THE ROYAL SOCIETY OF SOUTH AFRICA

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REPORT OF THE GENERAL SECRETARY FOR 2003

2003 SCIENCE ESSAY COMPETITION

The competition was re-organised for 2003 and a total of 54 entries (maximum three selected essays per school per topic) were received from 15 senior schools across South Africa. For some reason, no entries were received from junior schools this year. The essay topics were based on the theme of 'How Science changed my life'. The President arranged for a UCT team, comprising Prof. John and Biddy Greene (Electrical Engineering Dept.), Prof. Sue Bourne (Chemistry Dept.), Prof Gerrit and Karin de Jager (Dept of Info & Library Science) and Prof. Peter Linder (Chemistry Dept), to evaluate the essays. Two councillors, Professor Ellis and Professor Thomson verified the results. The Society is most grateful to all for their valued contribution. Twelve winning scholars were selected on the basis of merit, three for each essay topic and were able to partake of their prizes, (mostly consisting of visits to National Facilities) during 2003. The Council feels that the competition is a very worthwhile project for encouraging interest in science amongst the youth and hopes that it will strengthen in 2004.

Winners of prizes sponsored by:

Prize sponsored by Hartebeestpoort Radio Astronomy Observatory (HartRAO)

Alistair Anderson - Hyde Park High School, Craighall	(2nd Prize Essay 3)
Pheto Aaron - Samuel Sabego Paki Sec School, Vredefort	(2nd Prize Essay 4)

SAIAB (S. A. Institute for Aquatic Biodiversity)

Lara Ackerman - Wynberg Girls High School, Cape Town	(1st Prize Essay 4)
Megan Laird - Wynberg Girls High School, Cape Town	(3rd Prize Essay 2)

iThemba LABS (Lab for Accelerator Based Sciences)

Melissa Africa - Rhenish Girls High School, Stellenbosch	(1st Prize Essay 2)
Megan Withers - Rhenish Girls High School, Stellenbosch	(2nd Prize Essay 2)

MTN Sciencentre

Tamar Koekemoer - Rhenish Girls High School, Stellenbosch	(1st Prize Essay 1)
Jeanneke Malan - Rhenish Girls High School, Stellenbosch	(3rd Prize Essay 3)

Prize sponsored by the National Zoological Gardens

Masote Obed Kuomotso, Matlaisane High School, Temba	(3rd Prize Essay 4)
Dale Zimmer - Pretoria Boys High School, Pretoria	(3rd Prize Essay 1)

South African Astronomical Observatory (SAAO)

Karin Bosman - Rhenish Girls High School, Stellenbosch	(1st Prize Essay 3)
Yongama Sobambela - Cosat, Mitchell's Plain	(2nd Prize Essay 1)

ACADEMY OF SCIENCE OF SA (ASSAf)

Professor George Ellis represented the SA Academy at a meeting of the Inter-Academy Council in (IAC) in The Hague, Amsterdam. The AGM was held on 30 September 2003 in Pretoria. The President of ASSAf, Professor Wieland Gevers, attended two Council meetings of the Society during the year in an effort to persuade the Society to engage with the Academy and ideally, to form a single body. This he believed would best serve the interests of the country because the Academy function in South Africa was not sustainable in the present situation, with scientists spread out between different bodies. Professor Gevers hoped that Council would see the need for all South African scientists to make a commitment to pool their resources and act together to create a creditable Academy. The positive aspects of a link with the Academy were pointed out, inter alia: the taking over of the *SAJS*; clear access to government and receipt of a grant;

representation on the IAC; international connections and recognition and opportunities opening up, such as the valuable workshops being undertaken on capacity building and food security. The Council had several concerns regarding a merger between the bodies and resolved that the President send out a statement to the membership listing these: the absorption of the Society's two tier membership of Fellows and Members into the currently single tier membership of the Academy; the continuation of editorial control over the renowned multidisciplinary *Transactions;* the danger of losing objectivity on scientific matters or being placed in an awkward position when giving an independent scientific opinion where this was in conflict with government and the continuation of our present activities.

There was, on the whole, a negative response, mainly from the Society's Fellows. There was however, little objection to the proposal of joint activities with the Academy (symposia, lectures etc). The Council was of opinion that even if a merger was not planned, the Society would support the Academy and its activities.

CLAUDE HARRIS LEON FOUNDATION

Four members of Council once again assisted the trustees of the Claude Harris Leon Foundation by evaluating and grading 80 applications for post-doctoral fellowships. The quality of the successful applications was excellent. For 2004/2005, twenty-one post-doctoral fellowships were awarded, of which 17 were accepted, amounting to R1.53 million.

In August, a new venture was introduced, when the Society and Foundation co-hosted a most successful and well-attended double lecture evening. Two of the Fellows selected in 2002, Dr Raphael Isokpehi (South African National Bioinformatics Institute, UWC) and Dr Sandrine Lecour (Hatter Institute for Cardiology Research, UCT), each presented a lecture describing their research. Their lectures were entitled **"Facing the Malaria Giant's African Roots: Exploiting the Genome of the Laverania Parasite, Plasmodium Falciparum"** and **" New Insights for the Protection in Heart Attack "** respectively.

BRANCH ACTIVITIES

EASTERN CAPE

The Eastern Cape branch of the Royal Society of South Africa increased its membership and activities to include a group of "Young Royals". The group was established in mid 2002. The objective of the "Young Royals" is to communicate and promote an interest in science amongst both students and scholars. The society hopes to achieve this by making science "fun", through the use of skits, posters, lectures and debates. The branch increased their activities in 2003 to accommodate the activities of the "Young Royals" and to keep costs down. (See "Young Royal" Report below).

The lectures presented by the branch were:

26th March **"The Honey Badger - challenges to conserving the 'most fearless animal in the world'."** – Dr Colleen Begg, SciFest 2003.

7th May **"Why size is important when considering estuaries" -** Dr William Froneman, Senior Lecturer, Zoology Department, Rhodes University**.** *Amy Jacot-Guillarmod Memorial Lecture.* (Dr Froneman was the recipient of the Meiring Naude Gold Medal of the Royal Society of South Africa in 2002.)

27th October **"Exploring the Deep Frontier"** - Dr Sylvia Earle, world-renowned marine biologist and oceanographer. *Schonland Memorial Lecture*.

There was a marked improvement in attendance at the lectures during 2003, compared to 2002 and 2001. All events were attended by more than 150 persons and for Dr Earle's lecture there were approximately 300 in the audience.

It was noted that the number of RSSA members in the Eastern Cape had not grown very much in recent years, so it was decided to dedicate the task of promoting membership to a committee member for 2004 and to encourage fellows and members to recruit new members.

The Eastern Cape Branch had followed with interest, developments regarding the proposed merger between the RSSA and the Academy of Science of South Africa (ASSAf). It appreciated the leadership of the Council. A vote was not taken on the issue, but the sentiment within the Eastern Cape appears to be one in which the distinct character and quality of the present RSSA is preferred to the option of merging with ASSAf. The Eastern Cape Branch will continue to follow the issue with great interest and is willing to play a role in making a final decision.

The recommendation to Council from the Eastern Cape that there should be an award for those who promote the Public Understanding of Science, received a positive a positive response. However, the Council indicated that the East Cape Branch must "run with the idea". Mrs Gill Boltt suggested that two awards be established – one for younger persons (under 35 years) and a Senior/Open award. During 2004, the Eastern Cape branch will prepare a detailed draft proposal outlining how this award should be managed and sponsored.

The Science Expo for Young Scientists took place in early September and once again the RSSA sponsored two certificates, which were presented for the best project from a developing school and to the educator who supervised this project.

The Eastern Cape awarded prizes for the School Essay competition (SAIAB book prize and sponsorship for a trip to the Two Oceans Aquarium) to

- Lara Ackerman, Wynberg Girls High School (1st prize) for her essay entitled: *"YOU are the Minister for Education in South Africa. How would you promote a Culture of science in this country?"* and
- Megan Laird, Wynberg Girls High School (3rd prize) for her essay entitled: *"How environmental degradation has affected my community and how we should try to ameliorate that".*

The financial statement for 2003 indicated that the branch was in a healthy financial position, with a positive balance at the end of 2003. These funds will contribute to activities of the "Young Royals" in 2004. The East Cape Branch is grateful to the support from the Council and from Rhodes University.

Election of Office Bearers for 2004 (Senior):

Chairman	Dr Tony Ribbink
Vice-Chairman	Mrs Gill Boltt
Secretary/Treasurer	Dr Ferdy de Moor (supported by Dr Billy de Klerk)
Committee Members	Dr Janine Adams (University of Port Elizabeth), Dr Martin Villet, Prof Perry Kaye FRSSAf & Prof John Duncan FRSSAf (occasionally)

YOUNG ROYALS REPORT - COMMUNICATING SCIENCE

The Chairperson, Sarah Holderness reports that 2003 was for the Young Royals a year of establishment and learning. In terms of establishment, the young royals have seen the inclusion of new members, from Master's students to first year students. This has been a difficult process as human psychology would have it that what is famous and well-known must be trusted and followed, while what is new and unknown must be regarded with scepticism. Thus the initial response from people to the new venture was rather poor. However, as a society, they regard this initial slow start as the lag phase before the phase of exponential growth in 2004. In terms of learning, this year has presented them with an abundance of invaluable lessons. Some very basic lessons but all very important. The lessons learnt have involved many areas of work, particularly time management, inter and intra-personal interactions, delegation, advertising and social perceptions. From these lessons learnt, the committee feels that a solid foundation has been laid and that they now have the freedom to view the continuity of progress into 2004 with as much excitement and hope as it warrants.

The Young Royals had the opportunity to meet Dr Sylvia Earle when she visited and presented the 2003 Royal Society Schonland lecture. She arrived in Grahamstown the night before and met members of both the Royal Society and the Young Royals for supper. She informed her hosts about many exciting things they were not aware of that were happening in the oceans. They learnt from her that even though she held 12 doctorates and was a National Geographic explorer in residence, the most important thing in life was to 'keep learning because there was no limit to the number of discoveries life has to offer'. They also learnt that being so dedicated to a particular passion can be so rewarding, both personally and because of the impact it has on the world. At the Schonland lecture the next evening, the Young Royals were ceremoniously called upon to introduce and thank Dr. Earle. Sarah Holderness, chairman of the Young Royals, introduced the lecture with "professional grace", as quoted by the Rhodes University staff newsletter. Dr Earle then presented her very engaging and enjoyable lecture. She used video recordings to explain and show the audience what the oceans had to offer. She also went on to question that as there was a world not yet discovered down in the ocean, why then do we focus our eyes into the sky to other planets? At the end of her lecture, she answered questions from the audience and shared many of her own personal experiences she has had as an explorer. Concluding the evening Young Royals vice-chair Shafick Hoossein, thanked Dr Earle.

March of this year saw the Young Royals participating in the annual Science Festival held at Rhodes University. The intention was to gain exposure and advertise to the public who and what the aims of the Young Royals are. This was done through the use of posters that outlined their future aims and objectives. A stand was set up in the Misty Marquee with a table full of interesting objects such as skulls, fossils and plants that the passing children were able to touch and learn about. Colourful posters with science related questions were also placed on the table on which the children were expected to write answers. This went down very well with the children requiring no further encouragement in giving their written opinions on what they thought. Overall, the stand at Sci-fest was a good stepping-stone in gaining exposure for the Young Royals. Next year they have a premier position up at the monument and this will allow them to reach a much larger age group.

The aim of the Young Royals is also to extend their influence beyond the Rhodes University community. The main focus for 2003 was to teach science in schools using a multidisciplinary approach. This included disadvantaged schools in the location, and they have made contact and spoken to one school, Nathanial Nyalusa. Plans have been made to go in and teach the school children next year.

They have tried to extend their membership beyond Rhodes to include the University of Fort Hare and University of Port Elizabeth, as the branch represents the Eastern Cape. They therefore welcomed an approach made by the University of Port Elizabeth students, who hoped to join the Young Royals. They met the UPE students at Dr Sylvia Earle's lecture and exchanged contact details. In 2004, the Young Royals will visit both of the other universities. In addition to the new members from UPE, members from the Rhodes debating society also expressed interest in joining, after they debated at the Society's annual debate. This is

just the beginning of the various methods of involving other individuals and societies with the Young Royals.

The Young Royals committee met with the Royal Society of the Eastern Cape committee on the 22 of October for the annual AGM. No changes were made by the Young Royals to their committee, due to the fact that the current committee needed more time to carry out the major projects that were proposed. Until such a time, ideally next year, the committee shall stay the same. The committee stands as:

Chairman	Sarah Holderness
Vice - chairman	Shafick Hoossein
Secretary/Treasurer	Cordillia Leggit
Projects Co-ordinator	Tarryn Martin
Public Relations Officer	Andrew White
Media Officer	Niall Vine

The Young Royals held their annual debate on the 16th of October in the SAIAB lecture hall of the Ichthyology building. The topic was the highly contentious Genetically Modified Organisms. The debate team consisted for four members from the debating society of Rhodes University. Members that argued for the topic were Kevin Rousell and Thomas Boughey, their team adopting the humorous persona of soccer stars sporting famous soccer star shirts, (maybe in the hope to kick their opponents of the podium with their highly primed arguments). Members that argued against the topic were Botwe Kraziya and David Smith. It was decided that the debate would not be competitive and was a friendly exchange of opinion. Sarah Holderness, the president of the Young Royal society opened the floor and welcomed all attending. Thomas Boughey introduced the arguments for the motion, and gave the advantages of using and manufacturing GMO's. The next speaker was against the motion commented on the previous team's introduction and remarked on its unethical nature and lack of scientific fact. Kevin Rousell assertively rebutted the former speaker's argument and initiated his argument the GMO's were necessary. He spoke on how GMO's are improving the quality of life globally. He invited points of interest and commented appropriately. The very last speaker of the evening was David Smith. An excited exchange of views transpired in the general discussion with members of the audience contributing their views. Refreshments in the form of the traditional sherry and savouries were served to the audience and the team, and the debate further discussed casually. All in all, it was an entertaining and somewhat informative evening with a definite stronger bond made between the Young Royals, the debating society of Rhodes University and members of the audience.

The Young Royals propose that 2004 shall be a very busy year! Their main aim remains communicating science using a multidisciplinary approach and making it more accessible to their peers. The main project will be to start science clubs in disadvantaged schools, and hold workshops on different scientific topics that link to the matric syllabus (eg. The water cycle). In conjunction with the Rhodes University Society, Ecosoc, which is a society concerned with environmental issues, they will be planting trees at these schools and teaching the schools children to look after their own trees. The Young Royals further aim to teach them how to design posters and the best poster will be presented at the Science Expo in September. The Science Festival shall be a very big event for the Young Royals. With the ten square meters that have been donated to them, they'll be exhibiting a display entitled '100 years of Science 100 years of Rhodes', in parallel to the University's Centenary in 2004. Major scientific breakthroughs in the last hundred years shall be exhibited, such as the heart transplant, the internet, the human genome and the like. The annual debate will be held in August, with the title decided on later in the year. They will also be involved in the introducing and thanking of various invited speakers at lectures and will continue to keep the standard they have set for themselves. 2004 will be a year of excellence, they say they will not have it any other way.

KWAZULU/NATAL

Regrettably, no branch activities were organised in Kwazulu Natal in the year under review. The Branch representative on Council, Professor Henda Swart FRSSAf, reports that throughout the year Academics were heavily involved with meetings and preparation for the amalgamation of the Universities and Technikons of Natal, Durban Westville and Pietermaritzburg into the single University of Kwazulu-Natal. She hopes to initiate branch activities in 2004.

NORTHERN AREAS

Meetings of the Northern Areas branch committee were held on 4 March 2003, 5 June 2003 and 23 October 2003. The current Committee, formalised at the meeting on 4 March, comprises the following members, who will serve for two years as stipulated in the Branch statutes:

Chairman:	Professor Jo Michael
Vice chair:	Professor Rob Veale
Treasurer/Hon. Secretary:	Professor Mary Scholes
Members:	Professors Jan Boeyens, Neil Coville, Valerie Mizrahi and John Skinner
Secretary:	Mrs Yolanda Copperthwaite

(Jo Michael, John Skinner and Rob Veale represent the Branch on the National Council.)

The Branch has been more than usually active in organising or hosting seminars and lectures this year. The events are publicised by e-mail to Branch members, and those held at Wits are also announced in

the “Wits Newsclips”. The decision to hold lunch-time lectures at Wits has seen an increase in attendance, although more effective methods for publicising the events still need to be explored. Teaming up with various University departments and other organisations for joint meetings has also been successful in increasing attendance and promoting the work of the RSSA.

The following Seminars were held during the period covered by this report.

19 March **"The Coelacanth: an icon for exciting biophysical marine research in Southern Africa"-** Dr Tony Ribbink, Programmes Manager, South African Institute for Aquatic Biodiversity, Grahamstown. Lunchtime talk, Senate House Basement, University of the Witwatersrand. (Attendance 35.) Note: the same talk had also been scheduled for a Pretoria audience on the previous evening, but had to be cancelled as a result of a delay in Dr Ribbink’s flight from Madagascar.

10 April **"South Africa’s Jurassic Park"** – Professor Bruce Rubidge, Bernard Price Institute for Palaeontological Research, School of Geosciences. Lunchtime talk, Senate House Basement, University of the Witwatersrand (Attendance 45).

15 April **“Reductionism and the emergence of complexity: from particle physics to the human mind” -** Professor George Ellis, FRSSAf, Mathematics Department, University of Cape Town**.** Evening lecture, held jointly with the Faculty of Agricultural and Natural Sciences, University of Pretoria (Attendance 60).

15 May **"Steam trains, soldiers And guns: nineteenth century protest rock art from northern South Africa"** – Dr Benjamin Smith, Director, Rock Art Research Institute, School of Geography, Archaeology and Environmental Studies, University of the Witwatersrand. Lunchtime talk, Senate House Basement, University of the Witwatersrand (Attendance 25)

19 June **“Phase transitions and colossal magnetoresistance” -** Professor CNR Rao, FRS, President of the Third World Academy of Sciences, and President of the Jawaharlal Nehru Centre of Excellence for Advanced Scientific Research, Bangalore, India. Joint seminar with the School of Physics, University of the Witwatersrand. (Attendance 50).

20 June **“Recent results with nanotubes and nanowires” -** Professor CNR Rao, FRS, President of the Third World Academy of Sciences, and President of the Jawaharlal Nehru Centre of Excellence for Advanced Scientific Research, Bangalore, India. Joint seminar with the School of Chemistry, University of the Witwatersrand. (Attendance 70).

Thanks must go to Dr M Maaza, School of Physics, University of the Witwatersrand, for making the national and local arrangements for Professor Rao’s visit. A dinner held at Wits on 20 June 2003 in honour of Professor and Mrs Rao was facilitated by the Northern Areas branch, hosted by the Vice-Chancellor of the University of the Witwatersrand, Professor Loyiso Nongxa, and attended by several Wits office-bearers and Fellows of the Royal Society of South Africa.

7 August **“Kenya’s Louis Leakey: A son’s perspective” -** Dr Richard Leakey; and **“Louis Leakey, self-styled white African: appreciation and some personal recollections” -** Professor Phillip Tobias, FRS, Hon FRSSAf. Evening lectures commemorating the 100th anniversary of the birth of Dr LSB Leakey, organised by the Palaeo-Anthropology Scientific Trust (PAST), and under the joint auspices of the Royal Society of South Africa, the Geological Society of South Africa, the South African Archaeological Society, the Southern African Friends of Cambridge University (of which Louis Leakey was an undergraduate student and PhD graduate) and the University of the Witwatersrand. Great Hall, University of the Witwatersrand. (Attendance >1000).

Professor Tobias is warmly thanked for his untiring efforts in initiating the above event with PAST, and for arranging sponsorship from Standard Bank.

WESTERN CAPE

Meetings in the Western Cape were held regularly at the Iziko Museums of Cape Town's SA Museum in Queen Victoria St. Attendance was usually between 25 and 45, but some of the lectures proved to be very popular and attracted larger audiences of up to 105 people. The following lectures were held:

February 19 **‘Reductionism and the Emergence of complexity: from particle physics to the human mind’** - Prof. George Ellis, Maths Dept, U.C.T. (Attendance 76).

March 19 **'The Quest for an HIV Vaccine.' -** Assoc. Prof. Anna-Lise Williamson, Inst. of Infectious Disease and Molecular Medicine, Faculty of Health Sciences, U.C.T. (Attendance 33).

April 16 **'Bioengineering drought tolerance in crops: Antioxidants, sugar highs & sunscreen pigments.'** - Assoc. Prof. Jill Farrant, Dept. of Molecular and Cellular Biology, U.C.T. (Attendance 30).

May 21 **'Climate Change: an Issue for this Generation' -** Assoc Prof. Bruce Hewitson, Dept of Environmental & Geographical Sciences, U.C.T. (Attendance 26).

June 18 ‘**Are Dreams Meaningless?’** - Prof. Mark Solms, Prof in Neuropsychology, U.C.T. (Attendance 105).

August 18 **‘Baby it’s Cold Outside’** - Prof. Helen Laburn, Head of School of Physiology, Univ. of the Witwatersrand. (Attendance 30).

September 17 **'The Tale of Cyclops & the Hedgehog**' - Prof. Sue Kidson, Head, Dept. of Human Biology, U.C.T. (Attendance 33).

October 15 **'A Search for the Complete History of the Cosmos'**- Prof. Neil Turok, Dept of Applied Maths & Theoretical Physics (DAMTP), Cambridge University. (Attendance 48).

November 12 **'A Web based Rainfall Atlas for Southern Africa'** - Oleg Nenadic, Inst for Statistics & Econometrics, University of Goetingen. (Attendance 25).

HONORARY FELLOWS (FOREIGN), FELLOWS (FOREIGN), FELLOWS AND MEMBERS

FELLOWS:

The Society deeply regrets to report the deaths of Dr. R. H Summers FRSSAf, Professor Alewyn Burger FRSSAf and Professor James Kitching FRSSAf. Also regretfully report the sad news belatedly received that Dr John Robinson Hon FRSSAf, had passed away in October 2001.

There are 39 Honorary Fellows (Foreign), 2 Honorary Fellows (Northern Branch), 5 Fellows (Foreign) and 186 Fellows; comprising 10 in the Eastern Cape, 20 in Kwazulu/Natal, 22 overseas, 66 in the Western Cape and 68 in the Northern Branch. The following New Fellows were elected during the year, Professor W Getz counting as a Fellow (Foreign):

SALIM S. ABDOOL KARIM (Deputy Vice-Chancellor (Research & Development), University of Natal)

Salim S. Abdool Karim is a clinical epidemiologist and Deputy Vice-Chancellor (Research and Development) at the University of Natal. He is also Professor in Clinical Epidemiology at the Mailman School of Public Health at Columbia University and Adjunct Professor in Medicine at the Weill Medical College of Cornell University. He is the Director of CAPRISA -the Centre for the AIDS Programme of Research in South Africa. Professor Abdool Karim is Principal Investigator on several major AIDS prevention and treatment clinical trials, including HPTN 035, a seven-country multi-centre phase III microbicide trial. He has published widely, with over l00 journal articles, including publications in Science, Lancet, BMJ, AIDS, and J AIDS. He has made especially important contributions in the fields of my vaccine trials, microbicide trials, and other aspects of HIV prevention. He is Associate Editor of AIDS Clinical Care, Corresponding Editor of the Intemational Journal of Infectious Diseases and Editorial Board member of Sexually Transmitted Diseases and the Southern African Journal of HIV Medicine. He chaired the Scientific Programme Committee of the XIIIth International AIDS Conference held in Durban in 2000 and has published widely in the field of HIV/AIDS and infectious diseases. He is a Member of the Scientific and Technical Advisory Group of the WHO/UNDP/UNFPA/World Bank Special Programme of Research Development and Research Training in Human Reproduction, and Chairman of their initiative on the Scientific Basis for Regulatory Decisions on Microbicides, a Member of the Academy of Science in South Africa, a Member of the Gates Foundation's Global HIV Prevention Working group, a Member of the Presidential AIDS Panel, and Chairperson of the National Advisory Group on Immunization, a South African government technical group on immunization policy. Earlier, he chaired the Health Sector Working Group of the National Research and Technology Foresight Project. Professor Salim Abdool Karim is an outstanding, internationally recognized epidemiologist, who is making a major contribution in the fight against HIV -Aids, both in terms of scientific research and in the policy arena.

RENFREW CHRISTIE (Dean of Research, University of the Western Cape.)

Professor Renfrew Leslie Christie holds degrees in African studies, politics and economics. His Oxford DPhil was made possible by his winning a Field Marshal Smuts Scholarship. An historian of science and technology, his 1984 book on Electrification History continues to be cited, as much for its theoretical clarity as for its deep empirical base. A nuclear historian, he was among the earliest whistleblowers about the Apartheid nuclear weapons programme. Condemned a terrorist, he spent seven years as a political prisoner. The crowning moment was his plenary address to the 1993 world nuclear history conference in Nice. One stunned non-proliferation world expert adjudged this to be, “like a bullet to the head”. He has seen a copy of this paper initialled by every member of the German General Staff. He has popularised the issues of nuclear warfare, in broadcast and print media. Professor Christie published on a range of other themes, including mining productivity, secondary industrialization, human rights law, science and mathematics education, the economy, and naval transformation. He held prestigious guest scholarships in the Woodrow Wilson International Centre for Scholars in the Smithsonian Institution, and in the Stiftung fur Wissenschaft und Politik, which is the German Chancellor’s strategic think tank. He lectured widely, in the Indian Ocean Peace Centre in Perth, Australia; in the Institut d’ France, Paris; in the Pentagon; and in the United States Naval Academy at Annapolis. Professor Christie played a role in the development of economic and science policy. For example, his 1990 paper to the UWC natural science faculty, “New directions in Biological Science Research and Teaching”, and his 1991 transformation address, to the President and top management of the CSIR, set new paths for both organizations. He was co-founder of the Macro Economic Research Group, and of the National Institute for Economic Policy. His Defence Review paper, “Strategic Alliances are the Best Defence, especially in the Nuclear Age”, was seminal in the development of South Africa’s defence and technology policy. Above all, in his work at UWC, Professor Christie has made science of quality available to historically disadvantaged people. The President of the National Research Foundation has recorded that the University of the Western Cape continuously confronted

the NRF and its predecessors, with demands for the transformation of research funding in South Africa, such that those previously excluded have obtained redress of the highest quality. The thesis is that redress without excellence is no redress at all. The credit for UWC's palpable recent research successes goes to the whole team, but it is plain that Professor Christie's unmitigated and dogged tenaciousness has paid off. He was in favour of doctorates, the marriage of research and teaching, the appointment of top-class scientific rebels as professors, proper equipment, cutting edge science, and a preference for fewer publications in better journals. These things were achieved. UWC's science faculty was one-third PhDs in 1990 and is four-fifths now. The university awarded some 20 Masters and one doctoral degree in 1990, compared to 200 Masters and 25 PhDs in 2003. UWC has the only Cray research supercomputer in Africa. UWC is a leading light in a variety of fields, including structural biology, bioinformatics and nanotechnology. One in sixty UWC academics held NRF ratings in 1990; now one in eight are rated, most of them natural scientists. Nor have Professor Christie's contributions at UWC been confined to the natural sciences. He chairs the Board of the Community Law Centre, which helped to write the South African Bill of Rights, and which now monitors its implementation. He helped to create the School of Public Health, the Education Policy Unit, and the Mayibuye Archives. His simple speeches on the history of science, for example, on Marie Curie, are in demand. At a few hours notice he delivered a trenchant speech on "Science and Democratic Education" to the 2002 Annual Dinner of the Royal society of South Africa, which will long be remembered. In summary, Professor Christie has "rendered distinguished and conspicuous service to the cause of science in South Africa", at great personal cost.

HOOSEN MAHOMED COOVADIA (Victor Daitz Professor in HIV/AIDS Research and Director (Biomedical Sciences) of the Centre for HIV/AIDS networking at the Nelson Mandela School of Medicine, University of Natal.)

Hoosen Mohamed (Jerry) Coovadia has distinguished himself as a leading paediatric immunologist, a national and international figure in the paediatric world and more recently, a world authority in the field of paediatric HIV/AIDS, both as a researcher and as a powerful force in shaping policy with respect to the disease. Jerry Coovadia was educated at Sastri College-in Durban and studied medicine in Bombay, obtaining an M.B., B.S. degree in 1965. Professor Coovadia specialised in Paediatrics at the University of Natal and became a Fellow of the College of Paediatricians of the Colleges of Medicine of South Africa in 1971. In 1974, he obtained an MSc in Immunology from the University of Birmingham. Returning to South Africa after his studies, he rejoined the Department of Paediatrics at the University of Natal and began to work on the immunology of measles in children. This research led to the award of an MD in 1978, the year in which he was appointed Principal Paediatrician and Senior Lecturer. In 1982 he was appointed Associate Professor and in 1986 Ad Hominem Professor. In 1990, he became Professor and Head of the Department of Paediatrics and Child Health at the University of Natal, a position he held until the end of 2000. During that time, he created a strong and vibrant department held in high regard for its teaching, clinical excellence and research. He has maintained a high public profile and served as an outstanding role model, both within and outside the health sector. After retiring from this position, Professor Coovadia was appointed Victor Daitz Professor in HIV/AIDS Research and Director (Biomedical) of the Centre for HIV/AIDS networking at the Nelson Mandela School of Medicine, University of Natal. Professor Coovadia's interest in paediatric HIV/AIDS developed in the early 1990's as the extent of the tragedy in South Africa began to be recognised. He was Chairperson of the Commission on Maternal and Child Health Policy set up by the Government in 1994. His particular interest has been the transmission of the virus from mother to child. He has attracted numerous large research grants from both local and overseas donors and has built up a powerful research team at the Nelson Mandela School of Medicine. He and his group have published a number of ground breaking research articles and have extended their research from HIV/AIDS to tuberculosis and other infectious diseases into the rural Hlabis area of Kwazulu/Natal. Professor Coovadia was appointed by the National Department of Health as Chairperson of the National Advisory Group on the HIV/AIDS and STD Programme from 1995 to 1997, while his international stature in the area of HIV/AIDS led to his election as Chairperson of the XIIIth International Conference on AIDS, held in Durban in July 2000. His research output is prodigious - he has authored or co-authored more than 200 articles in peer reviewed journals, many of them leading international journals. Together with Lucy Wagstaff, he is co-editor of a textbook Paediatrics and Child Health; which is widely used by medical students and medical doctors throughout South Africa. Professor Coovadia has received numerous accolades and awards. He was elected a Fellow of the University of Natal in 1995 and was awarded an honorary D Sc by the University of Durban Westville in 1996 and the University of the Witwatersrand in 2003. In 1999, President Nelson Mandela honoured him with the Star of South Africa for his contribution to democracy and health and he received a silver medal from the Medical Research Council for excellence in research. In 2000 he received the International Association of Physicians in AIDS Care Award; the Heroes in Medicine award in Toronto, Canada; the Nelson Mandela Award for Health and Human Rights and he was elected a Foreign Member of the Institute of Medicine of the National Academy of Sciences, USA -an honour that is seldom awarded.

BRYAN ROBERT DAVIES (Associate Professor, Dept of Zoology, University of Cape Town)

Associate Professor Bryan Davies, Founder and Director of the University of Cape Town's Freshwater Research Unit, has made an outstanding contribution to the limnology of Southern Africa and in particular its rivers. He is a member of 15 national and international professional Societies in aquatic resources and inland waters ecology; Founder member of the SA Institute of Ecologists and was President of the Southern African Society of Aquatic Scientists in 1989 and 1990. Professor Davies was also Special Programme leader for the Foundation for Research Development's South African Rivers Research from 1990 to 1995. This programme, with 58 published products and 26 projects, received excellent reviews by the evaluation panel of peers. Professor Davies is the author of benchmark reviews dealing with the world's rivers and is also co-editor of several books such as The Ecology of River Systems, Monographiae Biologicae, which received excellent reviews in nine international journals and Global Perspectives in River Conservation: Science, Policy and Practice. He is co-author of the book Vanishing Waters, which won the University of Cape Town Meritorious Publication Award in July 1999. Associate Professor Davies is recognised by his colleagues as an outstanding university teacher and won the UCT Distinguished Teacher award in 1986. He has supervised over 13 Masters students and 10 Ph.D. students as well as supervising the 28 postgraduates who were the candidates for the Foundation for Research Development's Special Programme. Over 57 peer reviewed papers of great quality and a number of books and special reports make up the remarkable output of this dedicated and sharply focussed man of science.

WAYNE GETZ (Professor, Dept of Environmental Science, Policy & Management, Univ. of California, Berkeley)

Professor Getz was born in Johannesburg in 1950 and educated in South Africa, obtaining his B.Sc. (Wits, 1971), B.Sc. Hons. (Wits, First Class, 1972) and Ph.D. (Wits, 1976), all in the area of Applied Mathematics. He received a D.Sc. from the University of Cape Town in 1995 for his work on kin recognition and olfaction in honeybees. Prof. Getz worked for the National Research Institute for Mathematical Sciences of the CSIR from 1974 to 1979, at which time he left South Africa to take up a faculty position at the University of California, Berkeley, where he has worked as a biomathematician and achieved the rank of Full Professor in 1986. Prof. Getz has always had a strong interest in South African human and natural resource issues. Before departing for the USA in 1979, he worked on fisheries management problems, and since the early 1990's, he has had a strong component of his research program in South Africa, primarily in the areas of wildlife management, conservation biology, and more recently, human epidemiology. Additionally, he currently has an NSF funded project to study the spread of bovine tuberculosis in African buffalo in the Kruger National Park that he runs in collaboration with Professor Johan du Toit of the Mammal Research Institute at the University of Pretoria (UP). As a result of this collaboration he was appointed an Extraordinary Professor at the University of Pretoria. Prof. Getz has other scientific ties with South Africa in two additional areas. First, he was one of two scientists to be appointed as the first fellows of the new Stellenbosch Institute of Advanced Studies and, in this connection, recently spent five months at the University of Stellenbosch, collaborating with Professors Jan-Hendrik Hofmyer and Jackie Snoep in the Biochemistry Department. Secondly, Prof. Getz is currently one of three scientists in the process of establishing a South African Centre for Epidemiological Modelling and Analysis (SACEMA). Funds from the South African Department of Science and Technology have already been allocated to support the flrst year's activities of this new initiative which includes a short course that will be taught during the first week of December, 2003, in conjunction with AIMS (the newly established Africa Institute for Mathematical Sciences), and a workshop on modelling and analysis of the AIDS Epidemic in South Africa that will follow the short course. As a biomathematician, Prof. Getz's scientific contributions are considerable and eclectic. They include both theoretical contributions to the fields of dynamical systems, animal behaviour, population ecology, epidemiology, evolutionary biology and neurophysiology, as well as applied contributions to fisheries, wildlife management, and conservation biology. These contributions resulted in more than 150 peer reviewed research articles and book chapters in leading publications (including Nature, Science and leading speciality journals of several fields), and a 390 page monograph (coauthored with one of his postdoctoral students, Robert Haight) Population Harvesting: Demographic Models of Fish, Forests and Animal Resources published in the series Princeton Monographs in Population Biology, Princeton University Press. In 1998 he was awarded a prestigious 3-year UC Berkeley Chancellor's Professorship (a chair that included $60,000 in discretionary research funds over three years). He has made significant contributions in the fields listed above, and has maintained active research activities in South Africa.

JAN-HENDRIK SERVAAS HOFMEYR (Professor, Dept of Biochemistry, University of Stellenbosch)

Professor Jannie Hofmeyr received his university education at the University of Stellenbosch where he obtained the BSc, BSc (Hons.) and MSc degrees, all with distinction. In 1986 he obtained his PhD from the same university and is currently Professor of Biochemistry at his alma mater. The driving force for his research has been investigating the answers to two questions, a) what is life and how does it work? and b) how did life come about and evolve? To address these questions his research has included studies on the theory of metabolic behaviour, control and regulation, computer modelling of intracellular systems, biothermodynamics, enzyme kinetics, biological organization and a general interest in complex systems.

Together with two colleagues from the University of Stellenbosch, he set up a research group that is focused on these questions and has also worked extensively with colleagues at numerous universities in Europe and also the USA. Professor Hofmeyr has received considerable national and international recognition for his research. He holds an A-rating from the National Research Foundation (1999), received the University of Stellenbosch Vice Chancellor's award for excellence in research (1999), was the first recipient of the Harry Oppenheimer Fellowship award and gold medal (2002) and received the gold medal of the SA Society for Biochemistry and Molecular Biology in 2003. In addition, he serves on the editorial advisory board of the European Journal of Biochemistry.Professor Hofmeyr has served as an office bearer or Council member of the Experimental Biology Group and the SA Biochemical Society, and is a member of the SA Academy of Sciences and the International Study Group on BioThermoKinetics. He has also served as Chair of the Department of Biochemistry, as Deputy Dean of the Faculty of Natural Sciences and numerous senior committees and task groups of the University of Stellenbosch. He has been the supervisor or co-supervisor of eleven MSc and six PhD students.

ROSINA CLAUDIA KRECEK (Professor Extraordinaire, Dept. of Zoology and Entomology, Faculty of Natural and Agricultural Sciences, University of Pretoria)

Born in the United States of America, R. C. Scialdo (now Tammi Krecek) obtained a BS (Animal Science, 1972) from the University of Florida and a MS (Zoology, 1975) from East Texas State University, before coming to South Africa, where she was awarded a DSc in zoology by the University of Pretoria in 1984. The topics of her Masters and Doctoral degree theses were, respectively, "A survey of parasites found in the stomachs of horses raised in south western, southern and central states." and "The nematode parasites of Equus zebra hartmannae and Equus burchelli antiquorum from different areas of southern Africa". In the Faculty of Veterinary Science, University of Pretoria at Onderstepoort, she has held the following positions: Research Assistant and later Researcher, Dept. of Parasitology (1979-1988); Senior Lecturer in Helminthology (1989-1991); Associate Professor in Helminthology (1992-1995); Professor of Helminthology (1996-2002) and at present, Extraordinary Professor, Dept. of Zoology and Entomology, Faculty of Natural and Agricultural Sciences, University of Pretoria. Prof. Krecek is the author or co-author of 71 full-length articles in refereed scientific journals, with a further eight in press or under review; 11 information papers or reviews in refereed journals; 13 chapters/full-length papers or reports in proceedings; 49 abstracts of international conference presentations and 50 of national conference ones. The theme of virtually all Prof. Krecek's scientific activity has been the study and management of parasitic worms in wild and domestic animals, particularly in equines used for draught purposes in resource-limited communities. She has made important contributions, not only to science, but also to the improvement of the quality of life of poor people throughout the world, whose livelihood depends on their domestic animals. She is a member of ten professional organisations, including the Royal Society of South Africa and has been President of the Parasitological Society of Southern Africa and of the World Association for the Advancement of Veterinary Parasitology. During 2002 she accepted invitations to deliver keynote papers at conferences held in Syria, Uganda and Tanzania.

JOHN RICHARD MOSS (Head of Department of Inorganic Chemistry, University of Cape Town)

Professor John Moss holds the Chair of Inorganic Chemistry at the University of Cape Town, a position he has held since 1995. His main research interests are in the field of Organometallic Chemistry, and he has carried out novel work in the synthesis, structure and reactivity of new compounds containing transition-metal to carbon bonds. Such compounds find uses as novel catalysts for polymerisation reactions, advanced materials such as liquid crystals and inorganic drugs. He has authored more than 100 papers and published his findings in a number of prestigious international journals such as the Journal of Organometallic Chemistry, the Journal of Molecular Catalysis, Organometallics, Inorganica Chemica Acta, Chemical Communications, Polyhedron and the Journal of Medicinal Chemistry. He has also written several important reviews and chapters in books. In particular he has published a chapter on the Organometallic compounds of cobalt, palladium and platinum in the McGraw-Hill Yearbook of Science and Technology and several reviews in Coordination Chemistry Reviews. He is the recipient of several major awards, which include fellowships of the National Research Council of Canada, the Science Research Council (UK), and the California Institute of Technology. In 1999 he was invited to join the editorial board of the Journal of the Chemical Society: Dalton Transactions. This is one of the most prestigious Journals of Inorganic Chemistry of the Royal Society of Chemistry (UK). He has given invited lectures at many Universities in Europe and North America. Professor Moss has also distinguished himself as a University teacher, has inspired many post-graduate students and was awarded the UCT Distinguished Teachers Award in 1994. Currently he directs a research group comprising 4 PhD, 5 MSc and 3 Post-doc students. He has served successfully as Head of Department of Chemistry at UCT, is widely regarded as a leading chemist in South Africa and is a distinguished member of our academic community.

LOYISO GORDON NONGXA (Vice Chancellor, University of the Witwatersrand)

Born in Indwe, near Queenstown, Loyiso Nongxa was a natural scholar and excelled in his studies throughout his education. He matriculated from Healdtown College where he achieved distinction as the top matric student in South Africa in 1972. He then proceeded to study for a BSc degree at Fort Hare, BSc

(Hons.) 1976, MSc. 1978. All these degrees were awarded *cum laude*. His contemporaries at university include many of South Africa's political and business leaders. In 1978, Professor Nongxa became South Africa's first African Rhodes Scholar and he holds a D. Phil from the University of Oxford, obtained in 1982. He is a mathematician who has lectured at the University of Fort Hare, the National University of Lesotho, University of Natal and the University of the Western Cape, where he held the post of Professor in Mathematics and later, Dean of the Faculty of Natural Sciences. In October 2000, Professor Nongxa took up the position as Deputy Vice-Chancellor (Research) at the University of the Witwatersrand. In April 2002 he was appointed Vice-Principal and after six months, appointed both Principal and Vice Chancellor, in an acting capacity. In May 2003, he was appointed as the Vice-Chancellor and Principal on a ten-year contract. Professor Nongxa serves on the Rhodes Scholarship Selection Committee, the SAUVCA Research Committee and various National Research Foundation committees. His expertise and interest include Universal Algebra, the teaching of mathematics at tertiary level and research evaluation.

R NORMAN OWEN-SMITH (Professor in African Ecology, School of Animal, Plant and Environmental Sciences, University of the Witwatersrand.)

R. Norman Owen-Smith is an NRF A-rated scientist who has distinguished himself in the fields of mammalian ethology and ecology, after initially graduating with an MSc. cum laude in Chemistry at the University of Natal, under the renowned Professor Frank Warren. From Natal he went to the University of Wisconsin, USA where he registered for a degree in Behavioural Ecology and, after completing the course work, returned to Natal to undertake the fieldwork for his thesis on the endangered white rhino. With this first definitive study on this species, he demonstrated an outstanding ability to quantify behavioural observations to further the conservation of a species. He returned to South Africa in 1973, under a scheme initiated by the Council for Scientific and Industrial Research to encourage expatriate scientists to return home. He joined Professor John Skinner as a postdoctoral Fellow in the Mammal Research Institute at the University of Pretoria. There he initiated a long-term definitive study on the behavioural ecology of kudus in the Kruger National Park, a study that he continued for at least 10 years. This research resulted in several excellent publications and provided the basis for a distinguished research career in this field. Norman Owen-Smith then took up a position as Senior Lecturer at the University of Rhodesia, in charge of their world-renowned M.Sc. course in Tropical Resource Ecology. However, after a successful term, he was forced to return to South Africa or face conscription into the army. He was fortunate in securing a post as Director of the Nylsvlei Ecosystem Project, a major multidisciplinary research effort being run by the CSIR and focusing at that time on the Nylsvlei flood plain. After some time on this project with the CSIR, he joined the Department of Zoology at Witwatersrand University where, amongst other activities, he has arranged outstanding short courses on modelling ecological systems. Because of his research expertise, he was promoted to Research Professor in the Department in 1997. Professor Owen-Smith is a productive member of the University, having published over 65 scientific papers in leading international scientific journals in behaviour and ecology. He has written two books for Cambridge University Press in their series Cambridge Studies in Ecology (the latest in 2003), and has worked with leading scientists in his field, locally and abroad, both on the megaherbivores and a wide range of ungulate species. He is an extremely numerate scientist who has made a major contribution to the study of mammalogy in Africa.

HELGARD G. RAUBENHEIMER (Professor of Inorganic Chemistry and Head: Dept of Chemistry, University of Stellenbosch)

Helgard G Raubenheimer is professor of Inorganic Chemistry and has been Chairman of the Department of Chemistry at the University of Stellenbosch since 1998, after he moved there from the Rand Afrikaans University (RAU) in Johannesburg, where he held similar positions since 1979. Helgard Raubenheimer matriculated in 1959 from DF Malan High School in Bellville Cape, and obtained his PhD in Inorganic Chemistry in 1970 from the University of Stellenbosch. From1966 to 1970 he was lecturer in chemistry at Stellenbosch University, moving to Senior Lecturer in Inorganic Chemistry at RAU in 1971, where he was promoted to Professor of Inorganic Chemistry in 1979. Helgard spent 1973 and 1980 at the Technical University of Munich in Germany where he worked with the Nobel Laureate, Professor Ernst Otto Fischer developing his passion for the organometallic chemistry of carbenes, an area to which Helgard has made many significant contributions. In 1985, he spent a year at the ETH in Zurich as visiting professor, where he worked with the well-known synthetic chemist Professor D Seebach. Helgard Raubenheimer's research interests centre around the use of organometallic complexes as homogeneous catalysts, the organometallic chemistry of gold, and more recently he studied catalysis in ionic liquids as well as in the preparation of inorganic polymers, in which he collaborates with Professor Luigi Nassimbeni at UCT. He has published more that 100 peer-reviewed papers, contributed 5 chapters to specialized books and review articles, and has supervised 28 masters and doctoral students. Currently he has an active group of one full-time researcher, 3 post-doctoral researchers, 3 PhD and 4 MSc students, and collaborates with a number of other chemists locally and abroad, notably Professor Hubertus Schmidbaur the doyen of gold chemistry, at the Technical University of Munich, in Germany. Helgard has served on numerous FRD and NRF committees, in 2001 serving on the NRF-Thrip Process Manufacturing Advisory Panel. Helgard Raubenheimer has made many outstanding contributions to furthering our understanding of carbene-like

organometallic compounds. His significant contributions to the science of organometallic chemistry, were recently recognized by the award of the Gold Medal of the South African Institute of Chemistry in 2002.

TERENCE JOHN ROBINSON (Professor of Zoology and Chair: Dept of Zoology, University of Stellenbosch)

Professor Robinson received his entire university training in the Mammal Research Institute and Department of Genetics of the University of Pretoria, being awarded his M.Sc. cum laude in 1975 and Ph.D. in 1981, with topics "A comparative study of the three subspecies of springbok, Antidorcas marsupialis marsupialis, A.m. hofmeyri and A.m. angolensis" and "Systematics of the South African Leporidae" respectively. Subsequently, he refined his scientific skills as a postdoctoral Research Associate at the University of Texas and Baylor College of Medicine, Texas, USA. Prof. Robinson has served the international scientific community through his association with the Species Survival Commission of the World Conservation Union (IUCN), serving on three important Species Specialist Groups. As a leading mammalian molecular systematist he has been instrumental in analysing genetic diversity in rabbit and bovid populations and has used information thus derived to influence decisions about wildlife management and genetic conservation. Further recognition internationally came as invitations to contribute to Festschrifts in Cytogenetics and Cell Genetics and Cytogenetics and Genome Research in honour of Drs S. Ohno and K Fredga respectively. He has accepted invitations to present the results of his research at leading international symposia. He is a member of four international societies and five South African societies, including the Royal Society of South Africa. Locally, his research achievements were recognized by the University of Pretoria by designating him as an "Outstanding Achiever". Prof. Robinson has played a significant role in the development of biological systematics in southern Africa through his research activities and those of his post-graduate students. He is the author or co-author of 73 full-length papers in refereed scientific journals and has recently co-authored a benchmark publication on the systematics of southern African mammals. His attainment of a leading position in the fields of cytogenetics and molecular genetics of mammals makes him a valuable Fellow.

BRUCE SIDNEY RUBIDGE (Director, Bernard Price Institute of Palaeontology and Head: Dept of Palaeontology, University of the Witwatersrand.)

Professor Bruce Rubidge comes from a family renowned for their fossil collecting, and from an early age developed an interest in palaeontology. He pursued this interest, or rather passion, at the University of Stellenbosch, where he majored in geology and zoology, graduating with a BSc Hons. (cum laude). After graduation he joined the National Museum at Bloemfontein as Assistant Curator of Palaeontology and shortly thereafter was promoted to Head of Palaeontology. While on the staff, he completed his MSc (cum laude) at Stellenbosch and PhD at the University of Port Elizabeth. In 1990, he was invited to take up the Directorship of the Bernard Price Institute of Palaeontology at the University of the Witwatersrand, a position he still holds. Under his leadership the Institute has grown in standing, and today is a leading centre of research on the evolution of mammal-like reptiles and the palaeo-ecology of Gondwana during the Permian to Jurassic Periods. Rubidge leads his research team from the front, and is author or co-author of more than seventy refereed papers. He serves or has served on the Editorial Boards of several journals, and is extremely active in promoting this country's unique palaeontological heritage both at home and abroad. His stature in his field of palaeontology and in the wider scientific community is such that he has been invited to deliver numerous prestige lectures, including the Schonland Memorial Lecture to the Royal Society in Grahamstown and the Alex du Toit Memorial Lecture to the Geological Society of South Africa.

MARY CATHERINE SCHOLES (Associate Professor, School of Animal, Plant and Environmental Sciences, University of the Witwatersrand.)

Mary Scholes has made a significant contribution in the field of nutrient cycling, improving the productivity and sustainability of plantation forests and natural savanna ecosystems. She has also developed an international reputation in the field of factors controlling gas emissions from soil and vegetation and extrapolation of these data globally and to the South African region. She is a distinguished teacher and researcher and is the only person at the University of the Witwatersrand who has won both the prestigious Vice-Chancellor's award for Teaching (1995) and the Vice-Chancellor's Award for Research (2000). She is frequently invited to be a keynote speaker at both national and international meetings. She has successfully supervised numerous postgraduate students -26 have already graduated and 19 are currently registered under her supervision. Her international reputation is evident in that she has co-chaired the Science Steering Committee of the International Global Atmospheric Chemistry Programme (IGAC), Vice-Chairperson on the Science Advisory Council for Tropical Soil Biology and Fertility Institute, Executive Member of the Scientific Council of Problems in the Environment (SCOPE) and has served on the Steering Committee for the International Geosphere Biosphere Programmes. She is a member of a number of learned Societies and an Associate Editor of the Journal of Geophysical Research and serves on the editorial board of Applied Soil Ecology and Ecosystems. Her international standing in the scientific community was recognised in 2002 by her being elected as a foreign member of the Swedish Academy of Natural Sciences.

LESLIE GORDON UNDERHILL (Professor and Director of Avian Demography Unit, Dept of Statistical Sciences, University of Cape Town.)

Les Underhill completed a PhD in a theoretical Mathematical Statistics in 1973, and is expert in estimation techniques for avian survival rates from capture-recapture data. A founder member of the Western Cape Wader Study Group, he gathered vast data sets on shorebirds, developing new statistical approaches from scratch to handle unusual data. His publications led to an invitation to the Taimyr Peninsula in Siberia, which established the link between breeding success of migrant birds and the abundance of lemmings. When lemmings were abundant, Arctic Foxes preyed on them while waders escaped attention; but when lemmings were scarce, the foxes destroyed virtually all nests. Thus, Les Underhill helped demonstrate the remarkable fact that lemming cycles in Siberia were mirrored by bird abundance at Langebaan Lagoon. Les Underhill was deeply involved with the aftermath of the Apollo Sea oil spill of 1994, demonstrating unequivocally that cleaning oiled penguins made conservation sense. On 23 June 2003, the Treasure sank, causing the most extensive penguin oiling event to date, and his paper of the 1994 spill contributed significantly to the resourcing of appropriate interventions. Les generated a web site that depicted the satellite-tracked travels of "Peter", "Pamela" and "Percy", still the world's most famous penguins, which drew world attention to the plight of the 19 000 oiled penguins that were rescued by SANCCOB. In 1991, Les Underhill initiated the Avian Demography Unit of the University of Cape Town and brought the Atlas of Southern African Birds into existence. Les may have drifted from his theoretical foundations, but his enduring contributions to statistical methods include the prey-switching model, the model of avian primary moult order, and work in the generation of random orthogonal matrices. Contributions to techniques of statistical analysis include work on basic structure display and low- dimensional representation of highly complex multidimensional data, especially the co-efficient of variation bi-plot. His extensive programmes were included in the package GENSTAT, the source of the modern discipline of biometry. In summary, Les Underhill is a consummate statistical scientist, and has made major contributions to diverse aspects of statistical, ornithological and marine sciences over a long period. He has won many important awards, including the Herschel Gold Medal of the Royal Society of South Africa, and the Gilchrist Medal for contributions to Marine Science. He is a Fellow of the South African Statistical Association, and a Fellow of the University of Cape Town. Les Underhill's achievements to July 2002 may be summarised as: 126 Papers in refereed journals; 22 Books or contributions to books; 80 Papers at international conferences; 18 Published conference proceedings; 147 Extension articles or papers in minor journals; 8 Textbooks; referee for 40 journals; supervision of 24 completed graduate theses.

MEMBERS

The Society regrets to report the deaths of the following Members: Dr Jack Elsworth, Mrs M Malan and Prof B V Schulze. Sad news was also received in that Dr RH Goetz had died in Dec 2000. There are 249 members; 57 in the Eastern Cape, 34 in KwaZulu/Natal, 50 in the Northern Area, 89 in the Western Cape and 19 overseas. The following New Members were elected during the year: Northern Branch: Dr. Graham Alexander, Prof Ahmed Wadee and Dr Gerhard Weldhagen; Western Cape: Dr Frank Brombacher.

MEDALS

No awards were made for the John F. W. Herschel Medal or the Meiring Naude Medal for 2003.

PUBLICATIONS

Volume 57 (1 & 2), 2002 of the *Transactions* was dispatched early in the year. The volume's two parts were combined because the Editor wished to speed up the publication of the journal, which had fallen behind in recent years. Volume 56 (2), 2001 was finally published in mid-year, following a series of problems, which had seriously delayed its publication. Production Editor, Ms. Felicia Stoch of the Avian Demography Unit at UCT did the typesetting of these issues, whilst Sancino Litho printed them. Their contribution is gratefully acknowledged. The Editor with the assistance of the Editorial Board (Dr. C.K. Brain FRSSAf, Prof. G.F.R. Ellis, Prof. D.E. Rawlings FRSSAf and Prof J. Van Staden FRSSAf) continued to evaluate papers received for Volume 58 (1) & (2), 2003. Part one contains a mix of papers of various disciplines, whilst part two is a festschrift to Prof F R N Nabarro Hon FRSSAf, containing papers invited from physicists from around the world. Unfortunately, due to the ill health of Ms Stoch, the typesetting of these two issues was not completed by the year-end, as was anticipated. It is hoped that they will be published in the first quarter of 2004. The Council decided during the year that because of the high cost of printing, that from Volume 59, 2004 onwards, the Transactions would become electronic and available on the web, in the care of Sabinet. Those members who do not have access to the Internet, may however, request a hard copy, digitally photocopied, or burnt onto a compact disc. The Council wishes to acknowledge with appreciation the efforts of the Editor, Professor John Skinner, to bring the publication of the Transactions up to date.

LIBRARY

The Librarian and staff of the University of Cape Town Library continue to catalogue and maintain the Society's Library. About 50 scientific institutions (reduced from 195 due to a shortage of space) have an exchange agreement, whereby they send publications to the Society on exchange or as gifts.

COOPERATION WITH OTHER BODIES

The Society maintains contact with and has representatives on the following bodies:

- The Academy of Science of South Africa (ASSAf) - Professor G. F R. Ellis FRSSAf
- Frank Warren Memorial Trust - Professor B. Warner FRSSAf
- South African Agency for Science and Technology Advancement (SAASTA, ex IPS, ex FEST.) - Professor M. N. Bruton FRSSAf
- National Science and Technology Forum (NSTF), including the Federation of Scientific, Engineering & Technological Societies & Allied Professions (FEDSET)- Professor J. D. Skinner FRSSAf

ACKNOWLEDGEMENTS

Grateful acknowledgement is made of the efficient assistance of Elaine Rutherfoord-Jones in the running of the national office of the Society. We wish to thank the chairs and committee members of the branches of the Society, some of who were very active during 2003. We wish the new chairmen of the Branch committees well for the New Year. Thanks also to organisers of lectures, the speakers and those who delivered votes of thanks at lectures, as well as to the Iziko Museums of Cape Town for hosting the public meetings. The Society is also very grateful to the South African Astronomical Observatory for lending the boardroom for Council meetings. We would also like to thank the Dean and staff in the Science Faculty Office at UCT, for kindly accommodating the national office and for sharing faxing and photocopying facilities.

D. E. RAWLINGS
GENERAL SECRETARY