

## Publications

\* The following is available free of charge from the Bismuth Institute, rue Bréderode 9, B-1000 Brussels, Belgium:

*The chemical analysis of bismuth* by R. S. Young. 12 pp.

\* The following are available from The Welding Institute, Abington Hall, Cambridge CB1 6AL, England:

*Automatic methods of guiding welding heads along butt joints*, by N. S. L'Vov. Moscow, Mashinostroenie Press, 1966. Translated by The Welding Institute, 1975. 228 pp. £12.

*Investigations into lamellar tearing*, by The Welding Institute. 1975. 217 pp. (2 volumes). £30.

*A technical survey of seam tracking methods in welding*, by The Welding Institute. 1975. 124 pp. £25.

### \* Review

*Seawater corrosion handbook*, by M. Schumacher (editor). New Jersey, Noyes Data Corporation, 1979.

This book is concerned with the corrosion of metals, alloys, and non-metals in marine environments. It thus includes both total immersion conditions and atmospheric exposure.

Comprehensive data are available on the corrosion rates of most of the materials used in contact with sea water and marine atmospheres. This section is then followed by details of the effect of exposure at different ocean depths on the corrosion of ferrous, copper, nickel, and aluminium-base alloys, as well as stainless steels. An entire section is devoted to the deleterious effect of marine organisms — both the aerobic and anaerobic types.

Preceding the section on non-metallic materials is a detailed annotated bibliography on the corrosion of metals and alloys in sea water. This, however, appeared pre-

viously in 1972 in a paper by L. A. Beaubien. Papers reviewed in this section are devoted entirely to freely exposed metal surfaces, i.e. in the uncoated and unstressed condition.

A welcome inclusion in this book is a section on the behaviour of non-metallic materials under marine exposure conditions. This has certainly widened the spectrum of available materials for this type of service. Materials dealt with in this section include polymers, composites, ceramics, paper, and fabrics.

The *Seawater Corrosion Handbook* contains a wealth of data on the corrosion behaviour of materials in this particular environment. The research reported has been of an empirical, rather than scientific, nature. The book will certainly prove a valuable reference source for those concerned with marine engineering and related activities.

F.P.A.R.

### \* New journal

February 1979 marked the appearance of a new monthly journal, *Lloyd's Shipping Economist*. It gives comprehensive global market information based on the international shipping information that exists in the vast databanks of Lloyd's of London Press and Lloyd's Register. The annual subscription is \$290. For further information, contact The Circulation Manager, Lloyd's of London Press Ltd, Sheepen Place, Colchester CO3 3LP, England.

### \* New edition

*Gasification of coal, a basic study of existing processes and new developments*, by H. D. Schilling, B. Bonn, and U. Krauss (edited by W. Peters). Essen (West Germany), Verlag Glückauf GMBH, 1979. 2nd revised edition. 336 pp. 68DM (approximately R32). In German.

---

## South African technikons

The six autonomous colleges for advanced technical education in South Africa were established in terms of the Advanced Technical Education Act (Act 40 of 1967). However, since the inception of these colleges, it has become clear that members of the public find the name difficult to use and to remember. Consequently, these colleges, which play such an important role in the community, were not always correctly identified.

For some time the Association of Colleges for Advanced Technical Education sought a name that was short but indicative of the function of the colleges. At the same time, current developments abroad, especially in the Western World, had to be taken into consideration, because the new name had to be internationally recognizable and acceptable. The bilingual requirements in South Africa had also to be taken into account, and it was realized that a name with the same spelling and/or pronunciation in English and Afrikaans would be an advantage.

If possible, a name consisting of one word — as in the case of *university* — that would describe the functions, identity, and status of the institutions had to be found. Unanimity was finally reached among the respective colleges and the Department of National Education. The word *technikon* was decided upon. The word is derived from the Greek word *tekhne* (pertaining to art), as are words such as *technology*, *technocracy*, and *technical*.

There are six technikons in South Africa, which are governed by the Advanced Technical Education Act. They are fully fledged tertiary-level institutions, offering career-orientated courses at post-matriculation level. The Advanced Technical Education Amendment Act of 1979 (Act 50 of 1979), which was recently approved by both houses of Parliament, makes provision for the new name and decrees that the six institutions shall officially be known as: Cape Technikon, Port Elizabeth Technikon, Pretoria Technikon, Vaal Triangle Technikon, and Witwatersrand Technikon.

---

## Company Affiliates

The following members have been admitted to the Institute as Company Affiliates.

African Explosives & Chemical Industries Ltd.  
Afrox/Dowson & Dobson Ltd.  
Airco Engineering (Pty.) Limited.  
Amalgamated Collieries of S.A. Ltd.  
Apex Mines Limited.  
Associated Manganese Mines of S.A. Ltd.  
Blackwood Hodge (S.A.) (Pty.) Ltd.  
Blyvooruitzicht Gold Mining Co. Ltd.  
Boart International Limited.  
Bracken Mines Ltd.  
Buffelsfontein Gold Mining Co. Ltd.  
Compair S.A. (Pty.) Limited.  
Consolidated Murchison (Tvl.) Goldfields & Development Co. Ltd.  
Deelkraal Gold Mining Co. Ltd.  
Delfos & Atlas Copco (Pty.) Ltd.  
Doornfontein Gold Mining Co. Ltd.  
Durban Roodepoort Deep Ltd.  
East Driefontein Gold Mining Co. Ltd.  
East Rand Proprietary Mines Limited.  
Eimco (Pty.) Limited.  
Engineering Management Services (Pty.) Ltd.  
Envirotech (Pty.) Ltd.  
Free State Saaiplaas Gold Mining Co. Limited.  
Gardner-Denver Company Africa (Pty.) Ltd.  
Gold Fields of South Africa Limited.

The Griqualand Exploration & Finance Co. Ltd.  
The Grootvlei (Pty.) Mines Ltd.  
Harmony Gold Mining Co. Ltd.  
Hartebeesfontein Gold Mining Co. Ltd.  
H.L. & H. Mining (Pty.) Ltd.  
Highveld Steel & Vanadium Corp. Ltd.  
Hubert Davies Construction (Pty.) Ltd.  
Hubert Davies Heavy Equipment (Pty.) Ltd.  
Impala Platinum Limited.  
Ingersoll Rand Company S.A. (Pty.) Ltd.  
Johannesburg Consolidated Investment.  
Kinross Mines Limited.  
Kloof Gold Mining Co. Ltd.  
Lenning Holdings Limited.  
Leslie Gold Mines Limited.  
Libanon Gold Mining Co. Ltd.  
Lonrho South Africa Limited.  
Lorraine Gold Mines Ltd.  
Marievale Consolidated Mines Limited.  
Matthey Rustenburg Refiners (Rustenburg) (Pty.) Ltd.  
The Messina (Tvl.) Development Co. Ltd.  
Mitchell Cotts Projects S.A. (Pty.) Ltd.  
Montan Chemicals (Pty.) Ltd.  
Natal Cambrian Collieries Limited.  
The Northern Lime Co. Ltd.  
O'Kiep Copper Co. Ltd.  
Palabora Mining Co. Ltd.  
Photometric Sorters.  
President Steyn Gold Mining Co. Ltd.  
Pretoria Portland Cement Co. Ltd.

Prieska Copper Mines (Pty.) Limited.  
Rand Mines Limited.  
The Randfontein Estates Gold Mining Company Witwatersrand Ltd.  
Rooiberg Minerals Development Co. Ltd.  
The Robbins Co. (Africa) (Pty.) Ltd.  
Rustenburg Platinum Mines Ltd. — Union Section.  
Rustenburg Platinum Mines Ltd. — Rustenburg Section.  
Shaft Sinkers (Pty.) Ltd.  
S.A. Cyanamid (Pty.) Ltd.  
R. J. Spargo Limited.  
St. Helena Gold Mines Limited.  
Shell South Africa (Pty.) Ltd.  
Steel Engineering Co. Ltd.  
Stilfontein Gold Mining Co. Ltd.  
T. H. Mining Supplies (Pty.) Ltd.  
Transvaal Consolidated Land & Exploration Co.  
Trans-Natal Coal Corporation Limited.  
Tsumeb Corp. Limited.  
Union Corporation Limited.  
Vaal-Reefs Exploration & Mining Co. Ltd.  
Venterspost Gold Mining Co. Ltd.  
Vergenoeg Mining Co. (Pty.) Ltd.  
Welkom Gold Mining Co. Ltd.  
West Driefontein Gold Mining Co. Ltd.  
Western Areas Gold Mining Co. Ltd.  
Western Deep Levels Ltd.  
Western Holdings Limited.  
Winkelhaak Mines Limited.

---

## Die forging

The 9th International Conference on Die Forging will be held from Monday, 4th to Saturday 9th May, 1981, in Düsseldorf, Federal Republic of Germany. It is being organized jointly by the Forging Committee of the Verein Deutscher Eisenhüttenleute and the Vereinigung Deutscher Freiformschmiedern.

The contributed papers will be grouped into four topics to cover all the aspects of die-forging technology.

The lecture section of the Conference will run over two days, and two further days will be devoted to plant visits.

Enquiries should be directed to Die Geschäftsführung, Verein Deutscher Eisenhüttenleute, Geschäftsräume Breite Strasse 27, Drahtanschrift, Stahleisen, Düsseldorf, West Germany.

## High-temperature alloys

An International Conference on the Behaviour of High Temperature Alloys in Aggressive Environments will be held in Petten (North-Holland) from 15th to 18th October, 1979.

The conference will have four technical sessions. The sessions will consist of keynote papers plus research and development papers presented by the authors.

Topics to be covered include:

- *Industrial applications* — papers from materials-using industries, describing major requirements in terms of properties and indicating current and emerging problem areas.
- *High-temperature environmental attack* — papers

covering oxidation, carburization, complex corrosion, erosion.

- *Mechanical properties in service-related environments* — papers dealing with deformation, failure and property/environment interaction under static and dynamic conditions.
- In a *Round Table* session outstanding areas for material improvement, data needs, and scientific uncertainty, in addition to the future potentiality of advanced ceramics, will be discussed.

Further information is obtainable from Meeting Point Petten, JRC, Petten Establishment, P.O. Box 2, 1755 ZG Petten, The Netherlands.

## Strategic minerals

The *National symposium on the availability of strategic minerals*, which is being organized by the Institution of Mining and Metallurgy in collaboration with the Fellowship of Engineering, will be held at the London Press Centre, New Street Square, London EC4, on 20th and 21st November, 1979. The symposium has as its main objective consideration of those minerals that may pose problems of availability in the United Kingdom.

The symposium is designed to be an appropriate national sequel to two complementary conferences — *Material aspects of world energy needs*, sponsored by the National Academy of Engineering and held in Reston, Virginia, in March 1979, and *Future metal strategy*, organized by the Metals Society and held in London on 10th and 11th May, 1979 — the findings of which it will take fully into account.

Broadly based papers are being invited by the Organizing Committee for the *National symposium on the availability of strategic minerals* on the following topics: 'Definition of "strategic" minerals and the means currently available in the United Kingdom Government of identifying strategic sources and requirements', 'Economics of stockpiling', 'Problems faced by traders and consumers', 'A supplier's viewpoint' and 'Approaches

adopted by other countries'. Specific consideration will also be given to the future availability of the following: copper, nickel, cobalt, lead-zinc, precious metals and diamonds, tin and tungsten, chromium and molybdenum, and uranium.

Technical sessions, at which these topics will be presented and discussed, will be held on 20th November, 1979, and during the morning of the following day. During the afternoon of 21st November, 1979, rapporteurs will summarize the discussions at the technical sessions, initiate further debate and elaborate recommendations.

Summaries of the papers to be presented will be published in the symposium *Handbook*, copies of which will be distributed to registrants in October 1979. Selected papers, with discussion, will be published early in 1980.

Further information on the symposium and its associated events will be given in the *Second Circular/Registration form*, copies of which will be available from June 1979 from:

The Secretary, Institution of Mining and Metallurgy, 44 Portland Place, London W1N 4BR, to whom all preliminary enquiries should be addressed.

## Underwater mining

The 10th Annual Underwater Mining Institute is scheduled for 1st to 3rd October, 1979, at Galveston, Texas. The Institute will be cosponsored by the Sea Grant College Programs of the University of Wisconsin and Texas A & M University and by the Marine Science Institute of the University of Texas; it is being held in co-operation with the Association for Marine Mining.

Topics to be presented at the Institute will include such interests as

- Techniques for Locating Underwater Deposits
- Geochemistry and Marine Mineral Exploration
- New Prospects and New Discoveries
- Marine Minerals in the South Pacific

Metals — a Global Picture

Insurance, Liability and Dollars at Sea

Nodule Mining in the Pacific

Pre-mining Environmental Surveys

Processing Data — Marine Minerals Exploration

Opportunities for New Marine Minerals Programs

Generating Capital for Mining Ventures

Law of the Sea Revisited.

Further information is available from the Institute Co-ordinator, Dr Gregory D. Hedden, Sea Grant Advisory Services, University of Wisconsin, 1815 University Avenue, Madison, Wisconsin 53706 (608) 262 — 0644, U.S.A.

# DIE SUID-AFRIKAANSE INSTITUUT VIR MYNBOU EN METALLURGIE

## Inligting oor Lidmaatskap

Die Instituut is in 1894 gestig as die Chemiese en Metallurgiese Vereniging van Suid-Afrika. In 1904 is dit omvorm tot die Chemiese Metallurgiese en Mynbouvereniging van Suid-Afrika en in 1956 het dit die Suid-Afrikaanse Instituut vir Mynbou en Metallurgie geword.

Die Doelstellings van die Instituut is om die wetenskap en die praktyk van mynbou en metallurgie te bevorder, om kennis aangaande die mynbou en metallurgie uit te ruil en te boekstaaf en om 'n hoë beroepstandaard in gedrag en bekwaamheid te verseker.

Lidmaatskapvoorrede sluit in maandelikse uitgawes van die Joernaal van die Instituut, vergaderings en besprekingsgroepe, colloquia en simposiums waartydens referate gelewer word; besoeke aan myne en nywerheidsondernemings; vakansieskole wat gewoonlik deur oorsese 'kursusleiers' aangebied word; jaarlikse monografiepublikasies; en die gebruik van klubfasiliteite in Kelvinhuis. Tegnieese tydskrifte wat op 'n uitruil-basis ontvang word, is by die Johannesburgse Openbare Biblioteek tot lede se beskikking. Die huidige lidmaatskap van die Instituut is omtrent 2000.

Aansoeke van behoorlik gekwalifiseerde persone om lidmaatskap word aanvaar onderworpe aan die vereistes vir toelating tot die onderskeie lidmaatskapsgrade soos hieronder saamgevat.

**Lewenslange Eregeenote** moet persone wees vir wie die Instituut in die besonder wil vereer in vergoeding vir dienste wat gelewer is aan die Instituut, wetenskap of nywerheid. Die verkiesing geskied deur stemming en vereis die eenparige stem van die Raadslede teenwoordig.

**Eregeenote** moet persone van aansien in die staatsdiens, wetenskap of kunste wees, hulle word vir die huidige jaar gekies en geniet al die voorregte en regte van lede buiten dat hulle nie kan stem of ampte beklee nie.

**Genote** moet minstens 30 jaar oud wees, 'n universiteitsgraad in suiwer of toegepaste natuurwetenskap besit of aanvaarbare bewys aan die Raad lewer dat hulle aan 'n goedgekeurde universiteit of instelling wat die Raad van gelyke status ag, 'n gekoördineerde studiekursus van minstens vier jaar in suiwer of toegepaste natuurwetenskap met welslae afgelê het. Genote moes vir minstens vyf jaar in senior tegnieese hoedanighede by

erkende mynboukundige of metallurgiese ondernemings, of in Staats-, opvoedkundige of navorsingsorganisasies wat by die nywerheid betrokke is, werksaam gewees het of hulle moes minstens vyf jaar as raadgevers in die mynbou- of metallurgietegniek gepraktiseer het. Ten tye van hulle aansoek moet kandidate hul beroep beoefen. Die Raad moet tevrede wees dat die opleiding en tegnieese ondervinding van enige kandidaat wat as 'n raadgever praktiseer, sodanige professionele status regverdig.

Toetreegeld R10,00, Jaarlikse ledegeld R25,00.

Titelletters: F.S.A.I.M.M.

**Lede** moet minstens 25 jaar oud wees en in besit van 'n universiteitsgraad in suiwer of toegepaste natuurwetenskap of 'n gekoördineerde studiekursus van vier jaar in suiwer of toegepaste wetenskap of 'n honneursgraad aan 'n goedgekeurde universiteit of instelling van gelyke status, met welslae afgelê het. Hulle moes by 'n mynboukundige of metallurgiese nywerheid, of in Staats-, opvoedkundige of navorsingsorganisasies werk van goedgekeurde tegnieese aard gedoen het waarvan minstens twee jaar in 'n verantwoordelike hoedanigheid. Ten tye van sy aansoek moet 'n kandidaat sy beroep beoefen.

Toetreegeld R10,00, Jaarlikse ledegeld R23,00.

Titelletters: M.S.A.I.M.M.

**Assosiaatlede** moet minstens 30 jaar oud wees en moes minstens tien jaar 'n verantwoordelike pos beklee het in, of verbonde gewees het aan die mynboukundige of metallurgiese nywerheid of verwante professies, waarvan minstens vyf jaar in 'n senior tegnieese hoedanigheid in groot mynbou- of metallurgiese ondernemings, of in Staats-, opvoedkundige of navorsingsorganisasies wat by daardie nywerheid betrokke is.

Toetreegeld R10,00, Jaarlikse ledegeld R23,00.

**Assosiate** moet minstens 25 jaar oud wees en moes minstens drie jaar lank 'n verantwoordelike pos beklee het in, of verbonde gewees het aan, die mynboukundige of metallurgiese nywerheid. Indien die kandidaat vir toelating tot die hoër lidmaatskapsrang van Assosiaat ten tye van sy aansoek reeds 'n Studentelid is, moet hy die Raad slegs tevrede stel dat hy ten tye van sy aansoek 'n verantwoordelike betrekking in, of verwant aan,

die mynboukundige of metallurgiese nywerheid beklee. In alle gevalle moet die aansoekers die Raad oortuig dat hulle geskikte en bevoegde persone is om Assosiaatlede te word.

Toetreegeld R10,00, Jaarlikse ledegeld R23,00.

**Gegradueerdes** moet minstens 21 jaar oud wees en moet 'n graad in suiwer of toegepaste natuurwetenskap besit of aan 'n goedgekeurde universiteit of instelling van gelyke status 'n gekoördineerde studiekursus van minstens vier jaar in suiwer of toegepaste natuurwetenskap of 'n honneursgraad met welslae afgelê het en moet in diens wees van goedgekeurde mynboukundige of metallurgiese ondernemings of in Staats-, opvoedkundige of navorsingsorganisasies wat by daardie nywerhede betrokke is. Hulle kan nie sonder die toestemming van die Raad Gradueerde lede bly nadat hulle 30 jaar oud geword het nie of nadat hulle die vereiste kwalifikasies vir oorpasing behaal het nie.

Toetreegeld R2,50, Jaarlikse ledegeld R15,00.

**Studente** is persone wat minstens 18 jaar oud is en die soort opleiding deur die Raad goedgekeur, ondergaan, om hulle vir 'n tegnieese aanstelling in, of verbonde aan, die mynboukunde of metallurgiese nywerheid te bekwaam, en wat daareenens geen kwalifikasie vir 'n hoër lidmaatskapsrang besit nie. Hulle kan Studente bly totdat hulle vir 'n hoër lidmaatskapsrang kwalifiseer, maar nie na die einde van die Instituut se boekjaar waarin hulle 28 (aght-en-twintig) jaar oud word nie. Hulle sal dan na 'n hoër rang oorgeplaas word om hul lidmaatskap van die Instituut te behou. In verdienstelike gevalle kan die Raad toegewings maak wat hierdie klousule betref.

Toetreegeld nul, Jaarlikse ledegeld R5,00.

**Ander.** Die Raad besit die bevoegdheid om kandidate wat nie aan die vereistes vir toetrede tot hierdie grade voldoen nie, maar wie se status, professionele prestasies en praktiese ervaring in mynbou en metallurgie dit regverdig, tot die grade van Genoot of Lid te verkies.

**Aansoeke.** Versoeke om lidmaatskapsaansoekvorms moet gerig word aan die Sekretaris, Suid-Afrikaanse Instituut vir Mynbou en Metallurgie, Posbus 61091, Marshalltown, 2107.