



19th ANNUAL REPORT

1 April 2016 - 31 March 2017

South African Academy of Engineering

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T T Goba

President

Introduction

The SAAE's level of activity increased during 2016/2017 inter alia from the opportunities provided by SAAE's membership of the Council of Academies of Engineering and Technological Sciences (CAETS). Membership of CAETS, attendance of CAETS Annual Meetings and the associated participation in activities with other engineering academies was again funded from a grant received from the Department of Science and Technology (DST). The DST's support for maintaining international links with sister academies is much appreciated.

The SAAE's membership increased to 192 and various strategies continued to be pursued to improve participation of members and to promote the SAAE's mission and activities in areas of the country beyond Gauteng and the Western Cape.

Seeking opportunities to provide policy advice in various sectors including Education, Mining, Energy, and Water Resources for example, continues to be the objective of the SAAE.

Executive Committee (Exco)

The Executive Committee (Exco) of the SAAE for the period 2016 – 2018 comprises the following members:

Prof M Alexander

Mr D Botha

Dr M Furumele

Mr T Goba

Prof E Kearsley

Prof B Lacquet

Dr H Macdonald*

Prof C O'Connor

Mr R Pullen

Dr M Shand

Prof W van Niekerk

*Dr Macdonald was co-opted on 15th February 2017.

Fellow T T Goba served as President of the SAAE for this year and Dr M Shand was the Deputy President. Fellow R Pullen was responsible for the Treasurer portfolio.

All members of the Executive Committee serve on a voluntary basis and their contribution of valuable time during 2016/17 is highly appreciated.

Four Exco meetings took place during the Financial Year 2016/17, on the following dates:

- 89th Meeting - 27th July 2016
- 90th Meeting - 1st November 2016
- 91st Meeting - 15th February 2017
- 92nd Meeting - 31st May 2017

The Executive Committee meetings took place in Pretoria or in video-conference format with members being in Pretoria and Cape Town. The continuing generous support of Aurecon who provided these facilities is acknowledged.

The office accommodation and other support provided by ASSAf in their offices at The Woods, Perseus Park, Pretoria has been of great benefit to the SAAE. This support is provided at no direct cost to the SAAE and this generosity of the ASSAf Council is greatly appreciated.

19th Annual General Meeting, 17 June 2016

Following the careful reviews and amendments of the Constitution during 2015 and the adoption of new Rules, the 19th Annual General Meeting (AGM) on 17th June 2016 was the first to be held through electronic communication. Attendance by 44 members was a significant improvement compared to previous annual meetings and this can be attributed to the fact that members did not have to travel to participate in the meeting and to vote on the various decisions put before the AGM.

Membership

Six new Fellows were elected at the AGM held on 17th June 2016, bringing the total membership to 192:

- T Garner
- C Matlala
- I McKechnie
- S Mkhacane
- Dr P Naidoo
- Dr P Pienaar

The newly elected Fellows were welcomed by the President and members at the **Gauteng Induction Dinner** which took place at the Pretoria Country Club on the 12th October 2016. Honorary Fellowships of the Academy were bestowed on Past President Dr Bingle Kruger, and on Past President Mr Bob Pullen for their dedicated contributions over many years.

The guest speaker for the evening was Fellow Jack van der Merwe who delivered an enlightening presentation on “The Future of the Gautrain”. His informative presentation was much appreciated by the audience.

The SAAE gratefully acknowledges the generous sponsorship of the 2016 Induction Dinner by Pat Naidoo Consulting Engineers, the University of Witwatersrand, the African Association of Public Transport and Nyeleti Consulting.

No new Fellows were inducted at the **Western Cape Members’ Dinner** which took place on the 6th October 2016 at the STIAS Conference Centre in Stellenbosch. Honorary Fellowship was bestowed on Fellow Prof Philip Lloyd for his significant contribution to the CAETS Energy Committee

Project and to the drafting of the report entitled “Transitioning to Lower Carbon Economy: Technological and Engineering Considerations in the Building and Transportation Sectors”. Thirty seven Fellows and spouses attended the dinner which was generously sponsored by the University of Stellenbosch, Aurecon and Pragma Holdings. This support was acknowledged with thanks. Prof Wikus Van Niekerk spoke on “Observations on (Renewable) Electricity Generation in South Africa”.

INTERNATIONAL ACTIVITIES

Council of Academies of Engineering and Technological Sciences (CAETS)

The Royal Academy of Engineering (RAE) of the UK was the host of the 24th CAETS Council Meeting and Convocation which were held in London from 13th to 14th September 2016. The SAAE was represented by Dr Mike Shand, Vice President, and Mr Bob Pullen, Past President and Exco Member. The theme of the Convocation was “Engineering a Better World”.

Funding of SAAE’s affiliation fee for CAETS and attendance of the annual meeting was covered by the generous grant from DST.

The Convocation was preceded by a one day conference which was attended by CAETS delegates, members of the RAE and by young engineers nominated by member Academies from the UK and from around the world. Attendance by the young professionals was sponsored by the RAE. SAAE nominated two young professionals from South Africa, viz. Geoff du Toit and Luyanda Mhlanga, as well as Rene Nsanzubuhoro of Swaziland, to attend the meetings.

The conference on “Leading the Profession: Learning from around the World” had several sub-themes, namely “What is an Academy?”, “Learning from around the World” and “Regional Conversations” with opportunities for discussions between presentations.

The CAETS Council confirmed that the 2017 Meetings would take place in Madrid, in Spain, in November 2017. Four new members were elected to the CAETS Board for 2017 and 2018, including Mr Trueman Goba of the SAAE.

During the final session representatives of various Academies were called to a meeting where the RAE announced the Africa Catalyst Initiative of the Global Challenges Research Fund (GCRF). This Initiative is aimed at developing and strengthening the capacity of Institutions in the Engineering professions in Sub-Sahara Africa. Education institutions offering programmes in Engineering were included in the project scope.

After their return to SA from the CAETS Convocation in London, Fellows Bob Pullen and Dr Mike Shand followed up and submitted SAAE’s proposal for the Africa Catalyst Initiative for which the RAE is the Implementing Agent. This led to SAAE being appointed for one of 15 Pilot Studies currently being implemented, namely on further development and strengthening of the institutional capacity of the engineering profession in Swaziland. The focus of this study falls on institutions of higher learning which offer programmes in engineering education, voluntary associations, and regulatory bodies offering quality assurance and professional registration.

Chinese Academy of Engineering (CAE)

The Memorandum of Understanding (MOU) between the SAAE and CAE expired in December 2015 and no formal activities were undertaken during the year in this association. However following an invitation to Fellow Bob Pullen to attend the International Centre for Engineering Education (ICEE)

Governing Board meetings, to be held in Beijing in May 2017, it became possible to use the opportunity to hold discussions there between the SAAE and the CAE who were keen to have the MOU between the two organisations renewed.

LOCAL ACTIVITIES

Annual Academy Lecture

Due to the success of the 2015 Annual Academy Lecture “Karoo Dilemmas: Prospective Shale Gas Development in the Karoo – What is the Outlook?”, a fourth presentation of this lecture by Prof Maarten de Wit was hosted at the Nelson Mandela Metropolitan University (NMMU) on 14th September 2016. The Lecture meeting was hosted by Deputy Vice Chancellor (Research and Engagement) of NMMU, Prof Andrew Leitch. Dr Musa Furumele, a member of the SAAE Executive Committee, presided at the Lecture which was attended by more than 100 people.

The first presentation of the SAAE 2016 Academy Lecture entitled “Challenges Facing the South African Mining Industry” by Executive Committee Member Prof Cyril O’Connor was held on 1st December 2016 at Kelvin Grove Club in Newlands in Cape Town. The second lecture was presented in Gauteng in the Senate Room at the University of the Witwatersrand on 23rd March 2017. The Lecture was well attended by Fellows of the SAAE as well as by lecturers and students of the University of the Witwatersrand.

Hendrik van der Bijl Memorial Lecture

The Hendrik van der Bijl Memorial Lecture was again presented by the SAAE in collaboration with the University of Pretoria (UP). The Lecture was presented in the Senate Hall of the University on 8th September 2016 as part of the 60th anniversary celebrations of UP’s Faculty of Engineering, Built Environment and Information Technology. The guest speaker was Mr Koos Bekker, the Non-executive Chairman of Naspers. He was introduced by Prof Cheryl de la Rey, Vice-Chancellor of the University. Mr Koos Bekker spoke on the topic “Ten Mistakes I Made”, and listed pointers on how he had learnt to manage in business. Approximately 100 guests attended.

The occasion also saw the launch of a reprint of the 1948 biography of Hendrik van der Bijl by Alice Jacobs, entitled “South African Heritage – A Biography of H J van der Bijl”. The reprint was commissioned by SAAE Fellow Thomas Garner, CEO of Cennergi in collaboration with then CEO of Exxaro Siphon Nkosi and was widely welcomed.

FINANCIAL OVERVIEW

During the Financial Year 2016/17 the assets of the SAAE increased from R232 055 to R773 111, represented primarily by cash in the bank. This seemingly very significant increase in the activity of the SAAE was due to an advance payment of a large grant of R594 938 made by the RAE under its Africa Catalyst Project mentioned above. These funds were provided to cover costs to be incurred on the project in 2016/17 and 2017/18.

If fully utilised, the grant will have a positive impact on SAAE’s collaboration and relations with engineering colleagues in neighbouring countries in Southern Africa as well as with the RAE and the GCRF of the UK. The primary beneficiary should be the strengthening of the institutional capacity of the engineering profession in Swaziland and in other Sub-Sahara countries.

Other income generated during the year increased to R283 546 of which membership fees accounted for R183 812. Charges against the RAE Grant as well as donations and sponsorships amounted to R99 734. Not included in the above-mentioned income is an annual grant from the DST committed for 2016/17 to 2018/19, earmarked to cover the cost of being affiliated to CAETS and of maintaining international cooperation arrangements.

The costs related to the Africa Catalyst Project were the highest of the operating expenses amounting to R60 669, followed by costs incurred for member functions and conferences.

The SAAE continues to make every effort to secure external sources of financial support in order to be able to undertake the activities necessary to build a sustainable organisation of value to the South African society.

OUTLOOK FOR THE FUTURE

The focus of the SAAE is to improve its ability to mobilize the knowledge and experience of its members to formulate independent, evidence-informed advice on policy issues for transmission to Government and to industry.

This will require additional resources with skills in research, project management and fundraising to support current project activities, and to identify opportunities for new undertakings where the valuable expertise of members, supported by other specialist contributions, can be mobilised to formulate independent evidence-based advice.

Fellow T T Goba PrEng

President

South African Academy of Engineering, Johannesburg

15 June 2017