

Annual Report and Accounts

FOR THE YEAR ENDED 30th JUNE, 1984

Council and Standing Committees — 1983/84

President: Prof. R.P. King

Vice Presidents: J.D. Austin and H.E. James

Honorary Treasurer: Prof. D.G. Krige

Immediate Past President: Prof A.N. Brown

Members of Council: B.C. Alberts, Prof. S. Budavari, N.J. Devine, Dr C.J. Fauconnier, P.T. Fewell, C.E. Fivaz, J.S. Freer, Prof. G.G. Garrett, J.J. Geldenhuys, Dr A.K. Haines, Dr B.K. Loveday, G. Pienaar, B.E. Protheroe, Dr O.K.H. Steffen, G.C. Thompson, Dr H. Wagner, Dr P.T. Wedepohl

Chairman, Witbank/Middelburg Branch: H.C. van Zyl

Chairman, Orange Free State/Klerksdorp Branch: D.A. Parfitt

Past Presidents Serving on Council: Dr M.G. Atmore, Dr J.P. Hugo, Dr P.R. Jochens, Prof. R.P. Plewman, G.Y. Nisbet, Dr R.E. Robinson, Prof. M.D.G. Salamon, P.W.J. van Rensburg, D.A. Viljoen, P.A. von Wielligh

Standing Committee Chairmen: Adjudication, Prof. A.N. Brown; Awards, Prof. A.N. Brown; Banquets, J.S. Freer; Constitution, Rules and Policy, Prof. A.N. Brown; Excursions, J.S. Freer; Journal, H.E. James; Membership, H.E. James; Phoenix National Committee, Dr M.G. Atmore; SAIMM School – Extractive Metallurgy, Dr A.K. Haines; SAIMM School – Mining, Dr H. Wagner; Special Publications, J.D. Austin; Technical Programme – Extractive Metallurgy, Dr B.K. Loveday; Technical Programme – Mining, G.C. Thompson; Technical Programme – Physical Metallurgy, G. Pienaar; Training, Career Guidance and Education, Dr M.G. Atmore; World Mining Congress – National Committee, Prof. R.P. Plewman; Working Group Physical Metallurgy, Prof. G.G. Garrett

Representatives on Other Bodies

AS&TS Controlling Executive

Representatives: Prof. R.P. King and Prof. A.N. Brown

Alternates: J.D. Austin and H.E. James

Federation of Societies of Professional Engineers (FSPE)

Executive Committee Member: Prof. R.P. Plewman (alternate Prof. A.N. Brown)

Board: Representative Mining, Prof. R.P. Plewman (alternate Prof. A.N. Brown)

Representative Metallurgy, D.A. Viljoen (alternate H.E. James)

Publicity Committee Representative: Dr A.K. Haines

Education Committee Representative: G. Pienaar

South African Council for Professional Engineers (SACPE)

Representative Mining: G.C. Thompson (alternate P.N. Harris)

Representative Metallurgy: D.A. Viljoen (alternate Dr P.R. Jochens)

Liaison Committee Members: Dr H. Wagner (Mining), Prof. C.W.P. Finn (Metallurgy)

PAC Metallurgy Members: D.A. Viljoen (alternate Dr P.R. Jochens,) Prof. G.T. van Rooyen (alternate J.C. Mostert), Dr J.P. Hugo (alternate Dr B.K. Loveday), V.C. Ward (alternate N. Sutherland), Dr A.K. Haines (alternate H.E. James)

PAC Mining Members: G.C. Thompson (alternate Prof. D.G. Krige), G.P. Badenhorst (alternate V.C. Barnes), Prof. M.D.G. Salamon (alternate J.J. Geldenhuys), Prof. R.P. Plewman (alternate Prof. A.N. Brown), P.N. Harris (alternate Dr C.J. Fauconnier)

South African Committee of Tunnelling (SANCOT)

Representative: Dr H. Wagner (alternate P.T. Fewell)

Environmental Planning Professionals Interdisciplinary Committee (EPPIC)

Representative: J.S. Freer (alternate Dr B.K. Loveday)

Affiliation of Societies Representing Engineering Technicians (ASRET)

Representative: Dr J. Lurie (alternate D.A. Viljoen)

Finance

The Institute showed a net surplus for the year of R43 000 after transferring R10 000 to the Education Fund.

The total cost of operating the Institute again increased. As in the past, the major contributing item was the secretarial fees, which at R103 000 showed an increase of R13 000 (14½ per cent) for the year. On the credit side there were surpluses on the SAIMM Schools and Colloquia and on Special Publications of R49 000 and R35 000 respectively.

Membership fees were increased for 1984/85 but at rates well below the inflation rate.

The Education, Brigadier Stokes, and MacArthur-Forrest funds stood at R188 000 (R171 000 in 1983), R46 000 (R41 000 in 1983), and R35 000 (R30 000 in 1983) respectively at the end of June 1984. These levels will ensure the continuation of the relevant activities on a sound basis.

The Institute's long-term investments and liquid funds continue to be handled on a satisfactory basis by Syfrets Trust.

Brigadier Stokes Memorial Award

The Brigadier Stokes Memorial Award, which takes the form of a platinum medal and a cash award, 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 first four recipients were

1980 Mr H.F. Oppenheimer

1981 Dr W. Bleloch

1982 Dr F.G. Hill

1983 Dr A.E. Whillier (posthumously).

The award for 1984 is to be made to Professor D.G.

Krige for a profound and far-reaching contribution to the South African mining industry.

Gold and Silver Medals

Papers published in the *Journal* From March 1983 to February 1984 by members of the Institute are eligible for these medals. The following authors are to receive these awards.

Gold Medal: No award

Silver Medals: A.R. Barnes and C.W.P. Finn for the paper 'The prereduction and smelting of chromite concentrate of low chromium-to-iron ratio', written jointly with S.H. Algie, who is not a member of the Institute and will be awarded a Certificate of Merit.

A.M. Starfield for the paper 'A new method for the computation of heat and moisture transfer in a partly wet airway', written jointly with A.L. Bleloch, who is not a member of the Institute and will be awarded a Certificate of Merit.

Student Prizes

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

Mining

G. Elliott, University of the Witwatersrand: 'An investigation into the feasibility of extraction of pillars using longwall techniques'.

L.D. Boshoff, University of Pretoria: 'Plasing van ertsglybane by 'n subvlakmyn'.

Physical Metallurgy

M.J.U.T. van Wijngaarden, University of Pretoria: 'Elektrochemiese ondersoek van die korrosiekarakteristieke van 3CR12'.

P.G.H. Pistorius, University of Pretoria: 'n Onderzoek na die meganisme waardeur dendritiese grafiet in 'n Ni-hard-wit gietyster vorm'.

Extractive Metallurgy

No award.

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

The prize winners were as follows.

University of the Witwatersrand

Prestige Prize	Mining	N.C. Hellman
	Metallurgy	J.J.L.R. Cilliers
Book Prize	Mining	C. van der Wath
	Metallurgy	P.D. Hicks

University of Pretoria

Prestige Prize	Mining	H.J. Laas
	Metallurgy	M.J.U.T. van Wijngaarden
Book Prize	Mining	L.M. Bredell
	Metallurgy	G.H. Veldtman

Technikon Student Prizes

The Institute's Prestige Prizes in Mining and Metallurgy were presented to the following students:

Mining	R. Hart
Metallurgy	R. Gush

The presentations were made by Mr J.D. Austin at a private luncheon held at the Hotel School, Braamfontein.

Membership Committee

Chairman: H.E. James

During the year, 13 Fellows, 33 Members, 10 Associate Members, 22 Associates, 28 Graduates, and 52 Students were elected; 5 Companies operating in South Africa in the mining or metallurgical field applied for Company Affiliate membership and were elected.

The following transfers were effected during the year:

From Member to Fellow	5
From Associate Member to Fellow	Nil
From Associate To Fellow	Nil
From Associate to Member	2
From Associate to Associate Member	2
From Graduate to Fellow	1
From Graduate to Member	11
From Student to Member	8
From Student to Associate	5
From Student to Graduate	8

Other changes include the following: 29 Fellows, 4 Members, and 3 Associates were elected to retired membership status; 1 Student was reinstated; resignations were received from 5 Retired Fellows, 5 Fellows, 6 Members, 5 Associates, 1 Graduate, and 3 Students; 1 Company Affiliate resigned.

A comparative statement of membership at 30th June, 1984, and at the end of the previous year is shown in the following table:

	June 1983	June 1984
Honorary Life Fellows	23	23
Honorary Fellows	9	9
Life Fellows	78	73
Fellows	670	666
Members	626	660
Associate Members	52	64
Associates	314	329
Graduates	122	141
Students	423	438
Company Affiliates	96	100

The rates of subscriptions were increased to the following amounts:

Fellows	R46
Members	R41
Associate Members	R41
Associates	R41
Graduates	R27
Company Affiliates	R300

There was no change in the subscription rates for Student and Retired Members.

The entrance fees have been increased as follows:

Fellows	R25
Members	R25

Associate Members	R20
Associates	R20
Graduates	R 5
Students	Nil
Company Affiliates	Nil

Journal Committee

Chairman: H.E. James

The following papers, notes, and feature articles were published in volume 83, numbers 7 to 11/12 and volume 84, numbers 1 to 6 of the *Journal of The South African Institute of Mining and Metallurgy*.

July 1983

The presinking of Harmony No. 4 shaft by use of the Matla headgear, by I.M. Preston

Surface and underground drilling techniques used in exploration drilling, by B.A. Dukas and H.C. Morkel

Spotlight on mining and metallurgical developments in the O.F.S., by P.N. Harris

August 1983

The recovery of gold from plant effluent by the use of activated carbon, by R.J. Davidson and B. Strong

Theories of ball wear and the results of a marked-ball test in ball mining, by L.A. Vermeulen, D.D. Howat, and C.L.M. Gough

September 1983

Proceedings of the Annual General Meeting, 17th August, 1983

Annual Report and accounts for the year ended 30th June, 1983

Presidential address by Prof. R.P. King: A university and an industry — the relationship between Wits and the South African metallurgical industry

October 1983

The balancing of a centrifugal mill, by A.A. Bradley, P.J.D. Lloyd, and K.H. Stanton

An operational review of the belt-filtration plant at Chemwes Limited, by J.L. Taylor

Problems encountered during the commissioning of the carbon-in-pulp plant at Beisa Mine, by A.P.W. Briggs

November/December 1983

The disposal of mine tailings: the real cost of excess water in residues, by J.A. Wates

A new method for the computation of heat and moisture transfer in a partly wet airway, by A.M. Starfield and A.L. Bleloch

The improved flotation of gold from the residues of Orange Free State ores, by P.A.J. Cabassi, B.K. Loveday, P.H. Radcliffe, and M.J. Wilkinson

January 1984

The abatement of pollution from abandoned gold-residue dams, by G.E. Blight and J.A. Caldwell

The optimization of raise-connection spacing in gold mines, by D.R. Lawrence

High-strength cold-rolled steels, by B.J. Parry

Spotlight on materials handling in open-pit mines, by B.C. Alberts

February 1984

The design and scale-up of a new flotation cell, by P.J.D. Lloyd, A.L. Hinde, and D. Hebden

The Furry Caterpillar: a new technique in the managerial control of gold mines, by M. Splaine, S.J. Browner, and M.A. Field

The absorption of gold cyanide onto activated carbon. I. The kinetics of absorption from pulps, by M.J. Nicol, C.A. Fleming, and G. Cromberge

Spotlight on the section of mining systems and methods, by D.R. Lawrence

March 1984

The performance of an industrial wet high-intensity magnetic separator for the recovery of gold and uranium, by I.J. Corrans, W.A. Gilbert, K.S. Liddell, and R.C. Dunne

The recovery of apatite from the hydro-separator overflow of copper tailings, by J.G. Goodey and G.J. van der Linde

The absorption of gold cyanide onto activated carbon. II. Application of the kinetic model to multistage absorption circuits, by M.J. Nicol, C.A. Fleming, and G. Cromberge

Spotlight on flotation, by J.S. Freer

April 1984

The absorption of gold cyanide onto activated carbon. III. Factors influencing the rate of loading and the equilibrium capacity, by M.J. Nicol and C.A. Fleming

Torn-corner defect in billets rolled from continuously cast blooms, by L.W. Helle and W.E. Smith

The production of high-strength low-alloy steels in the hot-rolled condition, by E.H. van Niekerk

Discussion: Support in shallow mines using horizontally reinforced systems, by M.D.G. Salamon

Spotlight on HSLA steels, by G. Pienaar

May 1984

The extraction of gold from cyanide solutions by strong- and weak-base resins, by C.A. Fleming and G. Cromberge

Vanadium in structural steels, by A.M. Sage

Uneconomic production of gold in South Africa, by H.L. Monro

Discussion: Uneconomic production of gold in South Africa, by D.G. Krige

Author's reply: Uneconomic production of gold in South Africa, by H.L. Monro

Spotlight on the visit to Sasol Two and Three, by J.S. Freer

June 1984

Intensive cyanidation for the recovery of coarse gold, by R.F. Dewhirst, S.P. Moulton, and J.A. Coetzee

The effect of consumer specifications on the planning and operation of a coal mine, by N.T. Halgreen

Developments in copper flotation at Black Mountain, by T.R. Twidle

Discussion: Uneconomic production of gold in South Africa, by D.M. Hawkins, P.J. Nieuwenhuizen, B.K. Martus, and B.G. Kingsman

Author's reply: Uneconomic production of gold in South Africa, by H.L. Monro

During the period under review 28 papers were published: 9 related to mining, 13 to extractive metallurgy, and 6 to physical metallurgy. The high technical standard of the past was maintained, and the *Journal* continues to enjoy the reputation as the premier medium for the dissemination of technical information on new developments in the mining and metallurgical fields in South Africa. The publication of spotlight articles on colloquia, conferences, SAIMM schools, and technical excursions is now a regular feature, and has succeeded in broadening the *Journal's* appeal to a wider spectrum of Institute members.

The valuable efforts of the Programme Advisory Board, the panel of referees, and the editor, Dr Glen, are gratefully acknowledged. Miss Binstead, the Production Secretary, has improved the efficiency of administration of the *Journal* to the point where it is fully on schedule for the first time in many years, and deserves a special word of thanks.

Special Publications Committee

Chairman: J. D. Austin

This facet of the Institute's activities is really coming of age. There has been an encouraging increase in the number of sales of volumes from the Monograph and Symposium Series, together with a satisfactory increase in revenue. Sales to overseas purchasers are picking up, but further marketing effort is required to bring them to the planned levels. The latest monograph, No. 5 in the series and entitled 'Rock Mechanics in Mining Practice' edited by Professor S. Budavari, had a very successful year. A reprint of this volume will be brought out in August 1984.

No new titles were published during the year. The proceedings of the Symposium on Rockbursts and Seismicity in Mines, organized jointly by Sangorm and the Institute, will be published in the current year after many frustrating delays. It is planned that the proceedings of the Open Pit Conference, held in Pretoria, will be available later in 1984. This conference was organized jointly by the Mining Alumni Society of the University of Pretoria and the Institute.

A reciprocal marketing agreement has been signed with the Society of Mining Engineers in the United States. Under this agreement, members of the Institute may purchase SME publications at the SME member's price provided the order is placed through the Institute. The fluctuating value of the rand has caused delays in the implementation of this agreement. It is hoped that similar agreements will be signed with other sister societies overseas.

Better systems of control on costs, stocks, and debtors were successfully implemented in the past 18 months.

Agreement has been reached with the Chamber of Mines of South Africa in that they will open an Institute section in their reference library. It is intended that a copy of all the Institute publications, as well as all the books sent to the Institute for review, will be kept in this section for use by members of the Institute and the public through the inter-library loan scheme.

Training, Career Guidance and Education Committee

Chairman: Dr M. G. Atmore

During the year, the Committee gave support to a

number of existing activities, and the efforts being made by university departments of mining and metallurgy to attract increasing numbers of students is being closely monitored. In this connection, on a broader basis, fruitful discussions have also been held with FSPE.

In order to assist both universities and potential students, a bursary guide, indicating areas where support for undergraduate studies can be found, as well as other useful background information, is being compiled.

The Phoenix Programme continues in the educational area to bring to the notice of secondary school pupils and guidance staff information on the industry. It continues to receive enthusiastic support from the sponsors, and this is gratefully acknowledged. During the year, the Institute was invited by Delfos and Atlas Copco to assist in the selection of suitable candidates for generous technical visits, which they are to offer annually to outstanding young mining and metallurgy graduates and managers. The first grants were awarded during the year.

It was with regret that we heard of the death of Professor Marston Fleming during the year. He had been a good friend of the Institute for many years, and, in recognition of this, a contribution was made towards the Marston Fleming Memorial Bursary Fund, which is being established at Imperial College, London.

Technical Programme Committee — Extractive Metallurgy

Chairman: Dr B. K. Loveday

Over 200 delegates attended the SAIMM Colloquium on Flotation, which was held at Mintek on 22nd September, 1983. It was a full-day colloquium, with papers on the flotation of pyrite and gold, coal, base-metal sulphides, and apatite. Papers on cell design and reagent testing were also presented. A lively discussion was stimulated, and a number of the papers have subsequently been published in the *Journal*.

In view of MINTEK 50, no SAIMM colloquium was held in the first half of 1984.

Technical Programme Committee — Mining

Chairman: G. C. Thompson

A very successful one-day colloquium on 'The Selection of Mining Systems and Methods' was held at Mintek on 21st September, 1983. Ten papers were presented to an audience of 215 delegates.

Nine papers have been arranged for presentation at a half-day colloquium to be held on 19th September, 1984, during the week of the Electra Mining Exhibition.

Arrangements are already well in hand for a one-day colloquium on environmental control in underground workings that is to be held at Mintek on 8th May, 1985, as well as for a two-day colloquium entitled 'Recent Mining and Metallurgical Developments in the Eastern Transvaal', which is to be held at Witbank on 4th and 5th September, 1985. The latter colloquium is being arranged jointly by the Witbank/Middelburg Branch of the Institute and the three Technical Programme Committees.

Two colloquia envisaged for 1986, Johannesburg's centenary year, are planned to deal respectively with the topics of the history of mining on the Witwatersrand (May 1986)

and deep-level mining (September 1986, in conjunction with the Electra Mining Exhibition).

Technical Programme Committee — Physical Metallurgy

Chairman: G. Pienaar

The main activities of this Committee are to organize colloquia and evening meetings. During evening meetings, prominent physical metallurgists (including overseas visitors) are invited to present lectures on technical and professional matters of interest to physical metallurgists. Evening meetings can also take the form of panel discussions and debates. As approved by Council, all these events are advertised as joint SAIMM-IOM (SA Region) events.

A colloquium on 'High-strength Low-alloy Steels' was held on 27th October, 1983, at the Vaal Triangle Technikon. The colloquium was regarded by delegates as very successful, and was attended by some 170 persons. During the year, five evening meetings were arranged at different venues in the Johannesburg–Pretoria region. Judged from the good attendance figures of up to 45, it seems that these events fill an important communication need for physical metallurgists.

With the interests of physical metallurgists now well-established in this Institute, members of this Committee are confident that practitioners of this branch of the profession have finally found an acceptable home in SAIMM. With some exciting events on the programme, another successful and satisfying new term is eagerly awaited.

SAIMM School Committee — Mining

Chairman: Dr H. Wagner

The Committee organized two successful schools on 'Rock Mechanics for Mine Management'. These schools were attended by 180 delegates. The school was based on a rock mechanics school held by the Institute in 1976, but with emphasis on the management aspects of rock mechanics. Parallel case studies dealing with specific rock mechanics aspects of base-metal, coal, and gold mining were held. These case studies were very well received and contributed to the success of the two schools.

Arrangements for the 1985 school on 'Mine Planning' are well advanced. A technical sub-committee comprising senior members from all major mining houses has been set up. As with most of the more recent schools, the programme for this school will be divided between lectures and case studies.

SAIMM School Committee — Extractive Metallurgy

Chairman: Dr A.K. Haines

The Committee organized a successful school entitled 'Measurement, Process Control and Optimization in the Minerals Industry'.

The school was aimed at metallurgists in operations and in design, and at control engineers, and comprised lectures and case studies ranging from advances in measurement techniques to multivariable control. Visits were made to two operating plants where sophisticated computer data-acquisition and control systems have been implemented.

SAIMM Working Group on Physical Metallurgy

Chairman: Prof. G.G. Garrett

During the year, negotiations for the collaborative merger between the SAIMM and the Institution of Metallurgists (SA Region) were concluded and formally accepted by both Councils. In terms of the Agreement, all technical activities of the IOM in South Africa will be transferred to the responsibility of the SAIMM. The IOM will, in turn, be represented on appropriate SAIMM committees.

A number of successful evening presentations, including a debate, were held in recent months, and these will be an ongoing feature. The organizational structure and planning for future events in physical metallurgy have now been firmly established. These will include conferences and vacation schools for younger metallurgists.

Witbank/Middelburg Branch

Chairman: H.C. van Zyl

This Branch of the Institute has been active for sixteen years. According to the attendance register, the first meeting was held on 20th June, 1968. It was a general meeting at which 33 people were present, among whom were Messrs Dick Smith, Bob Canny, Alex Bain, Brian Hosking, and Tony Melville.

The general meetings and other activities of the past have lived up to the desires of the first President of our Institute, Mr William Bettel, when he said in his inaugural address on 19th May, 1894: 'It will be our endeavour to promote good fellowship amongst members and by social intercourse, interchange of ideas and research, aided by the formation of a library, secure means to keep abreast of scientific progress in other parts of the world'.

Not only have we had good fellowship and exchange of ideas at our general meetings, but our plans are well underway for yet another colloquium in September 1985, which will add to the library of information that is so vital to our industry.

The good attendance at our visit in February to Highveld Steel was proof of our members' keenness to see the art and science of mining and metallurgy being practised in such a successful way. Our general meeting in May at Douglas Colliery gave us insight into the planning and operation of our water resources by the Directorate of Water Affairs. Members agreed that Theo van Robbroeck, the Managing Engineer in charge of planning of the Department, gave us a most interesting presentation.

Finally, thanks are extended to the members of the committee for their support and enthusiasm, and good wishes to the new Chairman, Mr Bill Mather, and the incoming committee in the important work they have ahead of them.

Orange Free State/Klerksdorp Branch

Chairman: D.A. Parfitt

At the Annual General Meeting held on 24th August, 1983, no nominations were received, and the Committee, all being available for re-election, were duly elected.

During the period under review the Committee was as follows:

Chairman	D.A. Parfitt
Vice Chairman	Dr M.A. Orridge
Committee Members	K.F.W. Bick
	H.N.W. Eschenburg
	K. de H. Opperman
	K.A. van Gessel
	P.H. Radcliffe
	R.H. Tourle (Hon. Secretary).

Mr N.J. Devine, a Council Member, was co-opted onto the Committee but was, unfortunately, transferred from Welkom.

Two General Meetings are held annually. The first was held on 29th February, 1984, at the Western Holdings Mine Canteen, where the guest speaker was D.G.C. Claassens of the Department of Environmental Affairs. Mr Claassens delivered a most interesting and informative address on the water situation in the Republic and on plans for the future.

The second General Meeting was held on 13th June, 1984, in the Unicorn Club, and Unisel Gold Mines were the hosts. Professor Pienaar presented a talk on 'Body Language'.

The Annual General Meeting and the General Meeting were well attended.

On 26th and 27th April, 1984, 27 members of the Branch flew to Phalaborwa, where they visited the Palabora Mining Company and the Phosphate Development Corporation. It was a most interesting, informative, and pleasant visit enjoyed by all. The trip included a 4-hour trip into the Kruger National Park.

The membership at the end of the 1982/83 year was 192 members.

No expenses were incurred by the Branch during the year, and no banking account is operated by the Branch.

The lack of support given to the Branch by the Klerksdorp members has been an area of concern for some time. To date no Klerksdorp member has attended any of the General Meetings or visits organized by the Branch. The last occasion anyone from Klerksdorp was present was at the Annual General Meeting held in 1982, when Mr T. Espach proposed that the Klerksdorp area should form their own branch. The possibility of establishing a branch in Klerksdorp will be investigated.

Associated Scientific and Technical Societies of South Africa (AS&TS)

The following Office Bearers were elected for the year 1984/85:

President	Dr H.I. Schwartz
Senior Vice President	A.W. Reynolds
Junior Vice President	Dr R.O. Perry
Immediate Past President	L.W.P. van den Bosch
Honorary Treasurer	Dr P.J.D. Lloyd.

The computerization programme for the records of the AS&TS and its constituent societies is a long-term exercise and has progressed satisfactorily. Data capture has been completed, an addressor is now functional, and membership accounting is progressing.

During the year, the AS&TS assumed responsibility for

the publication of the *SA Journal of Science* with continued financial support of the CSIR and Bureau of Scientific Publications. The arrangements will run for a trial period of two years, during which time the content will be adjusted and circulation extended.

Considerable attention has been directed towards the establishment of a Science and Technology Centre, but the most suitable location has not yet been decided on. Developments at a site at Crown Mines to the south of Johannesburg might be particularly suitable. One of the advantages would be the full use of the Conference Centre and other facilities to be established by the State. This could alleviate the difficulties that many societies experience with the present facilities at Kelvin House.

The Federation of Societies of Professional Engineers (FSPE)

SAIMM Representatives: Prof. A.N. Brown, Prof. R.P. Plewman, D.A. Viljoen, H.E. James

A number of important developments took place during the year, being under the Presidency of Dr Bobbie Boshoff. On 1st February, a conference was held to decide on the future organization of the profession. All Institutes were represented by senior office bearers and members of the council. The outcome of this conference remains to be finalized, but there was unanimous support for the continuation of a federal type of organization and for an increase in the effectiveness of the federation by augmentation of staff.

An approach was made to the Minister concerned for engineering representation on the Universities and Technikon's Advisory Council. In the event, this was only partially successful.

Reservation of engineering work was vigorously supported by FSPE, but no final solution has been found, and the problem is to be raised anew with SACPE, now that an extension of time before finalization has been agreed to.

There is increasing concern in FSPE about the problems of Black engineering students, and increased attention has been paid to finding employment and vacation employment for these students. Full support is now being given to the Engineering Careers and Education Project (ECEP), and representatives of the Board of Control have been appointed to the Executive Committee of ECEP.

An essay competition was held for schools, the subject being 'Engineering and the Environment'. A considerable number of meritorious essays were received and adjudicated.

A very successful symposium on the same subject was arranged for Environment Day. Some 300 participants attended the symposium and the subsequent cheese-and-wine party.

It was arranged that FSPE should write to each final-year engineering student to urge him or her to join the appropriate Institute, and to explain Institute and FSPE functions.

The Goldfields/FSPE prize for undergraduate papers was established. The prize for the winning paper is R3000, and all the finalists are brought to Johannesburg to present their papers for final judging.

A Quo Vadis committee was appointed to examine the aims of the Professional Engineers Act, and to evaluate the extent to which these have been realized, and assess what now needs to be done.

During 1977, Sir Monty Finniston was appointed by the United Kingdom Government to head a commission of enquiry into the engineering profession. His findings, which were made public in 1979, drew attention to a marked lowering of engineering standards in the U.K. At a recent conference in Cologne in Germany, he referred to the low standards of engineering education and training in UNESCO countries, and suggested that representatives of the engineering profession would be well advised to take note of what has been achieved by the South African Council for Professional Engineers.

South African National Committee on Tunnelling (SANCOT)

SAIMM Representative: Dr H. Wagner

As in previous years, the highlight of the SANCOT calendar was a one-day seminar on 'Methods and Machines in Underground Construction'. This seminar was attended by 140 delegates.

Through eight working groups, the Committee continued its work on the standardization of tunnels, an assessment of tunnelling research needs in South Africa, contractual practices, health and safety in tunnelling, seismic effects on underground structures, a catalogue of tunnelling works, a review of the existing tunnelling legislation in South Africa, and pipe jacking. Work on the tunnelling legislation was completed. The working group on health and safety submitted to the International Tunnelling Association a final document on 'Guidelines for Good Tunneling Practice'. This document was adopted by the ITA.

Environmental Planning Professions Interdisciplinary Committee (EPPIC)

SAIMM Representative: J.S. Freer

EPPIC has published 'Philosophical and Procedural Guidelines on Environmental Impact Control', and urges their adoption by policy makers and their implementation by planners within industry.

Meetings of the Central Committee of EPPIC are held on a quarterly basis. Important topics under discussion include promotion of the Guidelines, environmental education, the role of ecologists, and legislation affecting the environment.

The South African Council for Professional Engineers (SACPE)

SAIMM Representatives: D.A. Viljoen, G.C. Thompson

Various proposals and counter-proposals relating to the reservation of work for professional engineers originating from SACPE, FSPE, and the societies came up for consideration during the year. It was realized that reservation of the title, and not the work, would introduce grave difficulties, and would not ensure an adequate level of protection for the public. After much agonizing, it has been generally accepted that the regulations promulgated at the time of

the Act still provide the best approach to the reservation of work component of the Professional Engineers Act.

The consolidation of the Act, planned for 1984, which includes redrafting to provide more power for the Council, thereby reducing the work load of the minister administering the Act, has been delayed until 1985.

It was decided to periodically provide FSPE and the institutes with up-to-date lists of approved training programmes so that the information can be published in journals and annual reports.

- A special sub-committee will investigate and report on
- (1) improving control over the training of engineers-in-training,
 - (2) the possibility of setting a compulsory minimum period for an applicant to be registered as an engineer-in-training,
 - (3) the possibility of compelling employers to draw up and implement acceptable training programmes.

Application for the establishment of a Board of Control for Professional Technologists (Engineering) has reached an advanced stage. Their proposed regulations, amended and accepted by the Executive Committee, have been submitted to the Department of Community Development.

Regulations relating to the application for a Board of Control for Certificated Engineers and Mine Managers are being dealt with.

The Education Advisory Committee has proposed that a committee representing employers of graduate engineers should be set up to look into ways and means of subventing salaries of university engineering staff. The favoured scheme would provide bonuses in recognition of performance, rather than general subvention for all faculty members.

SACPE representatives visited several university engineering departments for the purpose of determining the acceptability of curricula and standards of training and education.

The present and anticipated future shortage of engineers led the President and Education Advisory Committee to provide guidelines that would, in the longer term, attract more women and Blacks into the profession.

Banquets and Excursions Committee

Chairman: J.S. Freer

Despite the success of last year's banquet, it was decided that it should not be an annual event, and it was therefore omitted from the 1984 calendar.

Excursions to Sasol II and III on 25th November, 1983, and to the Premier Diamond Mine at Cullinan on 8th June, 1984, were very well supported by members, and proved to be most interesting, instructive, and enjoyable. The visitors are grateful to the hosts for their hospitality. More details of the visits are given in Spotlight articles in the Institute's *Journal*.

A social function was arranged on Sunday, 18th March, 1984, for Councillors and their families at the Lipizzaner Centre at Kyalami. After watching the well co-ordinated display of horses, those present were able to enjoy the facilities at the Centre for a relaxing braaivleis.

Interim Committee for the Registration of Engineering Technicians (ICRET)/Affiliation of Societies Representing Engineering Technicians (ASRET)

SAIMM Representative: Dr J. Lurie

ICRET

Regulations for establishing the Board of Control for the Registration of Engineering Technicians were published in the Government Gazette of the 8th July, 1983.

The inaugural meeting of the Board of Control was opened by the Honourable P. Cronje, Deputy Minister of Community Development, on 4th November, 1983.

Having fulfilled its mandate with the establishment of the Board, ICRET was dissolved at a function on the 28th March, 1984.

ASRET

ASRET has continued with its task of representing the interests of engineering technicians and disseminating information. An information brochure on technician registration for general consumption was prepared and disseminated.

Member societies numbered 19 at the end of the year. It appears that some 685 technicians in mining and metallurgy are registrable. These comprise 446 in mining and 239 in metallurgy. Unfortunately, these are not all members of the SAIMM.

South African Association for Registrable Engineering Technologists (SAARET)

SAIMM Representative: Dr J. Lurie

Regulations for the establishment of a Board of Control were finalized, and it is anticipated that these will be published and promulgated in the latter part of 1984. Registrable technologists will, according to the proposed regulations, be registered as 'Professional Technologists (Engineering)'.

Membership of SAARET attained a figure of 1112 by the end of February 1984. (SAARET is an association of individuals, in contrast to ASRET, which is an affiliation of societies.)

Non-metallic minerals

The Yugoslav Union of Engineers and Technicians, Miners, Geologists and Metallurgists, in co-operation with Industrial Minerals (part of the Metal Bulletin Journals Ltd of London and New York), is organizing the World Congress on Non-metallic Minerals, which is to be held in Belgrade from 15th to 19th April, 1985.

The purpose of the Congress is to gather experts from all over the world with the aim of exchanging experience. The Congress will enable scientific, professional, and technical co-operation of the countries in the field of exploration, preparation, processing, and application of non-metallic raw materials.

The themes of the Congress are:

- Geological Exploration
- Mining Exploitation

- Mineral Processing
- Technological Processing
- Utilization and Consumption
- Marketing.

Field excursions have been organized for the Congress participants. Yugoslavia exploits over 30 non-metallic minerals. The most important are magnesite, barytes, quartz sand, kaolin, asbestos, feldspar, mica, dolomite, and lime.

The languages of the Congress are English, Russian, and Serbo-Croatian.

Further details are available from Svetski Kongres O Nemetaličnim Mineralnim, Sirovinama, Sava Centar, 11070 Beograd, Yugoslavia. Telex 12042 Yu Savcen, Tel (011) 138-912.