
Annual Report for 2008

Officers and Council for 2007/2008

President: John Skinner

Vice Presidents: Margaret Avery & Tony Ribbink

General Secretary: Ansie Dippenaar-Schoeman

Foreign Secretary: Klaus Koch

Treasurer: Maciej Soltynski

Editor: John Skinner

News Bulletin Editor: Soorya Sasidharan (co-opted October)

General Members of Council:

Jane Carruthers, Don Cowan, Ian Glass, Perry Kaye, John Moss,
Brian Schaller, Ed Sturrock, Rudi van Aarde

Co-opted Members:

Luigi Nassimbeni, Doug Rawlings

Report of the General Secretary for 2008

SPECIAL PROJECTS

CENTENARY CONGRESS OF THE SOCIETY

To commemorate the Centenary of receiving its Royal Charter, the Royal Society of South Africa held a Centenary Congress on 17 and 18 April 2008 at the Breakwater Lodge in Cape Town. The theme of the Congress was *The Value of Science: looking Back and Looking Forward*. The idea was to celebrate the achievements of the Society, especially over the last 30 years since the publication of *A History of Scientific Endeavour in South Africa*, edited on behalf of the Society by former President A.C. Brown FRSSAf, and to examine the future role of the Society in South African science. The Congress was also planned as a celebration of the inter-disciplinary character on which the Society prides itself.

The Opening Address was presented by Albert van Jaarsveld FRSSAf and the Congress comprised three elements: invited plenary lectures covering major fields of South African science, poster sessions dedicated to current research projects, and a discussion on the future of science in South Africa. Invited speakers, all of whom are Fellows or Members of the Society, were requested to discuss their field of research in terms of the theme of the Congress in such a way as to be readily intelligible to non-specialists. There were four poster sessions, in two parallel sessions, displaying a wide variety of research, much of it by students, which bodes well for the future. These sessions, during which authors presented their work, took place in front of the posters to facilitate discussion. The Congress was concluded with a discussion on the outlook for science in South Africa, which took the form of position statements by panel members and subsequent opening of the discussion to the floor.

The Centenary Banquet was held at the nearby Commodore Hotel on the evening of 17 April. This banquet included elements of the annual banquet, such as the induction of new Fellows and presentation of medals. As befits a unique occasion, it also saw the induction of two new Honorary Fellows (George F.R. Ellis and Brian Warner) and the presentation of his Certificate to Phillip V. Tobias FRS, Hon. FRSSAf. The third new Honorary Fellow, William H. Frankel, was unable to attend at

the last minute; he was subsequently inducted at a lunch in Cape Town. On the decision of Council, Centenary medals were awarded to Maciej Soltynski MRSSAf and Anthony J. Ribbink FRSSAf (Treasurer and Vice President, respectively) for exceptional service to the Society. The banquet address on this occasion was delivered by Phillip Tobias, a former President, on the topic of *The Value of Science: Looking Back*.

2008 SCIENCE ESSAY COMPETITION

In December 2007, the entry forms for the 2008 Science Essay Competition were posted to about 500 schools across the country. The closing date for entries was 10 March 2008 – the earlier date was to enable the Society to invite winners to receive their awards at the Society's Centenary Congress. To make the quantity of marking more manageable, schools were requested to pre-select the best essays and submit no more than three per topic. In total, 100 essays were received.

Two essays were selected for publishing in the Volume 63(2) of the *Transactions of the Royal Society* and were published online in October 2008. Professor Luigi Nassimbeni FRSSAf, the Council's nominated convener of the Essay Competition, arranged for markers in UCT's Chemistry Department. They were Emeritus Professor Peter Linder, Professors Susan Bourne and Tim Egan, and Dr N. Bathori.

2008 RSSA Science Essay Competition Winners (*published in the Transactions)

Topic: How is global warming affecting our daily life in South Africa and what can we do about it?

1. Ilana Finn* – St Mary's DSG, Kloof.
2. Mulalo Grace Nematahoni – Mbilwi Senior Secondary, Sibasa.
3. Tumelo Mahange – West Ridge High School, Westgate.

Topic: How do dangerous diseases in South Africa affect us, and how can we better deal with them?

1. Khathutshero Lillith Muedi – Mbilwi Secondary School, Sibasa.
2. David Ferronha – Hilton College, Hilton.
3. Natalie Shepard – Sasolburg High School, Sasolburg.

Topic: The South African Economy is booming. How can we best meet its future energy needs?

1. Chris Molteno* – Diocesan College, Rondebosch.
2. Fatima Hassen Ragie – Zinniaville Secondary School, Rustenberg.
3. Sarah Swarbeck – St Anne's Diocesan College, Hilton.
4. Ian Roach – Stirling High School, East London.

Primary school topic: Discuss some of the scientific discoveries of the past 100 years which have had a significant impact on South Africa.

1. Amber Godsell – Kings School Linbro Park, Linbro Park.
2. Shannon de Vries – Bryandale Primary School, Bryanston.
3. Jolene van der Merwe – Kings School Linbro Park, Linbro Park.

*Chosen for publication in *Transactions* Volume 63(2).

Nine of the 13 prizewinners were presented with their prize and certificate by a Fellow/Member of the Royal Society, namely Professors Jane Carruthers, Mary Scholes, Hannes van Staden and Dr Andrea Fuller, at a time arranged with the school. Certificates were posted to the other four prizewinners. Chris Molteno of Diocesan College was awarded his first prize by Essay Convener, Professor Luigi Nassimbeni, at the RSSA Centenary Congress in April 2008.

The Royal Society of South Africa thanks the Claude Leon Foundation for its kind and magnanimous donation towards the science essay competition. The Society receives numerous letters of thanks and appreciation from teachers and pupils alike.

Cash prizes were awarded to all prizewinners of each essay category. 1st prize, R2000; 2nd prize, R1250; and 3rd prize, R750. Total value of prizes amounted to R16 750. The essay markers received a stipend of R10 per essay marked, amounting to a total of R1000. The Society's administrative expenses, which included postage, photocopying and certificates, and the time of the Office Administrator, amounted to R6720. The total expense was thus R24 470 compared to the grant by the Claude Leon Foundation of R25 000.

The prizewinners were also invited to spend a day visiting facilities such as I'themba Laboratories at Stellenbosch, the SAAO in Observatory, the MTN Science Centre at Century City or Umhlanga Rocks; HartRAO in Vredefort; and National Zoological Gardens in Pretoria. However, it would appear that in recent years the interest in such visits has drastically declined.

YOUNG ROYALS

Tony Ribbink reported that although the Young Royals had hosted a number of very successful events such as 'Women in Science' they had, partly because of problems with funding, not been able to fulfill their objectives for 2008. However, a new committee is in place for 2009, with many new ideas on the table, and being the only multidisciplinary committee on campus, members were keen to act as an integrating scientific force. Tony felt that this committee, with early funding and hard work, could fulfill their plans for 2009.

CLAUDE LEON FOUNDATION SCHOLARSHIPS

Doug Rawlings reported that 108 applications for Claude Leon Foundation Fellowships had been received. The final selection took place on 19 October and he was assisted by Society Fellows David Wood, Jennifer Thomson and Renfrew Christie. Of the applications 43 were approved for funding.

ANNUAL DINNER

The Annual Dinner was originally planned to take place in Port Elizabeth but was held on 15 October 2008 at The Johannian Club in Johannesburg. Robin Crewe FRSSAf was the guest speaker on the topic *Are Research Universities Necessary in South Africa?*, while Phillip Tobias FRS, Hon. FRSSAf toasted the Society's centenary. Two inductions took place and 40 people attended.

PROGRESS OF THE ROYAL SOCIETY IN 2008

This has been a very memorable year during which the Society celebrated its Centenary with a very successful multidisciplinary Congress in Cape Town attended by 100 delegates. At the Centenary Banquet attended by 130, awards were made to scientists both young and old for scientific achievement and two long-serving contributors to the Society were suitably honoured. The invited scientific reviews were of a high standard and delivered with aplomb, followed by concurrent scientific poster sessions. This success demonstrated the need for more multidisciplinary scientific meetings, as later called for by many of those attending.

The Society's Special Projects continued to flourish as indicated elsewhere in this Report. The *Transactions* continue to improve in terms of content and delivery, the latter thanks to immaculate service in setting and printing by Isteg Scientific Publications, and Sabinet have again taken care of electronic online publication. The *News Bulletin* has been published regularly and is a great service to the membership, informing them of both Fellows' and Members' personal achievements, much other news including scientific meetings and workplace opportunities.

Financially, the Centenary Congress depleted some of the Society's savings but was an investment well spent. Generous sponsorship was received for the School Science Essay Competition and the publication of the Special Issue of the Centenary *Transactions* from the Claude Leon Foundation and it was a special pleasure to entertain the Foundation's Chair, William H. Frankel, to lunch in Cape Town, where he was inducted and received his Certificate of Honorary Fellowship for services to science.

As evidenced by the continued nomination and election of leading scientists in South Africa to Fellowship and Membership, and improving student membership, the Society is increasingly flourishing and fulfilling a valuable role in the service of science in South Africa.

BRANCH ACTIVITIES

Eastern Cape Branch

Committee

Chair: Perry Kaye

Treasurer: Alan Whitfield

Secretary: Mike Davies-Coleman

Chair of the Young Royals at Rhodes: Adwoa Ankoma

Cost-centre

In order to facilitate financial arrangements, the Branch cost-centre was moved from SAIAB to Rhodes University, where it will be controlled by the Chemistry Department's Administrator, Benita Tarr.

Events

The Royal Society of South Africa Centenary Congress in Cape Town (17–18 April) was attended by:

- Tony Ribbink, Perry Kaye and Adwoa Ankoma.

Plenary lectures were presented by:

- Tony Ribbink, *Coelacanth Evolutionary and Ecological Enigmas*.
- Adwoa Ankoma, *A History of the Young Royals So Far and Plans for the Future*.
- Lucy Scott, former Young Royals Chair, *Mapping the Coast and Ocean of the Tanga region, Tanzania, and Applications for Coastal Management and Decision-making*.

Lectures

- The Royal Society lecture at SCIFEST in Grahamstown (19 April) was presented by Sir David King FRS, Hon. FRSSAf.
- The 2008 Annual General Meeting, held on Wednesday, 23 April, was followed by the Amy Jacot-Guillarmod Lecture presented by: Alan Whitfield (FRSSAf) on *A Story of Two Lakes*.
- The Branch was happy to support the Annual Politics Teach-In (15–19 September) on "Power and Energy", in which the speakers included Minister Alec Erwin, Rob Adam FRSSAf, Saliem Fakir and Steven Karataglidis.
- The 2008 Schonland Lecture held on 22 October was presented by Rosemary Dorrington FRSSAf, titled *There's Money in Genes*.

Notable achievements

- Tebello Nyokong FRSSAf was awarded the prestigious Africa-Arab State 2009 L'Oreal-Unesco Award for Women in Science for her pioneering research into photodynamic therapy, which looks at harnessing light for cancer therapy and environmental clean-up.
- Alan Whitfield FRSSAf was awarded the Gilchrist Medal, which recognises his outstanding contributions to marine science in South Africa's marine and coastal environments. He also achieved a NRF A rating.
- Tony Ribbink, who is also a Vice President of the Royal Society of South Africa, was awarded a Centenary Medal at the Centenary Congress Banquet, in recognition of his outstanding service to the Society.
- Peter Vale FRSSAf received the 2008 Vice-Chancellor's Senior Distinguished Research Award.
- Three members were elected as Fellows of the Society, namely Greg Blatch, Mike Davies-Coleman and Alan Hodgson.

Acknowledgement

The Branch appreciates the cordial relationship that it enjoys in the Eastern Cape region with the Academy of Science of South Africa, with which it has co-hosted a number of events.

KwaZulu-Natal Branch

No meetings were arranged in this region in 2008.

Northern Branch

Committee

Chair: Rudi van Aarde

Vice Chair: Jane Carruthers

Treasurer: Ansie Dippenaar-Schoeman

Secretary: Lilian Scholtz (PA to Rudi van Aarde)

Members: Nigel Bennett, Rudolph Bigalke, Andrea Fuller, Tim Partridge, Sasi Sasidharan

Public lectures

Four public lectures were hosted during 2008/09:

- 7 October 2008: Ansie Dippenaar-Schoeman (FRSSAf), *Spiders: Unique Invertebrates*.

- 4 November 2008: Nigel Bennett (FRSSAf), *African Mole-rats: a Goldmine for Research*.
- 4 March 2009: Mike Bruton (FRSSAf), *1000 Years of Islamic Science*.
- 30 March 2009: Graham Mitchell (FRSSAf), *Evolution of Giraffes*.

Royal Society dinner

The Northern Branch planned and hosted the Annual dinner of the Royal Society. It was held on 15 October at the Johannesburg Club in Johannesburg attended by 40 people and was a thoroughly enjoyable occasion. A special word of thanks to Jane Carruthers FRSSAf for taking the responsibility and for having arranged everything so well for this auspicious occasion, at which Robin Crewe FRSSAf, Vice Principal (Research) University of Pretoria addressed the Society on the subject *Are Research Universities Necessary in South Africa?* Philip Tobias proposed the formal toast to the Society.

Secretariat

The Branch gained the services of Lilian Scholtz as the new secretary and she has been going well beyond her normal course of duty to ensure the smooth running of occasional meetings, arrangement of public lectures and other activities. The committee had two official meetings during the reporting year while all other matters have been communicated through frequent e-mail correspondence.

Resignation

Unfortunately, in terms of his current commitments as Acting Dean in the Faculty of Science, University of the Witwatersrand, Rob Veale found it difficult to continue as an active member of the Northern Branch Committee and confirmed that he would be happy if he could be replaced.

General

Arrangements to transfer the Northern Branch's bank account from the previous committee took some 18 months. All has now been finalised and R28 000 has been deposited in a special account established at the University of Pretoria. This account is controlled and audited by the financial system of the University, with signing powers given to Rudi van Aarde and Nigel Bennett. This has removed administrative costs and streamlined payments and day-to-day running activities dramatically.

Western Cape Branch

Public lectures

- 20 February 2008: Sydney Brenner FRS Hon. FRSSAf, *The 1 008 000-year-old Genome*.
- 26 March 2008: Michael Kahn, *Getting the Measure of the System of Innovation*.
- 21 May 2008: Wikus van Niekerk, *The Role of Renewable Energy in South Africa*.
- 18 June 2008: Susan Bourne FRSSAf, *Supramolecular Chemistry: Achieving Useful Properties through Weak Interactions*.
- 20 August 2008: Ladislav Mucina, *Vegetation of South Africa: Mapping, Understanding, and Using the Diversity of Ecosystems*.
- 17 September 2008: Frank Robb, *Molecular Strategies for Microbial Survival in Life-limiting Conditions*.
- 22 October 2008: Ed Sturrock FRSSAf, *New Drugs for Hypertension: from Ace to Aliskiren*.
- 19 November 2008: Hubert Schmidbaur, *The History of and Prospects for Silicones: a Success Story of Science & Economics*.

MEMBERS AND FELLOWS

Fellow and Membership Numbers

Total number of Fellows and Members in November 2008: 458.

Fellows

Total Fellows: 210

New Fellows: 2008: 11

New Honorary Fellows: 2

Members

Total Members: 190

New Members 2008: 15

Members who became Fellows

L J Barbour, G L Blatch, M Davies-Coleman, A N Hodgson and R M H Smith.

Student Members

Total Student Members: 19

New Student Members: 13

NEW FELLOWS 2008

Igor Barashenkov

(Professor of Mathematics and Applied Mathematics, University of Cape Town)

In 1992 Igor Barashenkov was appointed Senior Lecturer in the Department of Mathematics and Applied Mathematics at UCT. He was promoted to Associate Professor in 1998 and to Professor in 2002.

Barashenkov has co-authored 52 research papers in highly respected scientific journals. He has also contributed 28 research papers in the proceedings of 22 international and six national conferences. Among his research papers are seven jewels that were published between 1994 and 2005 (at a rate of about 0.64 papers per annum) in *Physical Review Letters*, which is arguably the most prestigious scientific journal Physics has to offer. Very few physicists and mathematicians can boast having published so many papers in *Physical Review Letters* at the corresponding stage of their careers.

According to the Citation Report, Barashenkov's top cited paper in *Physical Review Letters* 80 (1998) 5117, has 117 citations. He has 15 papers with at least 15 citations each, which corresponds to a Hirsch factor of 15. The total number of citations of his work is 686.

Barashenkov's main research achievements include:

- The discovery of a new type of soliton with unusual properties, i.e., the so-called solitonic bubbles.
- The first demonstration of the stability of the gap solitons in optical grating.
- The discovery of the remarkable complexity of the solitons in resonantly forced dissipative systems.
- The explicit construction of topological solitons in two dimensions.
- The prediction of a stable two-dimensional soliton on the surface of a ferrofluid, which was experimentally confirmed after its theoretical prediction by R. Richter and I.V. Barashenkov in *Physical Review Letters*.

For research into solitons, Barashenkov was awarded an NRF A2 rating in 2002 and 2007. Moreover, he served on the NRF Assessment Panel for the Mathematical Sciences from 2005 to 2007, in the last year as its chairman. He was awarded a Harry Oppenheimer Fellowship in 2004 and a Distinguished Teacher's Award in 1998 at UCT.

Leonard James Barbour

(Professor of Chemistry, University of Stellenbosch)

Len Barbour's major accomplishments can be subdivided into two areas: (1) development of new paradigms in Supramolecular Chemistry and (2) development of novel research tools for the study of solid-state phenomena.

1. New paradigms include (i) large water clusters in the solid state (first published in *Nature*, 218 citations), (ii) the encapsulation of nanometre-scale chemical space (an article was featured on the cover of *Science*, 248 citations) (iii) unconventional porosity in crystals (first reported as two papers in *Science*, >200 citations). All three of these paradigms are now being investigated extensively by numerous groups internationally.
2. Research tools include (i) a levitation balance for the study of gas/vapour inclusion reactions (copies are currently in use in South Africa, Poland and the USA), (ii) a computerised volumetric system for monitoring gas sorption processes (copies in use in South Africa, USA, Canada and Australia), (iii) software for crystallographic analysis and presentation (licensed at 80 international institutions, ca. 700 citations) and (iv) a unique miniaturised gas cell for the collection of single-crystal diffraction data under pressure (0 to 80 atmospheres). This device provides unprecedented atomic-scale positional information that is proving to be exceptionally useful for understanding solid-gas interactions.

Barbour's *h*-index is currently 31 and he has been cited more than 3700 times. Of the 34 articles that he published over the five-year period 2003–2007, 22 appeared in the top three international Chemistry journals (11 in *Chemical Communications*, four in the *Journal of the American Chemical Society* and seven in *Angewandte Chemie*).

In 2005 Barbour was awarded an A2 rating by the NRF on the basis of his first application. He received the Rector's Award for outstanding research at Stellenbosch University in 2007, and in 2008 he received the National Science and Technology Forum Award "to an individual for research and its outputs over the past five years or less."

Gregory Lloyd Blatch

(Professor of Biochemistry, Department of Biochemistry, Microbiology & Biotechnology at Rhodes University)

Gregory Blatch is a highly regarded scientist whose research has focused on cell stress proteins, or chaperones, that assist with the folding and assembly of other proteins during biological processes. His research programme has involved the isolation and characterisation of a number of novel co-chaperones that interact with two heat shock proteins, Hsp70 and Hsp90. More recently, he has investigated the role of heat shock proteins in disease and infection, specifically malaria and trypanosomiasis.

Blatch obtained his PhD in 1990 on the nucleotide sequencing and expression analysis of genes from *Vibrio alginolyticus*. In 1993 he moved to Boston where his interest in heat shock proteins started during his post-doctoral fellowship at Harvard Medical School in Bruce Zetter's laboratory. He returned to South Africa in 1995 to start his independent research career at the University of the Witwatersrand as a Senior Lecturer before taking up the position of Associate Professor and Head of Biochemistry at Rhodes University in 2000 and being promoted to full Professor in 2004.

During the past eight years he has emerged as an internationally acclaimed researcher with more than 50 publications in international, peer-reviewed journals, graduating 108 PhD and

138 MSc students, receiving a National Research Foundation (NRF) B2 rating, and being a recipient of several research grants, notably a prestigious Wellcome Trust Senior Research Fellowship. His invitations to serve on editorial boards of journals and present plenary lectures at international conferences are a further tribute to his international recognition.

He has made an enormous contribution to the national Biochemistry community by serving on numerous NRF assessment and advisory panels; being elected as the SASBMB President (2003–2006) during which time he made significant contributions to student involvement; acting as external examiner at several universities; being invited to review national grants and papers as well as to present at national conferences and workshops; and recently being awarded the SASBMB Gold Medal for the promotion of Biochemistry in Southern Africa. His commitment to research and teaching is evident from his nomination for the VC's Distinguished Teaching Award and his receipt of the VC's Distinguished Senior Research Award at Rhodes University.

Philip Allan Charles

(Director: South African Astronomical Observatory (SAAO); Visiting Professor, University of Cape Town (on leave from School of Physics & Astronomy, University of Southampton)

After obtaining his PhD in X-ray astronomy from the University of London in 1976, Phil Charles undertook a period (1976–1980) of postdoctoral work at the University of California, Berkeley. He then spent 20 years in the Astrophysics Department at Oxford. He was head of that department from 1994 to 2000 and Professor of Physics at Oxford from 1996 to 2000. From 1987 to 1992 he was also Head of the Astronomy Support Group, Isaac Newton Group of Telescopes, La Palma, and from 1990 to 1992, Deputy Officer-in-Charge of the Isaac Newton Group at La Palma. In 2000 he took up the post of Professor and Head of Astronomy, University of Southampton. From 2004 he has been on leave from Southampton and has been the Director of the South African Astronomical Observatory and Visiting Professor at the University of Cape Town. Despite his administrative load, Charles continues to be a very active research scientist and teacher. He is an NRF A-rated researcher.

His fields of interest are X-ray astronomy, X-ray binaries, accretion onto compact objects, optical spectroscopy, variable stars, cataclysmic variables and ultracompact binaries, in which fields he has published widely. He is the author of 353 research publications in international peer-reviewed journals on these topics, a third of which have been published since 2000.

He is author of the book *Exploring the X-Ray Universe* (Cambridge University Press (CUP) 1995) and has contributed review chapters to *X-Ray Binaries* (CUP 2005) and *Century of Space Science* (Lavoisier 2002).

He was the Editor of the *Proceedings, Cataclysmic Variables* (Elsevier 2000). Since 1998 he has been the Editor of *New Astronomy Reviews*.

Michael Trevor Davies-Coleman

(Professor of Organic Chemistry & Head of Department of Chemistry, Rhodes University)

Mike Davies-Coleman's research has focused on the isolation and identification of potential anti-cancer compounds from Southern African marine organisms, and he has established himself as the leading marine natural products chemist in South Africa if not on the African continent. He directs a strong and productive research group and has already published 71 papers in peer-reviewed journals and successfully supervised

(as the sole supervisor) six PhD and six MSc projects and co-supervised a number of others. He has presented over 40 papers at national and international conferences as lectures or posters, and numerous invited research lectures. His work has also been recognised by:

- invitations to prestigious conferences,
- the award of an NIH Visiting Scientist Fellowship,
- an invitation to carry out research at the National Cancer Institute (NCI) in the USA in 1999, and
- a Fulbright Senior Research Fellowship in 2005 to visit the NCI once again.

He regularly reviews papers for the *Journal of Natural Products* and occasionally for *Bioorganic and Medicinal Letters*, *Natural Products Research*, *Tetrahedron* and *Tetrahedron Letters*, and is a member of the Editorial Board of the *Journal of Natural Products*. He also has acted as external examiner for PhD theses in marine natural product chemistry from Australia, New Zealand and Canada.

He won the Rhodes University's Vice-Chancellor's Distinguished Research Award (under 40) in 1996 and achieved an NRF B3 rating in 2007 – both clear indicators of his research achievements. He is also an excellent and enthusiastic teacher, regularly exploring more effective approaches and his efforts in this area were clearly recognised in the Vice-Chancellor's Distinguished Teaching Award in 2005.

As Secretary of the Eastern Cape Division of the Royal Society of South Africa, he has made an exemplary and significant contribution to the smooth running of the Branch and has played a leading role in the organisation of two, recent and very successful colloquia at Rhodes.

Alan Nicholas Hodgson

(Professor of Zoology, and Head of Department of Zoology & Entomology, Rhodes University)

Alan Hodgson has built up an enviable reputation over the years for his contributions in two major disciplines of the biological sciences, namely marine biology, and invertebrate biology at the level of the gamete. His publication record is outstanding, and has been rewarded by the award of a DSc from the University of Manchester, U.K, in recognition of his tremendous contribution to molluscan gamete biology. He has published one book, three book chapters and some 106 research articles, most of which feature in high-impact, international peer-reviewed journals, and include amongst their ranks papers in *Proceedings of the Royal Society, London* and the *Philosophical Transactions of the Royal Society, London*. Alan is an NRF B rated scientist and has an *h*-factor of 16. He is currently head of the Department of Zoology and Entomology at Rhodes and has served on numerous NRF panels, of which he has been chairman of various selection committees. His endeavors have increased our knowledge on the reproductive biology of molluscs and marine biology as a whole in three ways:

1. Through his meticulous research and training of students. Hodgson has mentored numerous students who are experts in their own right today.
2. He has fostered inter-disciplinary and inter-institutional collaboration in the realms of marine and gamete biology.
3. He has been a forerunner in the development and promotion of the study of invertebrate marine and estuarine biology in South Africa. His impact on the field of marine invertebrate reproductive biology can be attested to by the large number of invited lectures he has been requested to present all over the globe.

Lubertus Klumperman

(Research Professor in Advanced Macromolecular Architectures, Department of Chemistry and Polymer Science, University of Stellenbosch)

Bert Klumperman has an outstanding track record of supervising students and conducting high-quality research. He has been involved with the University of Stellenbosch on a part-time basis from 1998 until 2006, and since January 2007 has held a NRF/DST Research Chair on Advanced Macromolecular Architectures. In 2007 he received an A rating from the NRF based on very positive feedback from his peer reviewers. As an example one of the comments is cited here: "Prof Klumperman is an excellent researcher in the field of living radical polymerisation. The impact of his research is high as can be seen from the citations of his leading papers in excellent journals like *Macromolecules*, *Polymer* and the *Journal of Polymer Science*. This is further illustrated by the numerous invitations to give lectures at renowned laboratories. Bert Klumperman has been internationally accepted as one of the leading scientists in the field of RAFT and ATRP polymerisations mainly based on his work during the last seven years. Without doubt there was already a strong contribution of his (part-time) South African activities to his international recognition. From 2007 onwards, this contribution shows a strong increasing trend, owing to his present, permanent, full-time position at the University of Stellenbosch. His most recent work in the field of controlled polymerisation of *N*-vinylpyrrolidone will have great impact, even beyond the defined field of polymer science. In collaboration with several groups throughout South Africa, some of this work holds promise for application in the development of unique drug delivery systems.

Robert Peter Millar

(Professor in the Department of Medical Biochemistry, University of Cape Town)

Bob Millar is Director of one of the United Kingdom's most prestigious biomedical research groups, the MRC Human Reproductive Science Unit, Centre for Reproductive Biology, Edinburgh, but he never has relinquished ties with the country of his scientific maturation. He remains Professor in the Department of Medical Biochemistry at the University of Cape Town, where he formerly was Director of the UCT/MRC's Regulatory Peptides Research Unit. He holds his chair at UCT concurrently with the chair at the University of Edinburgh. He visits South Africa frequently to maintain his research interests here.

It was for his research in comparative neuroendocrinology, and especially his research on Gonadotrophin Releasing Hormone, a molecule which still occupies the central role in his research life, that Millar was awarded an NRF A rating in 1990. He now has well over 300 peer-reviewed publications in reproductive neuroendocrinology to his credit. Eighteen of his papers have been cited more than 100 times each. He has been an invited plenary or symposium speaker at more than 70 international congresses. He is the Editor-in-Chief of the journal *Neuroendocrinology*, and is on the editorial board of many other journals.

Millar has passed on his expertise in both the academic and the industrial spheres. He has supervised 21 PhD students, more than half of them registered at UCT. He founded the spin-off company Ardana Bioscience, and has served as a consultant to many biomedical companies. He has been President of the South African Biochemical Society and has served on the executive committee of the International Society

for Comparative Endocrinology.

While he was permanently resident in Cape Town, Millar became one of our country's most illustrious biomedical researchers. He has remained just that, though now resident in Scotland. It is anomalous that he had not been proposed for Fellowship of the Royal Society of South Africa before, and we now take pride in doing so.

David Mark Richardson

(Professor in the DST-NRF Centre of Excellence for Invasion Biology, Stellenbosch University)

Dave Richardson has made fundamental contributions to the study of biological invasions. He has worked mostly on invasive species in South Africa, but has published widely on invasive species in many other parts of the world and on global patterns and trends in these invasions. Much of his work is directed at providing guidelines for their improved management, but he is also interested in contributing to a theoretical framework for understanding invasions. His international standing as a researcher is summarised below.

- Recipient of the Hans Sigrist Award for 2006 – this award (from the Hans-Sigrist-Stiftung, Switzerland) recognises "outstanding scientific work". According to the convener of the selection panel, Richardson was selected from a list of 40 nominated researchers in the field of biological invasions from around the world. He is the first recipient of the award from outside Europe and North America; it is also the first time the award has been made for research in organismal biology.
- Stellenbosch University Rector's Award for Excellence in Research (2007).
- Rated A1 by the National Research Foundation (2007).

Roger Malcolm Harris Smith

(Research Scientist/Curator and Head of Department Karoo Palaeontology, Iziko South African Museum, Cape Town)

Roger Smith is one of South Africa's leading palaeontologists and has earned an international reputation for innovative and diligent research. He is passionate about his science and works hard to disseminate information about it to all levels of society. He was born in Cambridge and after graduating from Manchester University he worked at the Geological Survey of South Africa. Early in his career he published a landmark paper utilising taphonomy of Karoo fossils as a tool in palaeoenvironmental analysis.

In 1979 he joined Newmont in diamond exploration for three years before taking up a research position at the South African Museum in Cape Town where he has been Head of the Karoo Palaeontology department, Senior Specialist Scientist and Head of the Earth Sciences Division.

At the Museum, Smith's initial research was on the sedimentology and vertebrate taphonomy of the lower Beaufort Formation which he used towards his PhD at UCT in 1989. Over the past decade his research focus has been on the end Permian extinction – the greatest mass extinction, evidence of which is preserved in the Karoo. This project has received international acclaim and his fossil-collecting horizons have expanded to Antarctica, Madagascar, Niger and Tanzania. He has published more than 50 papers in accredited journals, has a B rating from the NRF, and is a Research Associate of the Geology Department at UCT.

Smith's passion for popularising palaeontology has resulted in numerous popular articles, and he has been responsible for

palaeontology exhibits at the Iziko and Fraserburg Museums, the fossil trail in South Africa at Karoo National Park, and the West Coast Fossil Park. He has participated in numerous scientific films flighted in South Africa, Britain, USA and Japan.

Andries Johannes Van der Walt

(Professor of Law, SA Research Chair in Property Law, University of Stellenbosch)

Andries van der Walt is an A1-rated Professor of Law in the Faculty of Law, Stellenbosch, and incumbent of the South African Research Chair in Property Law, hosted by the same university. In 2004 he was elected a Visiting Fellow Commoner of Trinity College, Cambridge. He is a Property Law specialist and works primarily in the field of Constitutional Property Law, Property Theory and Land Reform Law. Professor Van der Walt's most important publications in his field of expertise are two books, namely *Constitutional Property Clauses: A Comparative Analysis* (1999: Juta & Kluwer International) and *Constitutional Property Law* (2005: Juta).

On Van der Walt's 2005 book on Constitutional Property Law international reviewers have had the following comments:

- There is no scholar in the world as able and prepared as [A]vdW to provide us with an up to date, authoritative treatment of this topic ... [he] is a leading figure in the fields of constitutional property law, comparative constitutionalism, and property law theory, and I do not mean just in SA. This book will join [his] *Constitutional Property Clauses* (1999) – the two make a fine pair – as a world-leading source for scholars and jurists.... (Prof. Frank I Michelman, Harvard).
- Thoughtful, meticulous, and powerfully argued, this book – written by the world's leading authority in comparative property law – is must reading for anyone who wishes to understand the SA property clause or any of the deeper issues in this field (Prof. Laura Underkuffler, Duke Law School).
- The theoretical discussion that is construed on a broader comparative basis is of the highest interest for the discussion of property issues worldwide (Prof. Michael Sachs, Cologne Law Faculty).
- The need for this book is very great. [The] book fills that need in a way that will set the standard for all future work, in SA and elsewhere (Prof. Gregory S. Alexander, Cornell Law School).

NEW HONORARY FELLOWS

The following new Honorary Fellows were announced at the Centenary banquet:

- George Ellis FRS, FRSSAf
- Bill Frankel
- Brian Warner FRSSAf

NEW MEMBERS 2008

- Dr Colleen Aldous-Mycock, *Science Writer, Geneticist, Nelson R Mandela School of Medicine, University of KwaZulu-Natal.*
- Prof. C. Bezuidenhout *Associate Professor of Microbiology, North-West University.*
- Tobias Brummer, *Journalist and Contracted Consultant to Media 24.*
- Vincent Carruthers, *Company Director, Consultant and Author of authoritative publications on southern African amphibians.*
- Hubert Cuff, *Professional Architect and Town & Regional planner.*

- Dr Kennedy Erlwanger, *Senior Lecturer (Physiology) & Veterinarian, University of the Witwatersrand.*
- Robyn Hetem, *Research Officer, University of the Witwatersrand Medical School.*
- Dr Peter Kamerman, *Lecturer, School of Physiology, Medical School, University of the Witwatersrand.*
- Dr John Napier, *Hon. Prof. School of Computational and Applied Mathematics, University of the Witwatersrand and retired Research Engineer.*
- Dr Ademuyiwa Odusanya, *Postgraduate Assistant Department of Environmental, Water & Earth Sciences, Tshwane University of Technology.*
- Prof. André Oelofse, *Director of the Centre for Nutrition at the University of Pretoria.*
- Dr Ruth Rabinowitz, *Doctor of Medicine, Member of Parliament.*
- Alan Starke, *a food scientist formerly with Nampak Limited.*
- Willem Strauss, *Lecturer/Researcher, Department Environmental Science, University of South Africa.*
- Fiona Price, *Producer/Director – Science television/documentaries.*

New Student Members

- Tanya Augustine, *PhD student and Assoc. Lecturer, School of Anatomical Sciences, University of the Witwatersrand.*
- Brendon Billings, *BSc (Hons) student, School of Anatomical Sciences, University of the Witwatersrand.*
- Manoj Chiba, *MSc student, School of Anatomical Sciences, University of the Witwatersrand.*
- Jason Hemingway, *PhD student and Assoc. Lecturer, School of Anatomical Sciences, University of the Witwatersrand.*
- Jacob Kgamphe, *PhD student, Director of National Department of Education.*
- Mohlopheni Marakalala, *PhD student, Intern Medical Scientist, Division of Chemical Pathology, University of Cape Town.*
- Munyaradzi Mujuru, *PhD student, Chemistry, Tshwane University of Technology.*
- Olatunbosun Olaleye, *PhD student, School of Anatomical Sciences, University of the Witwatersrand.*
- Kennedy Owuor, *PhD student, Department of Environment, Water & Earth Sciences, Tshwane University of Technology.*
- David Roberts, *third-year BSc student, Veterinary Biology, University of Pretoria.*
- Mangaga Singo, *MSc student, Tshwane University of Technology.*
- Paul Trethowan, *third-year BSc student, Zoology, University of Pretoria.*
- Caliphs Zvinowanda, *PhD student, Department of Environmental, Water & Earth Sciences, Tshwane University of Technology.*

MEDALS

It was decided in 2008 that all non-members who received Medals would be awarded one year's free membership as part of their prize. In addition, all teachers of school prizewinners would also receive one year's free subscription.

John Herschel Medal 2008

- Prof. Michael Samways (FRSSAf)

Meiring Naude Medal 2008

- Prof. Florian Breuer
- Prof. Graeme Cummings

Centenary Medallists

Special Centenary Medals for service to the Society

- Tony Ribbink – champion of the Eastern Cape Branch
- Maciej Soltynski – long service to Council and financial management of the Society

PUBLICATIONS**Transactions**

The *Transactions of the Royal Society of South Africa*, Volume 63 (1) and (2) are available from http://www.journals.co.za/ej/ejour_royalsa.html — Volume 64(1) & (2) will be published in May 2009.

Newsletter

Four *News Bulletins* were issued during 2008 by the editor, Sasi Sasidharan, who is currently researching his doctoral thesis on the genetics of cheetahs at the Veterinary Genetics Laboratory, University of Pretoria, Onderstepoort Campus.

LIBRARY

The librarian and staff of the University of Cape Town Library continue to maintain and catalogue the Society's Library. About 50 scientific institutions have an exchange agreement, whereby they send publications to the Society in exchange or as gifts.

COOPERATION WITH OTHER BODIES

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

- National Science and Technology Forum including the Scientific, Engineering and Technological Societies and Allied Professions Group of SA: Northern Branch
- Claude Leon Foundation – Prof. D.E. Rawlings FRSSAf
- Frank Warren Memorial Trust – Prof. B. Warner FRSSAf.
- South African Agency for Science and Technology Advancement – Prof. M.N. Bruton FRSSAf.

ACKNOWLEDGEMENTS

The Office Administrator, Sandra de Villiers-Soltynski is thanked for her efficient administrative services to the Council and membership. We wish to thank all the chairpersons and committee members of Branches for voluntarily giving of their skills and time, as well as organisers of lectures, speakers and those who delivered votes of thanks at lectures as well as the Director of the South African Astronomical Observatory for lending the boardroom for Council meetings. The Dean and staff in the Science Faculty Office at the University of Cape Town are thanked for kindly accommodating the national office and for sharing faxing and photocopying facilities.

Ansie Dippenaar-Schoeman
General Secretary