

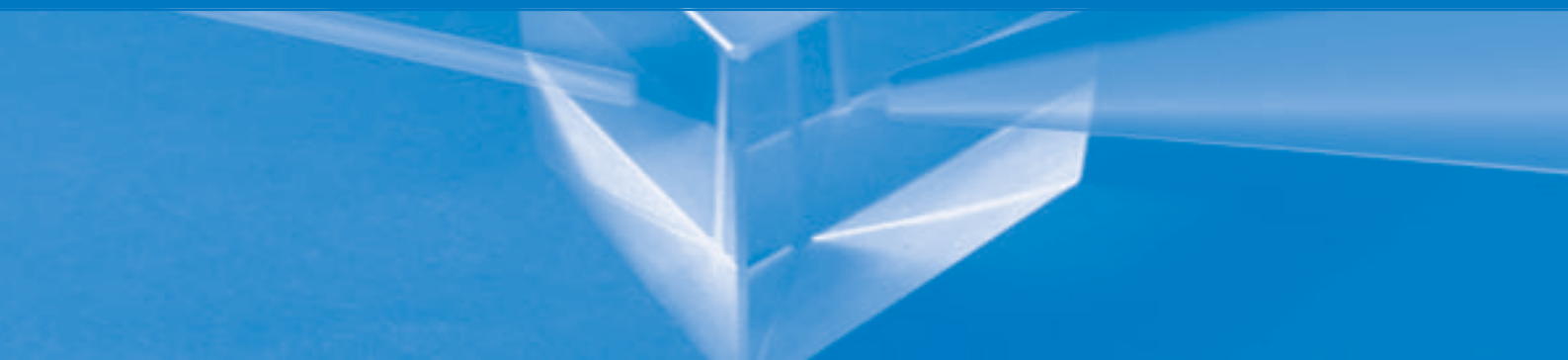
ACADEMY OF SCIENCE OF SOUTH AFRICA
ASSAf

ANNUAL REPORT
2004-2005



Scientific thought and activity enrich us profoundly; they empower us to understand and to shape our living environment; they are keys that can open doors to a peaceful and prosperous future. The function of science is to create in a disciplined and systematic way a continuum of coherent, rational and universally valid insights into observable reality in all its various facets. Scientific thinking and knowledge are fundamental to the best work done in the applied natural sciences and in technology, and this applies also to much of the human and social sciences.

An academy, which effectively harnesses the minds and energies of the most able practitioners of scientific thought, reflects, as almost nothing else does, the strong bonds between scientific disciplines and the unique character of the scientific contribution to the lives of all citizens. The Academy of Science of South Africa is constituted to ensure that leading scientists, acting in concert and across all disciplines, can promote the advancement of science and technology, can provide effective advice and can facilitate appropriate action in relation to the collective needs, threats, opportunities, and challenges of all South Africans.





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Message from the President

The new executive of the Academy took office in November 2004, thus the achievements recorded in this report represent the work of the previous executive. They are congratulated for the initiatives undertaken during their term of office, which have served to define the Academy's role as indicated in the "Science Academy Ideal".

The Academy has made a significant contribution to the debate on human resource development for Science and Technology with the publication of its report "Promoting South African S & T capacities for the 21st century: from policy to reality". The Academy is rapidly requiring a pivotal role in scientific publishing in the country with the publication of the *South African Journal of Science and Quest*.

The primary challenge for the new council is to establish the Academy as the preferred source for evidence based advice on issues of national concern. In this regard, the developing collaboration with National Academies of Science in the USA should provide the means of achieving this goal in a shorter space of time than would have been the case without their assistance.

The Department of Science and Technology is thanked for their financial support of the activities of the Academy.



RM CREWE
President



INTRODUCTION: the science academy ideal

Internationally recognised science academies are similar in that they are

- self-perpetuating with a merit-based membership which creates an upward aspiration for quality and excellence in scientific endeavours;
- multidisciplinary, striving to represent science as a consistent continuum of knowledge, insight and practical solutions;
- independent of government, but can be funded by government for performing certain tasks;
- a credible voice of science to be heard on topics of national concern, independent of institutional or commercial linkages, obligations and agendas; and
- linked together in an independent global community that can mobilise scientific thinking, skills and knowledge across the world.

The Academy of Science of South Africa places a particular emphasis on excellence in the application of scientific thinking to the problems and challenges facing the South African society. It draws its membership from all population groups and from all scientific disciplines.

THE ACADEMY OF SCIENCE OF SOUTH AFRICA ACT OF 2001: A statutory body placed strategically in the National System of Innovation

The Academy of Science of South Africa (ASSAf) was inaugurated in May 1996 in the presence of then President Nelson Mandela, the Patron of the launch of the Academy. It was formed in response to the need for an Academy of Science consonant with the dawn of democracy in South Africa: activist in its mission of using science for the benefit of society, with a mandate encompassing all fields of scientific enquiry in a seamless way, and including in its ranks the full diversity of South Africa's distinguished scientists.

The Parliament of South Africa passed the Academy of Science of South Africa Act, Act 67 of 2001, and the Act came into operation on 15 May 2002.

ASSAf is thus the official national Academy of Science of South Africa, recognised by Government and representing

South Africa in the international community of science academies.

At the Annual General Meeting of 29 October 2004 a new amended constitution was formally adopted. The purpose was to update the constitution and to harmonise it with the Act. The new constitution also contains prescriptions for certain procedures required by the Act. Council has therefore recommended to the Minister of Science and Technology that the new constitution be promulgated as the set of regulations under the Act.

OBJECTIVES: Scientific thinking for the good of society

According to the Act the objectives of the Academy are

- (a) to promote common ground in scientific thinking across all disciplines, for example the physical, mathematical, life, human, social and economic sciences;
- (b) to encourage and promote innovative and independent scientific thinking;
- (c) to promote the optimum development of the intellectual capacity of all people;
- (d) to provide effective advice and facilitate appropriate action in relation to the collective needs, opportunities and challenges of all South Africans; and
- (e) to link South Africa with scientific communities at the highest levels, in particular within Africa, and further afield.



GOVERNANCE: The critical role of the Council

According to the Constitution of the Academy, members of Council are elected for two-year terms. Early in 2004 and earlier than required by the constitution, an election process was conducted among Members of the Academy to elect the new members to later serve on the Council. With a view to continuity these new members-to-be had the opportunity to attend three meetings of the existing Council before a new Council formally took office on 1 November 2004. The new Council will serve till the end of October 2006, and consists of the following members:



Prof R Crewe:
President



Prof A Chinsamy-Turan:
Vice-President



Prof J Jansen:
Vice-President



Dr P Mjwara:
General Secretary



Prof V de Klerk:
Treasurer



Prof S Benatar



Prof M Hellberg



Prof C Johnson



Prof B Khotseng



Prof N Manganyi



Prof L Nassimbeni



Prof J Thomson



Prof J Volmink

Prof J Thomson was appointed to the Council by the Minister of Science and Technology as the representative from the National Advisory Council on Innovation (NACI) as required by the Act.

Council met five times during the year 2004 to conduct the business of the Academy.

THE MEMBERS: Core asset of the Academy

A further round of nominating and electing new Members by all existing Members was conducted during August and September 2004, and 17 new Members were added to the ranks. Total Membership now stands at 235.

The demographic and (self-categorised) disciplinary composition of the ASSAf Membership is shown in the following table.

Discipline	Black	White	Male	Female	Total
Humanities	15	26	29	12	41
Physical	9	24	31	2	33
Social	13	18	20	11	31
Earth	2	8	8	2	10
Technological	4	25	25	4	29
Economic	4	5	7	2	9
Life	16	50	52	14	66
Mathematics	4	7	10	1	11
Education	4	1	4	1	5
Total	71	164	186	49	235

Care is taken to involve Members in the activities of the Academy. Members are kept informed of developments by receiving the minutes of Council meetings. They are also consulted on statements of the Academy. The Members are involved in the election of Council, in the formation of Study Panels and Steering Committees for science-based advice functions of the Academy, in the election of new Members and in nominating awardees, as well as directly at the AGM.

INFRASTRUCTURE: Expanding a solid base

The Academy has appointed its former President, Prof W Gevers as part-time Executive Officer from 1 January 2005. Dr H Smith is the Administrator. In June 2004 Dr X Mati joined the staff of ASSAf as supervisory Projects Officer; two further posts of Projects Officer and Assistant Projects Officer have been created and will shortly be filled. Ms K Ledwaba is the Administrative Assistant concentrating on Membership matters. Dr G Baker is the Editor of the *South African Journal of Science* and is supported by Ms E Hugo as Editorial Assistant. Council has decided to create a post of Deputy Editor which will be filled during 2005.

The headquarters of the Academy are based in a suite of seven offices in the Didacta Building in Skinner Street, Pretoria. The Academy shares this building with the South African Agency for Science and Technology Advancement (SAASTA), the National Advisory Council on Innovation (NACI) and the Council on Higher Education (CHE) and its Higher Education Quality Committee (HEQC).

ASSAf's personnel administration, financial administration and IT support are subcontracted to the National Research Foundation (NRF) which provides a very efficient service.

The Academy's web address is www.assaf.co.za; the website is hosted by Sabinet. The website lists information on Members and activities of ASSAf and has links to other sites, especially to that of the *South African Journal of Science*. There will shortly be links to the websites of other African national science academies and to the Network of African Science Academies (NASAC), the InterAcademy Panel (IAP) and the InterAcademy Council (IAC) (see below).

MEMBER OF AN INTERNATIONAL COMMUNITY OF ACADEMIES: World interacademy organisations are maturing; new opportunities for African science academies

InterAcademy Panel (IAP) and InterAcademy Council (IAC)

ASSAf is an active member of the IAP which is a growing organisation embracing the science academies of over 90 countries, hosted in Trieste, Italy, by the TWAS: the Academy of Sciences for the Developing World.

In the same way that national academies of science provide science-based advice to national governments, international associations of academies can provide international authorities

with advice on matters of global importance. This role is being actively pursued by the IAP. On the African continent the Network of African Science Academies (NASAC), comprising all nine of the national science academies so far established in the 54 countries on the African continent, is poised to play this role, and will link up with NEPAD.

The InterAcademy Council (IAC) is an operating arm of the IAP. It is governed by a 15-member board elected from the 90 member academies of the IAP. ASSAf was one such elected member, represented on the board by Prof George Ellis. During the year a new board took office and ASSAf was rotated off the board. The IAC has completed, with input from ASSAf, a major study on a strategy for building worldwide capacities for science and technology. The report entitled "Inventing a better future: A strategy for building world-wide capacities in science and technology", was presented to UN Secretary-General Kofi Annan in New York City on 5 February 2004. This report, as well as the related ASSAf project, is reported on under Item 10 below.

The IAC has completed its study on agricultural productivity in Africa. Two South Africans served on the study panel: Ms Bongwiwe Njobe, then Director General of the Department of Agriculture, and Prof Jennifer Thomson, Member of ASSAf. The report will be launched in South Africa at an appropriate occasion.

The IAP is undertaking an international water programme. ASSAf will participate in collaboration with the Water Research Commission. Dr Rifka Kfir will serve as the national node in the global network being set up by the IAP.

Network of African Science Academies (NASAC)

ASSAf is a founding member of the nine-member Network of African Science Academies. It is hosted by the African Academy of Sciences in Nairobi, Kenya. Prof Wieland Gevers, as President of ASSAf, attended the General Meeting of NASAC in Abuja, Nigeria during September 2004. ASSAf was elected to be Vice-President of NASAC.

The United States National Academies have launched a multiyear programme, called the African Science Academy Development Initiative, to contribute to the development of capacity among member academies of NASAC. This is reported on under Item 8 below.

NASAC, in collaboration with and financially supported by the IAP, is planning a project on the teaching of science in Africa. Prof Diane Grayson represented ASSAf at an international symposium in Dakar, Senegal, to plan the project. ASSAf is in discussion with the National Science and Technology Forum on the future unfolding of this project and the South African participation.

TWAS: the Academy of sciences for the developing world

TWAS is an international academy of science with individuals as Fellows focusing on developing countries. It is headquartered in Trieste, Italy. Four Members of ASSAf are also Fellows of TWAS: Professors Ahmed Azad, Daya Reddy, Wieland Gevers and Valerie

Mizrahi. More South Africans have been nominated in the 2004 cycle of elections.

TWAS manages a number of schemes for the promotion of science and technology in the developing world. It announced a TWAS Young Scientist Prize to South Africans. This award is being administered for TWAS by ASSAf. The rules and regulations that have been compiled by the former General Secretary of ASSAf, Prof Parker, have been approved. A first round of nominations of young scientists for the prize has been received and is being adjudicated.

InterAcademy Medical Panel (IAMP)

Professor A Mbewu represents ASSAf on the IAMP which considers health-related issues at an international level. An effort will be made to host a future IAMP global meeting in South Africa.

International Human Rights Network of Academies and Learned Societies (IHRN)

Professor Chabani Manganyi represents ASSAf in the IHRN, which mobilises international support for scientists who are unjustly treated or prevented from practising science on political grounds.

AFRICAN SCIENCE ACADEMY DEVELOPMENT INITIATIVE: Developing capacity for academies in Africa

The United States National Academies (USNA) have received a \$20 million grant from the Bill & Melinda Gates Foundation to help develop African academies of science and the continent's scientific, engineering and medical communities as a whole, in order to strengthen their ability to provide evidence-based advice to inform government policy making and public discourse. The initiative will be carried out over a period of 10 years, focusing on efforts to improve human health.

With a view to selecting three focal points for the initiative a delegation from USNA visited ASSAf during August 2004 for a series of very intensive discussions with ASSAf Council members and staff and with stake holder government departments and science councils. Extensive documentation had to be submitted on the activities of ASSAf and its interaction with other role players. The USNA delegation also visited several other candidate academies in Africa and finally selected the science academies of South Africa, Nigeria and Uganda as partners for the initiative. The result is that ASSAf will be receiving some R1,5 million per annum for six years to expand its staff and infrastructure and to undertake formal studies to develop evidence-based advice to the nation on health-related issues. Interaction with other academies in Africa will also be stimulated. An annual international symposium and learning collaborative will be arranged and hosted by a selected academy in Africa. The first such event is being planned for November 2005 in Nairobi.



SOUTH AFRICAN SCIENCE AND TECHNOLOGY CAPACITIES FOR THE 21ST CENTURY

In parallel with an international study by the IAC, ASSAf undertook a local study on S&T capacities. The ASSAf study resulted in three reports: a background document, proceedings of a forum and a synthesis report. These reports have now been combined and printed in one volume for ease of reference and dissemination.

At a high level consultative workshop at the CSIR Conference Centre on 2 September 2004, the ASSAf report entitled *Promoting South African S&T capacities for the 21st century* was presented to senior decision makers. At the same occasion Prof Palis, Co-chair of the IAC study panel, presented the IAC report entitled *Inventing a better future: a strategy for building worldwide capacities in science and technology*. Both reports were officially handed to Minister Mosibudi Mangena, Minister of Science and Technology.

Further deliberations on this important issue are being pursued by the Department of Science and Technology. The ASSAf report will serve as a valuable input.

ASSAF SCIENCE-FOR-SOCIETY GOLD MEDAL: An honour of a special kind

The second set of two awards of the ASSAf Science-for-Society Gold Medal was presented to Professors Hoosen Coovadia and Brian Warner at a prestigious ceremony on 29 October 2004 by Dr Rob Adam, Director General of Science and Technology.

Prof Coovadia was cited for his leading role as a paediatric immunologist and as a world authority in the field of paediatric HIV/AIDS. He studied medicine in Bombay and later at the University of Birmingham and the University of Natal where he obtained an MD. He progressed to become Professor and Head of Paediatrics and Child Health at the University of Natal. He has made a substantial contribution in the field of paediatric diseases, including definitive work on nephrosis in South African black children, also on malnutrition and immunity, and on measles, more particularly on the effect of Vitamin A supplementation on children with measles and other infections. He was later appointed to the Victor Daitz Chair in HIV/AIDS research and is internationally recognised for his groundbreaking research in HIV/AIDS transmission from mother to child. Prof Coovadia also played a prominent role in the struggle for a democratic South Africa. He has authored more than 200 articles in peer-reviewed journals.

Prof Brian Warner, originally from Sussex in the UK, became Distinguished Professor of Natural Philosophy at the University of Cape Town. He was cited for his distinguished career spanning some forty years with a prodigious scientific output of over three hundred scientific papers and eleven books. His book on

Cataclysmic Variable Stars is considered as the "bible" in its field. He has made enormous contributions to society by serving on crucial councils. He was invited by the International Astronomical Union as one of three speakers to address the General Assembly held in Kyoto in 1997. In 2003 he became a Vice-President of this Union. Prof Warner is also known as an academic historian and is a world expert on William and John Herschel. Furthermore he is very knowledgeable about music, and has published poetry.

INSTITUTIONAL REVIEW OF THE NATIONAL RESEARCH FOUNDATION: looking to secure South Africa's science capacity and productivity

All the science councils were invited to arrange thorough and comprehensive institutional reviews by panels comprising both international and South African leaders in the respective fields. The Executive Officer of ASSAf, Prof Wieland Gevers, chaired the 6-member Panel that carried out the Institutional Review of the National Research Foundation (NRF) during February, 2005, culminating in the production of an 80-page report submitted, on time and according to the demanding specifications, to the Board and Executive Management of the Foundation.

PUBLISHING THE SOUTH AFRICAN JOURNAL OF SCIENCE: A Nature for South Africa

The *South African Journal of Science* continues to showcase a great diversity of original work by researchers throughout the country and abroad. Among the highlights of the centenary volume of 2004 were suites of papers on pathogen genomics (from the first in a planned annual series of conferences on 'The Human Genome in Africa'), and a substantial commemorative issue to mark the centenary of Rhodes University. The suite of papers published on the Working for Water programme at the beginning of the year has attracted widespread and favourable reaction from around the world. The first issue of 2005 carried papers on the subject of lasers and optical technology. This was the first of a series of contributions, which will include a special theme issue, to mark the work of our physicists in this, the International Year of Physics. Another issue planned for 2005 will feature the research at historically black universities supported by the Royal Society-NRF bilateral programme.

The SAJS was ranked 14th out of 46 multidisciplinary journals in terms of impact factor for 2003, according to the *Journal Citation Records* of the Institute for Scientific Information (ISI). In a recent analysis the SAJS had the highest impact factor among multidisciplinary journals from developing countries, and was the only South Africa-based journal ranked in the second quintile among its international counterparts (see Pouris A. S. Afr. J. Sci. **100**, 515-517; 2004). The editorial written by Dr Baker in the issue containing this article is reprinted at the end of this report.

Support for the SAJS continues to grow steadily. In the past year,

the Journal processed 266 new manuscripts, first-time authors numbered 184 (to add to a database of about 1050 authors), and the network of reviewers increased by 175 (to over 1200 in all).

In August 2004 the SAJS was obliged to vacate its two small offices at the NRF. The move that followed entailed considerable expense and seriously disrupted its operation for a while. However, attractive offices were kindly made available by the Rector on the main campus of the University of Pretoria. This has allowed the editor to expand the Journal's network of researchers at the university and promises to be a very beneficial arrangement for all parties.

PUBLISHING QUEST: A new magazine presenting Science for South Africa

The Academy continued the publication of the science magazine *Quest: Science for South Africa* which was launched the previous year. *Quest* serves as a platform for communication about actual scientific research in South Africa. It strives to showcase South African science in action, and is aimed at the broad scientific community, decision-makers, the public, and students, and at inspiring the senior grades at secondary schools.

Two copies are distributed to every secondary school teaching science. Feedback from the schools is very positive. Subscriptions are growing steadily and *Quest* is also available in selected book stores.

Dr Elisabeth Lickindorf, one of South Africa's most eminent and experienced science writers, acts as editor on a contract basis.

Quest is not a peer-reviewed journal for original research but it is the ideal medium to convey information about current South African scientific achievements to a wide audience, often as shorter, more generally understandable versions of articles published in research journals.

The Academy seeks to develop this complementarity and synergy with peer-reviewed research journals by inviting editors and authors to bring articles that may be of interest to a more general readership to the attention of the Editor of *Quest*.

Quest covers the full spectrum of science from the natural sciences to the social and human sciences, as long as the research is evidence-based and scientific methodology is applied.

STRATEGIC MANAGEMENT OF SCIENCE JOURNALS IN SOUTH AFRICA: Fewer, better, more frequently appearing journals to enhance the indigenous science system

ASSAf's project to make recommendations for a strategic framework for the sustainable operation and management

of research journals published in South Africa, is funded by the Department of Science and Technology. It is conducted in partnership with a number of organisations such as the Department of Science and Technology, the Department of Education's Higher Education Branch, the Human Sciences Research Council, the National Research Foundation, the Council on Higher Education and its Higher Education Quality Committee, and the Centre for Research on Science and Technology at the University of Stellenbosch. The main objectives of this strategic framework are

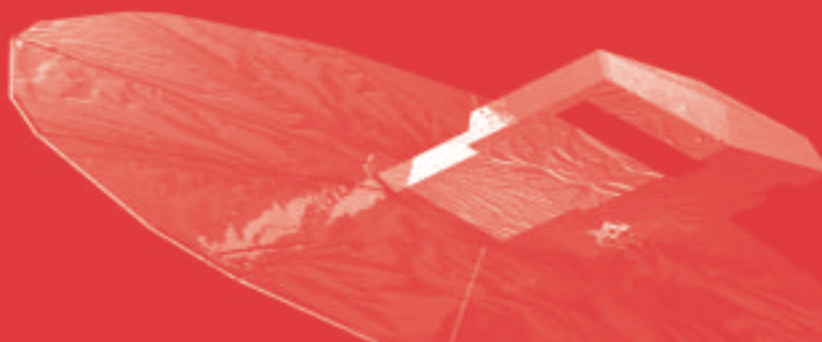
- to promote and enhance the standing of South Africa's research journals, nationally and internationally;
- to improve the productivity and efficacy of publication through different modalities (e.g. electronic publication);
- to establish the *South African Journal of Science* (SAJS) as a national asset of high quality; and
- to ensure that discoveries and insights gained through research published in South African journals are made known to a wider public than the research community itself.

ASSAf has deepened and widened the base of information available on those South African research journals that are currently accredited by the Department of Education, whether these are listed in the three multidisciplinary international databases operated by Thomson ISI, or that maintained for the social sciences by the IBSS, or not listed. This compilation has been initiated as data-gathering from actual examination of the journals in the National Library, and followed up by the analysis of a detailed survey questionnaire completed by 100% of the editors and/or publishers of the research journals concerned. The survey will facilitate continuous recording and monitoring of information on the journals concerned, and will provide empirical evidence from this important sector about the refined accreditation criteria which are still in draft form in the project.

The journals project is now concentrating on two sub-projects:

- Recommendations for the **strengthening of South Africa's research journals** through the progressive, systemic adoption of the normative accreditation criteria of quality, usefulness and impact, linked to the criteria used by Thomson ISI or IBSS and other recognised international databases, but also emphasising contextually integrated functionality for research funding and promotion of national developmental goals; and
- Establishment of a **"virtual" national centre** for information on research outputs produced in South Africa and/or by South Africa-based scientists, and other information for national and international stakeholders.

These two subprojects are being managed to completion by two steering committees, each linked to particular "clients" such as the organisational partners listed above, through corresponding membership of appropriate persons, and using both consultative conferences and survey questionnaires to engage with the stakeholder communities concerned, such as editors/publishers



of South Africa's research journals and the researchers themselves, at individual and institutional levels.

A full report on the first-mentioned subproject will be produced in late 2005, and recommendations will be made to both the ASSAf Council, the organisational partners and the research community, aimed at the sustainable continuation of the work and functions set up by the Project for the research publishing system in South Africa.

THE FUTURE: An Academy of Science that is a unique contributor to national and continental development

ASSAf has established itself as an inclusive but merit-based body that fits contextually into South Africa's democracy because it seeks primarily to apply scientific thinking and knowledge for the good of a society with major development needs and objectives.

A number of historical factors have not made the Academy's path particularly smooth, but a combination of warm international recognition in an evolving new world science academy system on the one hand, and increasing internal recognition and support by Government (at ministerial and department level) as well as by civil society and academia, on the other, are giving momentum to the Academy's upward trajectory. Increased capacity and activity are the essence of ASSAf's future role within our country as well as through partnerships with other science academies on the African continent, and generally. The key activity by which the Academy will carve out its national reputation will be the production of authoritative reports on key science-based issues affecting the nation's future; much effort will henceforth go into this aspect.

The Academy's core asset is its Membership; the involvement and contribution of Members determine the extent and scope of our potential contribution.

FINANCIAL STATEMENTS

REPORT OF THE INDEPENDANT AUDITORS

TO THE MEMBERS OF THE ACADEMY OF SCIENCE OF SOUTH AFRICA

We have audited the annual financial statements of Academy of Science of South Africa set out on pages 10 to 14 for the year ended 31 March 2005. These financial statements are the responsibility of the Members of Council, while our responsibility is to express an opinion on these financial statements based on our audit.

Scope

We conducted our audit in accordance with statements of South African Auditing Standards which require that we plan and perform the audit to obtain reasonable assurance that the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used, as well as evaluating the overall financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

Audit opinion

In our opinion, the financial statements fairly present, in all material respects, the financial position of the organisation at 31 March 2005 and the results of its operations for the year then ended in accordance with generally accepted

Douglas & Velcich
Chartered Accountants (SA)
Registered Accountants and Auditors

Johannesburg
30 August 2005

BALANCE SHEET at 31 March 2005

	Notes	2005 R	2004 R
ASSETS		4 471 717	3 611 611
Non-Current assets		81 601	53 054
Equipment	3	81 601	53 054
Current assets		4 390 116	3 558 557
Accounts receivable		-	2 510
Cash on call	4	2 762 493	1 617 255
Cash at bank	4	1 627 623	1 938 792
Total assets		4 471 717	3 611 611
RESERVES AND LIABILITIES		4 471 717	3 611 611
Reserves		3 845 962	3 406 022
Accumulated fund		3 845 962	3 352 968
Equipment fund		-	53 054
Current liabilities		625 755	205 589
Accounts payable		625 755	205 589
Total reserves and liabilities		4 471 717	3 611 611

INCOME STATEMENT for the year ended 31 March 2005

	Notes	2005 R	2004 R
INCOME		2 948 713	2 613 910
Grants received	5	2 547 000	2 432 966
Membership fees		45 861	47 600
Interest		156 038	133 344
Publication income		199 814	-
EXPENDITURE		2 508 773	1 307 580
Audit fees		20 000	8 739
Current year provision		20 000	8 500
Prior year under-provision		-	239
Bank charges		1 075	1 852
Depreciation		13 967	-
Computer expenses		3 877	-
Equipment rental		746	5 892
General expenses		4 375	2 415
Honoraria		20 000	20 000
Interest paid		4 059	-
Printing, stationery and advertising		271 921	49 131
Rent, electricity and maintenance		161 717	37 775
Salaries		1 369 876	502 136
Seminars and conferences		24 326	13 942
Subscription		350	350
Technical services		528 213	561 297
Telephone, faxes and postage		63 216	14 807
Travel and conference costs		21 055	89 244
SURPLUS FOR THE YEAR		439 940	1 306 330



STATEMENT OF CHANGES IN RESERVES for the year ended 31 March 2005

	Equipment fund R	Accumulated funds R	Total R
Balance at 1 April 2003	33 531	2 071 979	2 105 510
Surplus for the year	–	1 306 330	1 306 330
Additions for the year	25 341	(25 341)	–
Depreciation for the year	(5 818)	–	(5 818)
Balance at 31 March 2004	53 054	3 352 968	3 406 022
Surplus for the year	–	439 940	439 940
Transfer to accumulated funds	(53 054)	53 054	–
Balance at 31 March 2005	–	3 845 962	3 845 962

CASH FLOW STATEMENT for the year ended 31 March 2005

Notes	2005 R	2004 R
CASH FLOWS FROM OPERATING ACTIVITIES		
Surplus for the year	439 940	1 306 330
Adjusted for:		
Interest received	(156 038)	(133 344)
Depreciation	13 967	
Operating surplus before working capital changes	297 869	1 172 986
Working capital changes	422 676	147 552
Decrease in accounts receivable	2 510	–
Increase in accounts payable	420 166	147 552
Cash generated by operations	720 545	1 320 538
Interest received	156 038	133 344
Net cash inflow from operating activities	876 583	1 453 882
Cash flows utilised in investing activities	(42 514)	(25 341)
Acquisition of equipment, at cost	(42 514)	(25 341)
Net increase in cash and cash equivalents	834 069	1 428 541
Cash and cash equivalents at beginning of year	3 556 047	2 127 506
Cash and cash equivalents at end of year	4 390 116	3 556 047

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NOTES TO THE FINANCIAL STATEMENTS for the year ended 31 March 2005**1. ACCOUNTING POLICIES**

The financial statements are prepared on the historical cost basis and incorporate the following principal accounting policies which are consistent, in all material respects, with those applied in the previous year :

1.1 Equipment and depreciation

Equipment is stated at cost less provision for depreciation. Depreciation is calculated to write off the cost of the assets on the straight line method over their expected useful lives at the following rates:

Office equipment – 15 % per annum

Office furniture and fittings – 15 % per annum

1.2 Income

Income is brought to account as and when received.

1.3 Expenditure

Expenditure is accounted for on the accrual basis.

2. CHANGE IN ACCOUNTING POLICY

During the year under review the academy adopted AC123. Equipment was previously written off in the income statement.

The-adoption of AC 123 has resulted in equipment being capitalised in the financial statements of the academy, and depreciated over its expected useful life. This change is necessary to comply with generally accepted accounting practice.

3. EQUIPMENT

	Office furniture and fittings R	Office equipment and computers R	Total R
31 March 2005			
Balance at 1 April 2004	52 749	305	53 054
At cost	63 739	389	64 128
Accumulated depreciation	(10 990)	(84)	(11 074)
Additions during the year	42 514	-	42 514
Depreciation for the year	(13 909)	(58)	(13 967)
Net book value 31 March 2005	81 354	247	81 601
At cost	106 253	389	106 642
Accumulated depreciation	(24 899)	(142)	(25 041)
31 March 2004			
Balance at 1 April 2003	33 171	360	33 531
At cost	38 398	389	38 787
Accumulated depreciation	(5 227)	(29)	(5 256)
Additions during the year	25 341	-	25 341
Depreciation for the year	(5 763)	(55)	(5 818)
Net book value 31 March 2004	52 749	305	53 054
At cost	63 739	389	64 128
Accumulated depreciation	(10 990)	(84)	(11 074)

	2005	2004
	R	R
4. CASH AND CASH EQUIVALENTS		
Cash at bank	1 627 623	1 938 792
Cash on call	2 762 493	1 617 255
	4 390 116	3 556 047
5. GRANTS RECEIVED		
Ford Foundation	-	142 966
Department of Arts, Culture, Science and Technology	2 547 000	2 290 000
	2 547 000	2 432 966
6. TAXATION		
The Academy is in the process of applying for exemption from income tax under 10(1)(cn) as read with Section 30 of the Income Tax Act. In the event of the exemption being rejected the potential income tax liability is R46 804 (2004:-R46 804).		
7. COMPARATIVES		
Where necessary comparatives have been restated for improved disclosure.		



EDITORIAL IN SOUTH AFRICAN JOURNAL OF SCIENCE ON QUALITY OF JOURNALS: Who really wants quality journals?

South African Journal of Science Vol. 100 page 508

The Academy of Science of South Africa (ASSAf) is 'reviewing and making strategy recommendations on research journals published in South Africa' and helping to 'refine the criteria for accreditation [of these journals] in terms of their usefulness in quantifying research outputs of institutions and awarding subsidy under the gazetted policy'. Information is being sought from the publishers and editors of these journals. What can one advise? How do researchers react to local publication outlets? What might we learn from history?

The exercise is being conducted on behalf of the Department of Science and Technology in conjunction with the Department of Education. Raising the quality of journals published locally would 'brand' South Africa's academic achievements and increase their national impact at home and abroad. It would also mean that subsidy generated by publishing in 'accredited' journals would be earned only for articles of suitable quality. But South Africans retain an ambiguous attitude to their own journals – rooted both in subsidy-earning practicalities and in the apartheid past.

Cynics say that most papers appearing in the huge research literature are in any case written to be published rather than to be read with enthusiasm, since only a small minority is cited in respectable periodicals. In practice, the argument goes, the role of high-impact foreign journals in South African academe is seen as providing the quality and kudos that grow a scientist's reputation, whereas the role of 'local' journals, suitably 'accredited', provides little more than an outlet for subsidy-earning articles. It is logical for any career-conscious top scientist to try to publish in top-rated journals.

Only a few South African journals (about 20) are included in the international lists drawn up by Thomson ISI (the former Institute for Scientific Information). In the twenty or so years since the education department began recognizing local journals eligible to confer a subsidy, however, the country has produced dozens of 'accredited' periodicals that set very modest academic standards. Clearly, a weak researcher would prefer the present arrangement to continue. So, too, would tertiary education institutions that look set to attract R70 000 or so per published paper.

How much should South Africa rely on international yardsticks drawn up by a foreign agency, whose journals vary greatly and whose lists are subject to change? It seems unlikely that

many South African journals would ever qualify for Thomson ISI listing, which, for some, is a preferred, primary criterion for accreditation. This can sometimes be because they address subject areas that have limited international interest and are conspicuously location-bound – in the fields of law and theology, for example – even though they serve important local needs. The point has been emphasized, however, that the 'accredited' list of local journals is too long and that it is in the national interest to review their quality.

One reason for the proliferation of local journals was the then government's response to the anti-apartheid academic boycott. In the mid-1970s, it established and funded the Bureau for Scientific Publications (BSP) to build up local titles initially serving the natural sciences. This was an understandable reaction to the refusal by some journals overseas to accept, and by some academics to review, papers from South African authors. Soon, the number of BSP titles grew to 16 and embraced the social sciences and humanities. The professional societies that published them chose (mostly honorary) editors to look after content; the bureau saw the journals through the press, undertook limited marketing, and in some cases serviced subscriptions. Over the years, the operational formula scarcely changed; South Africa's relative contribution to the world research literature levelled off and the country's research papers started declining in number overall. An independent 1998 survey found that, on the whole, the BSP journals did not compare particularly well with their foreign counterparts.¹ So, after twenty-five years, the BSP was abolished and its journals had to seek new publishing arrangements elsewhere.

The bureau was never creatively managed by people with international publishing experience, and it closed with virtually no protest from the parties it had once supported. One possible reason is that, in the natural sciences at least, most South African authors continued to publish more than 90% of their ISI-listed papers in foreign journals, the best of which have much higher impact factors than those produced at home. Attempts to combine titles to raise impact (those serving the biological sciences, for example, and engineering) never got off the ground – a symptom of the relative disinclination of professional bodies in this country to collaborate.

Nor did it help that South African research funding agencies did little or nothing to grow local editorial and publishing expertise as a national necessity. Australia, by contrast, adopted the far more effective policy of establishing a core of specialist editors at the CSIRO to service their suite of national research journals – these were aggressively marketed and, as a result, continue to maintain high standards, even after 'privatization'.

A suite of international top-class journals published in a country that takes science seriously gives on-the-spot world-class service to members of its own research community, be they first-time authors or A-rated scientists. Some local professional societies, given the chance, would clearly wish to raise the quality of their own journals, to increase circulation and thereby impact and revenues.² The BSP model, introduced to make this happen, had limited success. What other possibilities are there? Building a cadre of professional editors would help. So too would persuading all parties that quality research publication in South Africa is genuinely desirable, and that they need to be willing to work together with government to this end. In a country with so many dedicated, high quality researchers, this is surely not mission impossible.

1. Pouris A. and Richter L.(1998). *Investigation into the future of state-funded research journals in South Africa*, vols 1 and 2. Science Consultancy Enterprises, Pretoria.
2. The Academy of Science of South Africa is one professional association that has adopted the enlightened policy of raising the impact of its own journal, the *SAJS*, and has had the vision to launch *Quest: Science for South Africa* for taking the country's science to the general public.

From local to international

There is a strong case to be made for good quality journals in South Africa. They help to build and brand the country's research, attract foreign interest, and identify what science is done and what it means in this part of the world – the sense of which is almost entirely lost when scientists publish abroad.

One individual more than 30 years ago believed in supporting South African science by transforming a local research publication into a high quality international journal. In the early 1970s, the *South African Journal of Science (SAJS)* had all but folded. John (now Sir John) Maddox, editor of *Nature* and managing director of Macmillan Journals of London at the time, accepted an invitation from Denys Kingwill, then head of Information and Research Services at the CSIR, to assume responsibility for the publication.

Maddox saw science as a 'Trojan horse' to help transform society for the better, and admired enough South African scientists to wish to learn more about their work. His intervention, in 1972, with Kingwill's sustained support for many years afterwards, revived the fortunes of the *SAJS* and began the steady growth in authors and reviewers who, today, number about one thousand each in the journal's database. Kingwill, as an Old Rhodian, would have been pleased to see that his alma mater chose to commemorate, in this issue, its centenary with that of the *SAJS*, and Maddox that his faith in the journal's potential has to an extent been vindicated by the evaluation outlined by Pouris in the above article.



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