



PRESIDENT'S REPORT TO THE ANNUAL GENERAL MEETING OF THE SOUTH AFRICAN INSTITUTE OF PHYSICS

7 JULY 2006

1. Introduction

The year was shaped by the festivities around the International Year of Physics and the 50th anniversary of the SAIP. It resulted in many special events and activities.

2. Council

The Council was elected into office July in 2005 and has served the first year of its two-year term. The members are:

Harm Moraal	- President	Simon Connell
Nithaya Chetty	- President-Elect	Diane Grayson
Japie Engelbrecht	- Treasurer	Dieter Heiss
Attie Combrinck	- Student Member	Peter Martinez
Jaynie Padayachee	- Secretary	Edmund Zingu
Erich Rohwer	- Specialist Group Liaison	

The Executive Committee consists of the President, President-Elect, Treasurer and Secretary. Three meetings were held during the year; 21 October 2005 at the University of KwaZulu-Natal, Durban; 24 February 2006 at the University of the Western Cape (with the conference organisers); 3 July 2006 (during the present conference at UWC).

3. Specialist Groups

The 7 Specialist Groups of the Institute will report separately to this meeting about their activities. Considerable effort is being expended at present to revitalise and structure the specialist groups with proper terms of reference.

4. Membership

On 25 June 2006 the SAIP membership was as follows:

By Category	2006	2005	By Specialist Area	
Honorary	12	12	Applied & Industrial Physics	34
Emeritus	28	11	Astrophysics	90
Ordinary	258	260	Education	26
Associate	18	17	Lasers, Optics & Spectroscopy	46
Student	173	166	Nuclear, Radiation & Particle Physics	56
Retired	6	18	Plasma Physics	9
Institutional	3	4	Solar-Terrestrial & Space Physics	19
Honorary Institutional	1	1	Condensed Matter & Materials Science	149
			Theoretical Physics	25
Total Members	499	489	General	8

Since 2002 ordinary membership has decreased with 13% from 290, but student members have increased with 360%. The decrease in ordinary members is partly due to the fact that

members who are two years in arrears with subscriptions are removed from the membership list, having been given a final reminder earlier in the year. The increase in student membership to 1/3 of the total, supports the change in the constitution to provide for a Student Member on Council.

5. Finances

The Treasurer, Japie Engelbrecht, will report on the financial state of the Institute. The increased membership fees, the increasing number of fee-paying members, coupled with the healthy profits of increasingly large conferences, as well as various cost saving measures have all contributed to a positive bank balance. Council is actively working to designate and spend this money for strategically important initiatives as identified in the recommendations of the International Panel on the Future of Physics in South Africa (item 9 below).

6. International Liaison

The interests of the South African physics community in the affairs of the International Union of Pure and Applied Physics (IUPAP) are represented by the National Liaison Committee for IUPAP. As from 2005 this Committee consists of the Council of the SAIP, with the President of the NRF having the prerogative to appoint additional members. An ICSU regional office for Africa was established in 2005, with domicilium at the NRF in Pretoria.

7. Women in Physics in South Africa (WiPiSA)

The Department of Science and Technology sponsors an initiative for Women in Physics in South Africa (WiPiSA) with Mmantsae Diale of the University of Pretoria as the co-ordinator. A launching conference was held in Durban on 4 and 5 November 2005, from which a set of action plans and a project was developed.

8. Annual Conference

The 50th annual conference was hosted by the School of Physics of the University of Pretoria. This very successful event had just over 500 delegates, up from 421, 420 and 302 in 2004, 2003 and 2002. The middle day was a plenary "Einstein Day" and included the "Physics on Parade" programme sponsored by DST. This allowed teachers and the top 150 Science Olympiad finalists to interact with, and experience the work of practicing physicists. The day was also open to the general public and concluded with a performance of the MTN- sponsored play "Imagining Einstein". A special word of appreciation is expressed to Kevin Govender and his colleagues who were responsible for the school programme. The conference was well attended by postgraduate students and a full range of student prizes were awarded for excellent contributions. It was preceded by a successful Winter School on Biophysics.

On behalf of the SAIP we record our sincere appreciation to the members of the School of Physics of the University of Pretoria for their tremendous efforts in successfully hosting this historic conference.

9. Other Conferences

Several conferences and workshops are usually organised throughout the year by our Specialist Groups or by Physics Departments/Laboratories. In some cases the Institute plays a minor role while others are organised without any involvement of the Institute. All these initiatives, especially those with international involvement, are welcomed as they stimulate the physics community and supplement the formal training that is being provided by the Physics Departments. I wish to express our appreciation to the organisers and sponsors of the following events and other similar initiatives that we might not have become aware of:

- The General Assembly of the International Union of Pure and Applied Physics (IUPAP) in Cape Town from 26 to 28 October 2005.

- A World Conference on Physics and Sustainable Development from 31 October to 2 November 2005 in Durban. The conference was co-hosted by IUPAP, UNESCO, ICTP, IAEA and SAIP.
- The launch conference of Women in Physics in South Africa, sponsored by the Department of Science and Technology, was held in Durban on 3-4 November 2005.
- A Symposium "The Science Case for Extremely Large Telescopes" IUPAP/IAU sponsored, Cape Town, 14 to 18 November.
- An International Workshop on the Physics of non-Hermitian Operators sponsored by the NRF and US, 23 - 25 November, attended by 35 scientists from all over the world.
- The 17th Chris Engelbrecht Summer School in Theoretical Physics, 17 - 27 January 2006 at the Alpine Health Resort, Drakensberg, KwaZulu-Natal. Theme: The Dark Side of the Universe.

10. Future of Physics in South Africa

The recommendations of the International Panel on the future of Physics in South Africa were tabled in April 2004, and funding was received from the Department of Science and Technology in March 2006 for four of the 14 recommendations, namely (a) a National Institute for Theoretical Physics, (b) a full-time SAIP office (for three years, pending a business plan to demonstrate long-term sustainability), (c) Marketing and Public Understanding of Physics (R 250K), and (d) Physics in Industry (R 79K). Three other recommendations of an interdisciplinary nature, namely about (a) research equipment, (b) a research information network, and (c) a national digital library are on the agenda of an infrastructure survey presently being conducted by the National Council of Innovation.

11. International Year of Physics

The Department of Science and Technology sponsored this celebration with an amount of R1,5M which led fully or partly to the following list of activities:

- 16th **Chris Engelbrecht Summer School in Theoretical Physics**, Drakensberg, KwaZulu-Natal, 18 - 28 January 2005, theme Scientific Computing.
- **SASOL SciFest**. Grahamstown, 16 - 22 March 2005, focused on Physics.
- **National Science and Technology Week**. 14 -25 May 2005, focused on Physics.
- **"Imagining Einstein" Play**. MTN ScienCentre ~60 performances for 30 000 people.
- **General Assembly of IUPAP**. 26 - 28 October 2005, Cape Town, 101 delegates.
- **World Conference on Physics & Sustainable Development**. 31 October - 2 November 2005, Durban organised by IUPAP, UNESCO, ICTP, SAIP, 306 delegates.
- **Museums, Planetaria, Science Centres**. Most of these institutions around South Africa staged some form of displays and activities on the theme of IYP 2005.
- **Physics Olympiad**. The S.A. Physics Olympiad was launched from 10 - 16 July 2005. The 10 selected finalists attended a Physics Camp in Cape Town. Two Gold, three Silver and five Bronze certificates with accompanying prizes were awarded.
- **Physics in Film**. Interactive presentation using several film clips to explain some bad and good physics in film.
- **The Physics of Toys**. Part of an exhibition by the MTN ScienCentre.
- **Physics Departments and National Laboratories**. Each department was mobilised by the SAIP to have at least one activity for 2005.
- **Southern African Large Telescope (SALT)**. Opening on 11 November in Sutherland, with the keynote address by President Thabo Mbeki.
- **Calendar Poster**. 30 000 copies to schools and libraries throughout the country.
- **Pocket Periodic Table of the Elements**. 100 000 copies for learners.
- **CD - Siyabonga Einstein! (Thank you Einstein!)** A funky song about Einstein's life.
- **Phat Physics Game**. A board game with physics themes.
- **Posters, Life of Einstein and Everyday Physics**, branded with IYP logo.

- **Postage Stamp**. SAPS issued a special IYP2005 stamp on 7 July.
- **Physics in the South African Journal of Science**. Volume 101, nos. 5/6 and 11/12 with 21 Physics contributions, two Physics front pages and two editorials.

Past SAIP President Edmund Zingu is acknowledged with great appreciation for initiating and steering this effort. The South African interpretation of the IYP acronym became **It's Your Physics**, and Kevin Govender, Case Rijdsdijk and Ginny Stone are singled out as the three people who made this true for our young generation through their tireless efforts!

12. Education

The outreach activities reported on above are all educational in nature. The Institute is also serious about the formal aspects of Physics education. Accordingly, Council member Diane Grayson, together with Prof. Max Braun of UP organised a workshop on the new FET Physical Science curriculum for representatives of Physics departments on 6 and 7 October 2005. It was funded by DST and drew representation from both DST and DoE. All parties agreed to work together to strengthen Physics teachers. DST plans to provide funding for follow-up workshops. The SAIP is promoting its Subscriber membership to teachers.

13. Website

I remind all members of the SAIP website at <http://www.saip.org.za> which was set up and is maintained by Secretary Padayachee, and where one can find an extended version of the activities of the Institute, and almost all of the background for the items in this report, including the minutes of our meetings. There is also room on the website for physics departments to advertise their offerings. Thus far, only two departments have used this opportunity. I encourage you to use this facility to market your department.

14. General

President-Elect Chetty had the honour to be invited by the Ministry of Science and Technology to accompany Deputy Minister Derek Hanekom on a 10-day visit in April 2006 to Romania and Slovakia to sign bi-national agreements. He served as advisor on, and oversaw physics-related matters during the discussions. As part of the technical delegation, they also visited a number of physics laboratories.

Recommendations by the International Panel on the Future of Physics are starting to come to fruition. Council particularly regards the establishment of the National Institute of Theoretical Physics (NITheP) as a major infusion into basic Physics.

I express my sincere appreciation for the support of all Council members in their respective portfolios, in particular the visionary role of President-Elect Chetty. The business of the SAIP could only be conducted successfully with the responsible financial management of Treasurer Engelbrecht and the dynamic administration of Secretary Padayachee. We are indebted to them for their dedication.

It was a privilege and an honour to serve as president during the exciting International Year of Physics and the Institute's 50th anniversary.

Harm Moraal
President
7 July 2006