L.S. Ramane, A. Reid, M. Richter, P.P. Sambo, C.C. Shonongo, T.T. Shumba, N. Siamwiza, M.K. Sichone, R. Sigwadhi, N.N. Simunika, R.K. Sinha, N.I. Siseho, J.J. Smith, M.B. Songo, J.L.G. Stoop, J.J. Talja, P. Tembo, P.deH. Theunissen, M.R. Tirivabaya, M. Toure, K. Tshimanga, M.B. Twala, D. van Heerden, V. van Schalkwyk, A.L. van Wyk, J.-C. van Zyl, T.E. Vere, B.F. Viriri, A.K. Williams, R.P. Zindoga, N. Ziphethe, L. Zulu, T.N.L. Zwane, H.N. Abraham, P.H. F. Bouwer, P. De Bruin, J. Du Plessis, H.P. Jansen van Vuuren, N.J. Kobe, P.J. Lotter, N.I. Nhlengethwa, E.L. Seome.

### Students

F. Abbasy, D.M. Angus, H. Baco, S. Behbahani, C. Bhodayi, T. Bokaba, H.D.O. Brodner, L. Chipise, K.P. Chulo, G.C. Coetzee, A. De Pretto, B.P. Dibetso, B.P.G. Dikotsi, . Dladla, P.W. Du Plessis, S. Fani, T. Gangen, S.A. Ghoreishi Madiseh, E. Govender, K.A. Jephthah, N. Joka, C.M. Kabwe, P. Katakwa, V.E. Katjatenja, A.H. Kebe, M. Kermani, S.J. Kgakoa, D.M. Kharibe, N.P. Khoza, E.L.J. Kleynhans, D.N. Kubyana, T. Kwenane, S.B. Langa, S.N. Lebogo, T.D. Lekalakala, P.S.J. Lubelo, R.J. Madilola, D. Madzivha, J. Mahlangu, M.V. Mahlauli, V. Mafemani, M.L. Makhaye, S.B. Malete, S.M. Maluleka, K.K. Mampe, L.R. Manganye, C. Masinamela, L. Masuba, S. Mayisela, M. Mbulawa, J. Mishra, I.S. Mnisi, T.G. Molefi, E. Molobi, F.M. Molokomme, B.E. Moloto, K. Monageng, B.R. Montshiwa, T.N. Mosepele, O. Mosikare, O. Mosime, M.S. Motlhabane, N.M. Mthimunye, F.K. Mulenga, M.P. Ndaba, S.E. Ndlovu, O.M. Ndou, S.C. Ngwenya, L.N. Nkoane, N.J. Nkogatse, B. Obadele, A.K.B. Opitz, B.I. Persens, W.L. Petersen, K. Phala, K.E. Phukubye, W.E. Poole, P.A.N. Qaku, J. Radebe, J. Radingwana, T. Ramahali, C.T. Raseala, L.S. Ratau, M.C. Ratshefola, M.C. Seema, T.S. Sekhaolelo, L. Sentso, M.M. Shabalala, V.N. Tawane, V.B. Teffo, T. Tholana, P.B. Thotse, C.K. Thubakgale, V.N. Tikwayo, F.M. Tjia, L.A. Tsime, F.D.L. Uahengo, S. van Rheede, A. Zarassi, P.J. Zeelie, M.V. Zimu, F.Y. Zitha, L. Zombene.

### Company Affiliates

Air Products SA (Pty) Ltd, Caledonia Mining Corporation, Elbroc Mining Products (Pty) Ltd, Modular Mining Systems Africa, Nalco Africa (Pty) Ltd, Roymec Technologies, Sedgman South Africa, Thyssen Krupp, Trucking & Engineering.

### Resignations

#### Fellows

F.B.J.M. Burks, T.O. Hagan, G.A.J. Jordaan, F.W. Kluckow, D.M. Pheiffer, A.J.S. Spearing.

#### Honorary Fellows

N. Segal.

#### Retired Fellows

D.H. Deacon, G.A. Fourie, K.A. Van Gessel.

#### Members

H.J. Holl, L.J. Meyer, L.A. Nienaber, P.M. North, J.L. Osborne, P.A. Rossouw, J.A. Shuttleworth, J.D.S. Vieler, C.A. Walker.

#### Retired Members

I.F. Buchan, A. Granville.

#### Associates

W. Ahmed, M. Antoniadis, E.R. Aylmer, A. Barnard, H. Bester, N. Burger, M. Coetzer, S.G. Dawe, G.I. du Randt, G.J. Grobler, E.S. Irvia, A.P. Klein, A.S. La Grange, S.V. Langa, J.G. Le Roux, T. Lessard, M.L. Makgaka, A. Mandeya, P. Mashimane, S.P. Mnisi, E.L. Moolman (nee du Toit), S.J. Moribame, M.R.B. Mounde, O.O. Oyekola, N.B. Parag, J.J.J.P. Pretorius, T. Punzul, A. Robberts, G.V. Rorke, A.L. Segoe, N. Sewdayal, S. Sewdayal, M.D. Sigama, M.J. Sole, H. van der Walt, F.E. van Jaarsveld, G.L. van Rooyen, M.J.U.T. Van Wijngaarden, D.R.O. Venter, T.E. Waterston, J.A.S. Woolfe.

#### Students

F.B. Ameer, J. Barnard, J.J. Bezuidenhout, E. Dadoo, Q. Fakir, H. Froneman, B.D. Human, K. Kabezya, P.G. Kekana, S. Kekana, H.W. Kleinmans, J.W. Knight, J. Krzyzanowska, G.R. Lakey, M.C. Lamola, D.S. Le Roux, K.I. Lebelo, K. Lerumo, T.B.L. Letsogo, T.R. Mabebe, E.P. Magogodi, S. Makaka, A.F. Makhese, K.T. Maubane, F.F. Mbhungele, S.B. Mbonani, K.M. Mkgwe, L.B. Mmesi, L.M. Moagi, L. Modise, D.K. Moteme, K. Munsamy, F.K. Munyai, R. Nedone, O. Netshifamadi, M. Osman, L. Pearce, J.C. Phehla, N.W. Phumo, J.A. Potgieter, J.C. Radebe, T. Rademeyer, K. Ramakuwela, P. Ramjee, T.R. Richards, M.N. Roomanay, P. Scheepers, R.M. Teffo, M. Thanwane, R. Thothela, T. van den Berg, P.J. van den Heever, F. van der Merwe, H.J. van Niekerk, R. van Wyngaard, K. Zwane.

#### Company Affiliates

Ausenco Securities (Pty) Ltd, Engineering & Project Company Ltd, Grinaker-LTA Civil Engineering, Johannesburg Water, Sable Data Works (Pty) Ltd.

#### Members transferred to Higher Grade

#### Transfer from Member to Fellow

B.K. Belle, M. Chilambe, R.G. Dimitrakopoulos, S.R. Flatman, C.R. Fredericks, M.N. Glasspool, S. Ilhan, C.I.A. John, G.J. Jonck, J.D. Whillier.

#### Transfer from Associate to Fellow

J.C.G. Baker, K.L. Bright.

## Annual report

### *Transfer from Associate to Member*

C. Bedesi, M.J.P. Bierman, I.S. Bornman, M.M. Brown, B.J. Bruwer, W.W. De Graaf, S.Y. Eshun, E.C. Luyke, O. Matlala, W.N. Meijer, V.L. Nkuna, I.T. Nyamukondiwa, G. Nyawo, I.O. Ogunniyi, M.G.L. Ramashilabele, N.R. Rhodes, T.C. Sebutsoe.

### *Transfer from Student to Associate*

T. Hoyi.

### *Automatic transfer to Associate*

J. Bernitz, P. Chabalala, G. Crawley, E.H. De Vos, Z.M. Dire, B.W. Dladla, C.H. Du Buisson, M.W. Erwee, R. Escherich, T.H. Hattingh, A.J. Jacobs, S. Kamlana, O.R. Kelehetswe, N.G. Khoza, M.P. Khumalo, T.E. Kosana, J.J. Kroon, A.J. Kruger, D.J. Kruger, T. Kuriwa, S.V. Langa, D.C. Lebopa, C.M. Leburu, L.F. Lekoba, T.D. Lekoko, P. Letsie, J.M. Letsoalo, L.L. Lijojo, M.O. Links, P.D.M. Lourens, M.M. Mabasa, M.L. Mabitsela, N.S. Mabunda, R.S. Mabuza, S. Madondo, R. Mafiri, S.P. Magwaza, A.P. Mahlangu, V.A. Maimela, P.J. Maisha, B.A. Makaka, M.W. Makamu, G.M. Makatong, M.I. Makola, M. Mangere, V.N.L. Manyathi, T. Marcus, T.A. Martins, L. Mashele, M.T. Moloto, S.L. Nkomo, M.E. Ramfolo, W.H. Taylor, K.G. Tshilombo, T. Chikosha, D. Dempers, M. Janse van Rensburg, I. Magagula, .D. Makgala, M.N. Makhonjwa, M.P. Maloma, T.V. Mangope, K. Masehlela, L.A. Maseko, M.G. Masesane, N.F. Mashinini, N.D. Mashitisho, D.M. Matlou, B.J. Mavuso, S.V. Mkhathshwa, M.P. Mmofele, S.M. Mogopa, M.L. Mohatli, M.M. Mohutsiwa, M.P. Mojapelo, L.F. Mokgantshang, L.M. Mokgethi, T.D. Mokoena, J. Monama, R.I. Montshonyane, M.S. Monyemangene, E. Moodley, O.D. Mosetlhe, R.S. Mosimanyana, M.R. Mothiba, N.J. Mothibe, I.B. Motshwaedi, B. Msikisi, M. Mtsoeni, R. Mudogwa, K.G. Musisinyani, J. Naude, S.N. Ndiweni, T. Netshirando, A.B. Ngobese, B.P. Ngubeni, S. Nhleko, A.T. Nkolele, N.A. Nkosi, S.M. Nkosi, S. Nortje, T. Ntlwana, S. Nxele - Mntambo, S.W.S. Nxumalo, S. Nyirenda, D.N. Nyungu, J. Oosthuizen, O.O. Oyekola, N.N. Phahlamohlaka, N.A. Phala, M. Phetoe, N.E. Pheza, H.J. Pretorius, J.A. Rabe, I.C. Rabeng, T.I. Radebe, L.J. Ramashala, O. Ramogotsi, R. Rampersadh, N.T. Ratshitaka, M.A. Ratshoshi, U. Rau, A.I. Ruiters, I.K. Segatlhe, N. Segatlhe, A.L. Segoe, E.B. Sekgokong, L. Seshibe, I. Sibisi, N. Simelane, T. Singh, L.N.S. Sithole, P.V. Sithole, W. Steinberg, S. Swanepoel, J.T. Tebele, M.L. Tseka, K. Ubisi, A.A. van den Berg, M. van den Berg, D. van der Merwe, M.P. van Rooyen, D.J. van Wyk, R.L. Williams, A.M. Radingwane, A.L. Shabalala, L.C. Smith, A.Z. Van der Westhuizen, L.J. Otto, R. Baloyi, T.N. Buthelezi, A.P. De Beer, R.P. Makola, M.P. Maloma, T. Moyo, T. Ndlovu, T.E. Nyabela, P.T. Pabwe, A.O. Prinsloo, A. Rabumbulu, M. Kgomo, E.S. Links, Z. Mabalabala, M.B. Magakwe, S. Mahlangu, N.W. Makgobelele, N.P. Makhwathana, V. Malele, K.A. Moagi, K. Mokoena, T. Molokwane, R.B. Mposi, K.E. Segoe, O.N. Mpyatona, S. Mtombeni, S. Mtshakaza, A. Muller, A. Naude, M. Ngobo, J. Nhiwatiwa, R. Niehaus, K. Ntsoane,

S.T. Ntumba, D. Nyabadza, K. Phage, M.N. Phasha, C.L. Phillips, S.J.R. Rapelego, P.A. Sejake, V.I. Shikwambana.

### *Transfer from Retired Fellow to Fellow*

F.M.G. Egerton.

### *Members who retired*

#### *Fellows*

A.B. Addison, G.F. Balderson, J.J. Coetzee, D.R. Davis, I.P. Douglas, W.F. Heinz, J.S. Hope, P.J.D. Lloyd, P.G.P. Mrkusic, M.A. Patterson, J.L. Pretorius, M.P. Sterne.

#### *Members*

H.J. Greeff, W.A. Hustrulid, E.H.O. Meyer, L.C. Stilwell Pr Eng.

#### *Deceased*

#### *Honorary Life Fellows*

S.P. Botha, J.K.E. Douglas, C.S. Macphail.

#### *Fellows*

A.R. Dykes, J.W. Oberholzer.

#### *Retired Fellows*

J.R.F. Handley, P.J. Ryan, H.A.G. Slater, P.J. Van der Walt, C.J. Van Niekerk.

#### *Retired Members*

J.L. Alderton, A.E. Hall, W.H. Stheeman, D.W. Stofberg.

#### *Members*

S.B. Chantler, J.M.A. Geldenhuis, S.J.J. van Heerden.

#### *Life Fellow*

E.H.D. Carman.

### *Members who were reinstated*

#### *Reinstated as a Member*

C.P. Brits, B.J. Bruwer, C. Chibwana, E.R. Klue, C.J. Lourens, S.M. O. Matlala, K. Mekani, M. Mungazi, A.J. Murdoch-Eaton, W. Mvula, T.C. Sebutsoe, G.S. Simate, S.N. Surujhlal.

#### *Reinstated as Associates*

M.W. Arthur, M. Coetzee, A.N. Helberg, S. Heukelman, M.R.C. Kevane, H. Kotze (Du Plooy), N. Maseko, T.M. Miya, K. Mohanlal, M.R.B. Mounde.

#### *Reinstated as a Fellow*

K.K.J.C. Kabongo, R.H.A. Plaistowe, P.R. Thorburn.

#### *Reinstated as Company Affiliate*

BASF Holdings SA (Pty) Ltd, BKS (Pty) Ltd, Precious Metals Refiners. ♦