Royal Society of South Africa Newsletter

June 2026

PROMOTING SCIENCE - RECOGNIZING EXCELLENCE IN RESEARCH AND SCHOLARSHIP

News from Fellows and Members



From 1 October 2025, **Prof Jennifer Fitchett** (**MRSSAf**) was appointed as the Head: Postgraduate Studies and Researcher Development at the University of the Witwatersrand on a 50% secondment, while continuing in her role as Professor of Physical Geography in the School of Geography, Archaeology and Environmental Studies at Wits. From 1 January 2026, she has been appointed as an Honorary Professor of the Department of Geography at University College London.



Dr Suresh Naidu Krishna (**MRSSAf**), Faculty of Health Sciences, Durban University of Technology, recently went on an academic visit to Parul University, Vadodara, India (Booklet visit Dr Krishna). During this visit, he engaged in academic discussions and collaborative activities with faculty and postgraduate researchers, delivered invited lectures, and explored opportunities to strengthen international research collaboration between South Africa and India in nanotechnology, biomedical research, and sustainable technologies. The visit also received institutional media coverage (LinkedIn article 1, LinkedIn Article 2, and LinkedIn Article 3).

Professor Valerie Mizrahi (**FRSSAf**), Director of the Molecular Mycobacteriology Research Unit, University of Cape Town, has been newly elected as an international member of the US National Academy of Sciences (NAS Election 2026).



News from Fellows and Members
Pages 1-2



News from Fellows and Members: New Books
Pages 3-4



Council Members
Page 5

Transactions of the RSSAf: Editor's Notes
Page 5



General Announcement
Page 6



Historical Note
Pages 7-10



Personal Perspectives
Page 11

News from Members and Fellows

Prof Jeanine Marnewick (**MRSSAf**; centre), Mr Johan Henry Neethling (second from the right), and **Associate Prof Marilize Le Roes-Hill** (**MRSSAf**; second from the left), Applied Microbial and Health Biotechnology Institute (AMHBI), CPUT, received the Technology Innovation Award from the CPUT DVC: Research, Technology Innovation and Partnerships, Prof Marshal Sheldon (right), for their globally recognised rooibos innovation, SlowRedT. In attendance was also the Director: Technology Transfer and Industrial Linkages, Dr Revel Iyer (left). This innovation is based on more than two decades of research into the health benefits of rooibos, leading to product development (for more information, see US 12558391 B2, Sustained Release Formulation Containing *Aspalathus linearis* Extract; US patent Slow Red T).





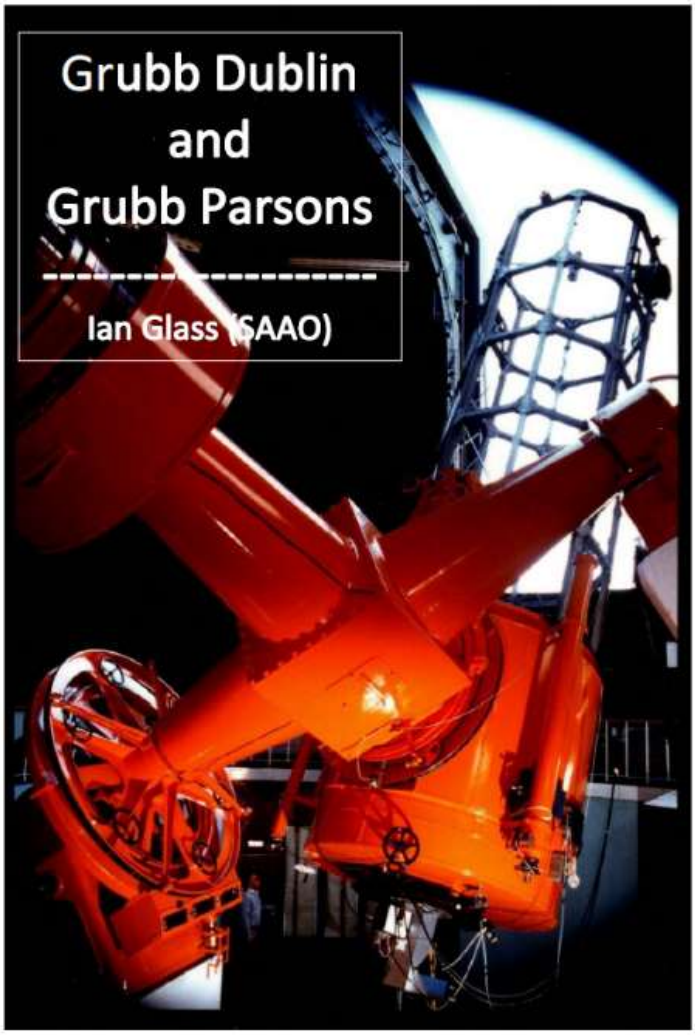
Dr Gaathier Mahed (**MRSSAf**) has left academia and ventured into consulting with a focus on groundwater and geotechnical aspects. For more information, see https://www.gaathiermahed.com/.



Prof Faadiel Essop (**FRSSAf**), Director of the Centre for Cardio-metabolic Research in Africa, Faculty of Medicine and Health Sciences, Stellenbosch University, was inducted as a Member of the Academy of Science of South Africa (Stellenbosch University news - Prof Faadiel Essop). In 2025, he was also awarded the International Union of Physiological Sciences *Julie Chan Prize* for **physiologists** who have contributed to **international mentoring** and/or **career development** (IUPS Awards 2025).

News from Fellows and Members: New Books

Dr Ian Glass (**MRSSAf**) has published a new book, "Grubb Dublin and Grubb Parsons". The author has decided to distribute the book for free, and it can be downloaded as a PDF (~25MB) or read online from the Centre for Astronomical Heritage at the following address: https://cfah.org.za/resources/grubb-glass.



The Grubb company was started by the young engineer Thomas Grubb in Dublin around 1830. It gradually expanded to the point where Thomas and his son Howard were entrusted to build some of the largest and most advanced telescopes of the 19th century.

When Howard Grubb became too old to continue the business in 1925, it was taken over and re-organised by Charles Parsons, the steam turbine pioneer and third son of the celebrated telescope constructor, William Parsons, 3rd Earl of Rosse. Over sixty years they produced some of the most important telescopes of the 20th century.

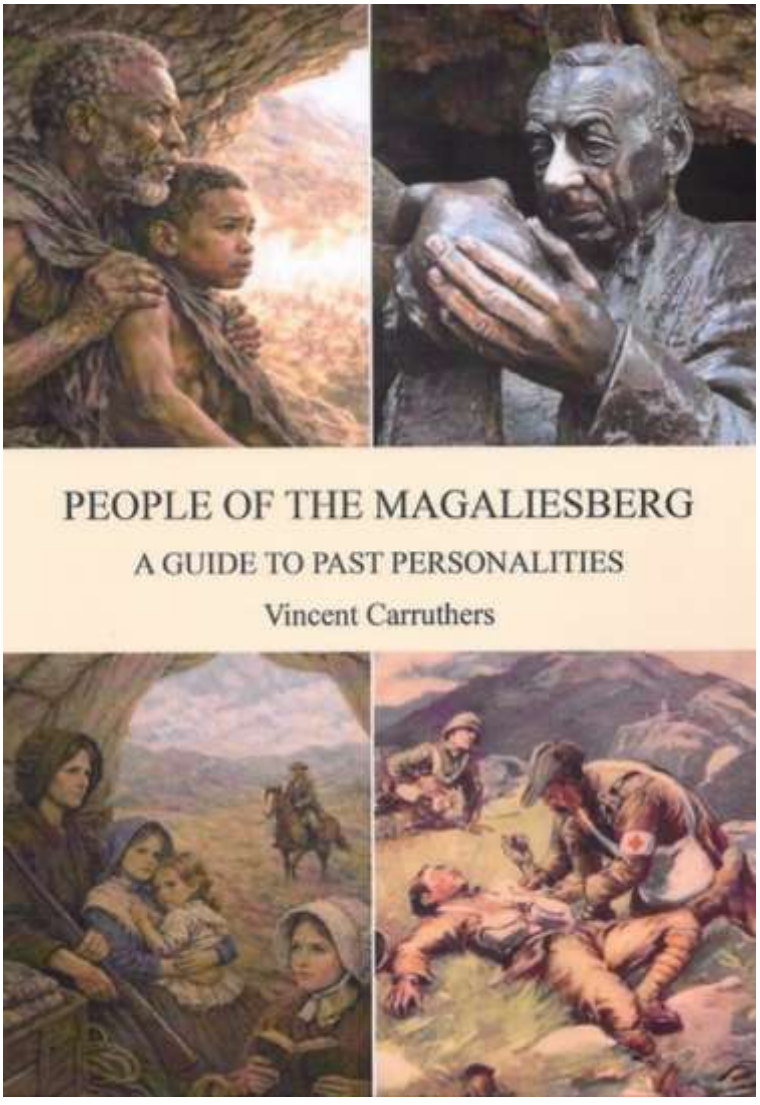


The author, Dr Ian Glass, was born in Ireland, not far from where the Grubbs lived and worked. Following degrees from Trinity College Dublin and MIT in Boston, he specialised in the field of Infrared Astronomy during his multi-country career. More recently, he has written a number of books on historical topics. He currently lives in Cape Town.

News from Fellows and Members: New Books

A new book, *People of the Magaliesberg: A Guide to Past Personalities*, by **Vincent Carruthers**, **MRSSAf**, was published in April 2026. The area of the Magaliesberg Biosphere Reserve, which includes the Cradle of Humankind World Heritage Site, has been home to humanity for the full duration of our existence as a species. Essentially a biographical dictionary, *People of the Magaliesberg* presents about 300 men and women whose lives shaped the legacy of the region over the centuries in some particular way. Each personality is listed in alphabetical order, generally accompanied by a portrait as well as an illustration that depicts their historical role and significance. Unusually for a dictionary, however, it also includes a detailed chronology of the long-time span covered by the book, describing where each of the individuals fits into the larger historical context of their time. The chronology thus links the intersecting lives of the cattle economy of baTswana *diKgosi*, western exploration, armed conflicts, conservationists, scientists, and artists, breaking down the silos that have traditionally separated these groups and building a complex, interwoven story of one of South Africa's most important heritage landscapes.

Vincent is the author of *The Magaliesberg* (Protea Books, Biosphere Edition, 2015) and *Cradle of Life: The Story of the Magaliesberg and the Cradle of Humankind* (Struik Nature, 2019).



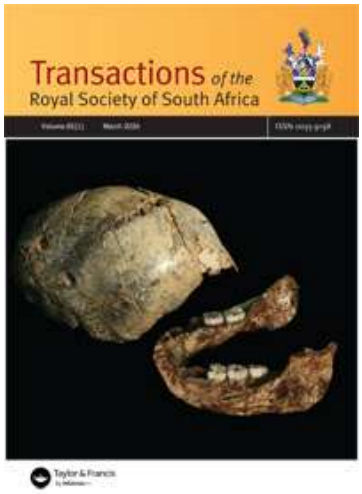
Council Members of the Royal Society of SA

These are the Council Members for the 2026-2027 Session:
President: Em. Professor Lesley Cornish FRSSAf
Vice President: Professor Rushdi Hendricks FRSSAf
General Secretary: Dr Robin Drennan MRSSAf
Transactions Editor: Professor Trevor Hill FRSSAf
Treasurer: Mrs Marina Labuschagne MRSSAf

Other Members of Council:
A/Professor Tanya Augustine MRSSAf
Professor Priscilla Baker FRSSAf
Professor Chris Chimimba FRSSAf
Professor Robin Crewe FRSSAf
Professor Dean Goldring– KZN Branch Representative MRSSAf
Professor Yin-Zhe Ma FRSSAf
Professor Andrew McKechnie FRSSAf
A/Professor Rueben Pfukwa MRSSAf
Professor Özlem Tastan Bishop– EC Branch Representative FRSSAf
Professor Amanda Weltman MRSSAf

We would like to thank the following councillors who stepped down after their allotted times and who gave excellent service: Professor Stephanie Burton FRSSAf, Professor Igor Barashenkov FRSSAf, and Professor Kathy Myburgh FRSSAf. Without the people who give their time and effort to advance the aim of the Royal Society, it would not exist.

Transactions of the Royal Society of South Africa: Editor's Notes



The latest edition of the *Transactions of the Royal Society of South Africa* is available (Volume 81, Issue 1, March 2026). Please note that access to the journal is free to all Fellows and Members of the RSSAf.

The Editor also welcomes any thoughts/suggestions, ideas for special issues, and opportunities for us to advertise the journal more widely and improve the offerings. **Please email the Editor directly: hillt@ukzn.ac.za**

Trevor Hill, FRSSAf
Editor-in-Chief

General Announcement

IUBMB·FASBMB·SASBMB 2027: Africa Welcomes a Global Milestone in Molecular Life Sciences

In September 2027, the global biochemical and molecular biology community will gather in Cape Town for a truly historic occasion: the **27th Congress of the International Union of Biochemistry and Molecular Biology (IUBMB)**. For the first time since the IUBMB's founding in 1955, this prestigious triennial congress will be hosted on the African continent, marking an important milestone for both the Union and bioscience in Africa.

The Congress, to be held from 19–23 September 2027 at the Cape Town International Convention Centre, will be proudly co-hosted by the **South African Society for Biochemistry and Molecular Biology (SASBMB)** and the **Federation of African Societies of Biochemistry and Molecular Biology (FASBMB)**, alongside the IUBMB. Together, these organisations aim to deliver a world-class scientific meeting that reflects both global excellence and regional leadership.

Under the theme **Biochemical and Molecular Innovation for a Sustainable World,** the Congress will explore how advances in molecular life sciences can address pressing global challenges, including health, food security, climate resilience, and sustainable development. The five-day programme will feature plenary lectures, keynote presentations, symposia, and extensive poster sessions showcasing cutting-edge research from across the world.

The Congress will also place strong emphasis on future generations of scientists through a dedicated **Young Scientists Programme**, offering early-career researchers valuable opportunities for networking, mentorship, and career development.

With confirmed plenary speakers including Nobel Laureate, **Emmanuelle Charpentier; Kelly Chibale,** Founder and Director of H3D Drug Discovery and Development centre at the University of Cape Town (UCT); **Bridget Carragher,** Founding Technical Director of the Chan Zuckerberg Imaging Institute; **Julie Makani,** an internationally recognised leader in sickle cell disease research based at Muhimbili University of Health and Allied Sciences; **Gordon Brown,** Director of the MRC Centre for Medical Mycology (University of Exter) and Director of the CMM Africa Unit (UCT); **Christian Happi,** Director of the Institute of Genomics and Global Health at Redeemer's University, Nigeria; and **Frank Slack,** Director of the Harvard Medical School Initiative for RNA Medicine, IUBMB 2027 promises to deliver scientific excellence with global impact. Set against the vibrant cultural and scientific landscape of Cape Town, this landmark Congress invites the global community to connect, collaborate, and help shape a more sustainable future through biochemistry and molecular biology.



Historical Note by Prof Jane Carruthers, FRSSAf

Animals of the Land, Sea, and Air: The Emergence of South African Field Guides in the 1940s

With abundant information available today at the touch of a mobile phone or computer key that instantly gives species names for animals, explains behaviour, and provides sound and movement, it is worth remembering how exciting it must have been when the first national field guides were published in South Africa.

'Field guides' emerged in the 20th century to become authoritative publications enabling people to identify and learn about animals alive in the 'field' and not only as dead specimens in museums or laboratories. In South Africa, three of the most important early field guides have had extremely long lives, becoming standard references that have subsequently been regularly revised. The titles are: *The Birds of South Africa* by Dr Austin Roberts (1940), *The Sea Fishes of Southern Africa* by J. L. B. Smith (1949), and *The Mammals of South Africa*, by "the late Austin Roberts" (1951). These books were not produced by commercial publishers, but by specially established Book Funds, their appearance dependent on considerable financial support from enthusiasts who were donors, subscribers, and avid readers.

Austin Roberts (1883-1948) and James Leonard Brierley Smith (1897-1968) were both extremely interesting – maverick, perhaps difficult – men. Neither began his career as a zoologist: both were self-made biologists whose expertise came from their own field observations. Roberts had no formal tertiary education and started life as a clerk, soldier, and hunter. Keenly interested in natural history from his childhood, Roberts applied for employment in the Transvaal Museum and, having impressed the Director, Dr J. W. B. Gunning, he was appointed in 1910 as curator of birds and mammals. Roberts's title of 'Dr' refers to an honorary D.Sc. from the University of Pretoria (1935), just one of many honours that were later awarded to him.[1] The Austin Roberts Chair of African Mammalogy, situated within the Mammal Research Institute at the University of Pretoria, was established in his memory in 1995.[2]

Smith was born in Graaff-Reinet and displayed early intellectual brilliance, passing with high accolades through the various schools he attended, and coming first in the country in chemistry while at the University of Stellenbosch in 1917. After completing his M.Sc. (and garnering prizes and scholarships), he obtained a Ph.D. in Chemistry from Cambridge in 1922 and thereafter went on to teach at Rhodes University College. Apparently, his lifelong poor health required Smith to spend considerable time outdoors, and he took up angling. Thus commenced his professional career in ichthyology, to which he turned. Smith's handling of the discovery of the coelacanth *Latimeria chalumnae* in 1938 made world headlines and secured his international fame.[3] Having been elected a Fellow of the Royal Society of South Africa in 1936 for his expertise in chemistry, he published his monograph describing the 'fossil fish' in the *Transactions of the Royal Society of South Africa* in 1940.[4]

While 'passionate' is an overworked word, it is clear that both Roberts and Smith found intense enjoyment, even obsession, in their work. Despite their lack of appropriate formal academic qualifications in the fields in which they excelled, they were also dedicated to disseminating scientifically reliable information, even when it meant disagreeing with the renowned scientists of their day. For example, in his biography of Austin Roberts, C. K. (Bob) Brain FRSSAf described how, in the 1920s, Roberts had crossed swords with the famous Michael Oldfield Thomas, who was the Curator of the Mammal Section, Department of Zoology, British Museum, from 1879 to 1923, over the naming of a groove-toothed rat *Pelomys australis* (now *Pelomys fallax*), to the extent that the Transvaal Museum refused to return this type specimen to

Historical Note continued

On the question of the correct name (which Roberts had decided upon in 1913), he had told Thomas that, 'In coming to my conclusions I have in many cases been materially assisted by knowing the species in nature', a disparaging comment to make to a leading academician, but one that emphasised the value of his first-hand observed knowledge.[5] In his book on the Smiths, Mike Bruton recites similar stories of JLB's irascibility with many of his peers.

In the 1940s and 1950s, the work of field biologists grew in importance as both plant and animal ecology demonstrated their scientific promise, and ideas around the conservation of nature became widespread. Roberts's *Mammals* arose from the suggestion of Dr Rudolf Bigalke, Director of the National Zoological Gardens in Pretoria, that the Wild Life Protection Society sponsor a guide to mammals. And, indeed, the Society's support was critical to the success of all three publications. The Foreword to *Mammals* was written by James Stevenson-Hamilton, then recently retired as Warden of the Kruger National Park. He believed that Roberts's book would reduce the threat to South Africa's mammal fauna from 'ever-spreading industrial civilization'.

Roberts's bird book was illustrated by Norman C. K. Lighton (1904-1981), an architect employed in the Public Works Department in Pretoria, who was seconded to the Transvaal Museum for the period he was engaged on the artwork.[6] The first impression of *Birds* sold out almost immediately, and the book has proved to be a bestseller ever since. Smith's *Sea Fishes* was an equal publishing triumph, with initial copies selling in just three weeks. By far the majority of the fish illustrations were the work of Margaret MacDonald (1916-1987), Smith's colleague and second wife. When Smith abandoned the Department of Chemistry at Rhodes and began his work in ichthyology as a Research Professor at that institution in 1947, he was able to transform his small unit into a large Department that became the world-renowned J.L.B. Smith Institute of Ichthyology (now the South African Institute for Aquatic Biodiversity). Margaret Smith herself became an acclaimed ichthyologist, and, after Smith's suicide, she became head of the institute he had founded.



Frontispiece of Roberts' Birds by Norman



Plate 36 of Smith's Sea Fishes by Margaret

Historical Note continued

Despite its erudition and the public interest in South Africa's mammal fauna, Roberts's *Mammals* was not as great a success as the other two field guides. It may have suffered from the fact that its author had died some years previously, from being a more limited edition, and, unlike the birds and fishes, being heavily dependent on taxonomic features rather than 'in the field' observations. Its replacement as the definitive field reference came in 1983 with *The Mammals of the Southern African Subregion* by Reay H. N. Smithers (1907-1986), then Senior Research Officer at the Mammal Research Institute, founded in 1966, at the University of Pretoria, and published by that institution.[7] The illustrator of Roberts's *Mammals* was the Reverend Pierre Jacques Smit (1863-1969). Born in the Netherlands, Smit was brought up in London, where his father was a wildlife illustrator at the British Museum and the South Kensington Museum. The talented young Smit joined his father, becoming well known for his work on African fauna.



Plate 6 of Roberts' Mammals by Pierre Smit

In 1903, Smit immigrated to Bloemfontein, where he became a Wesleyan minister and, when he retired from church duties in 1932, he moved to Port Elizabeth and resumed his artistic career. When he began illustrating Roberts's book (a three-year task), he was 80 years old, and he was still painting other work when he died at the age of 97.[8]

The Forewords to all three books were contributed by eminent South Africans. That by James Stevenson-Hamilton to Roberts's *Mammals* has already been mentioned, and his was a strong wildlife conservation message. In *Sea Fishes* Basil Schonland, then President of the Council for Scientific and Industrial Research (where Smith was employed as a Research Fellow), reminded readers that the biota of the seas was as important as that on the land. The author of the Foreword to Roberts's *Birds*, Prime Minister Jan Smuts, highlighted the educational value of the field guide and emphasised how it would inspire ornithological research.

Historical Note continued

This venerable trilogy of field guides to the creatures in our region that share our land, sea, and air is a treasure of South African biology – and prized Africana – and they did indeed advance knowledge and encourage research. Moreover, they paved the way and became benchmarks for the plethora of quality online and print books and information so readily available in our own time.

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[1] C.K. Brain, *Austin Roberts: A Lifelong Devotion to South Africa's Birds and Beasts.* (Cape Town: John Voelcker Bird Book Fund, 1998),

[2] The Chair has been held for many years by Professor Nigel Bennett FRSSAf, an eminent animal ecologist and behaviourist, who was honoured with the Royal Society of South Africa's prestigious J.F.W. Herschel Medal in 2022.

[3] Mike Bruton, *The Fishy Smiths: A Biography of JLB & Margaret Smith.* (Cape Town: Struik Nature, 2016); and *Curator and Crusader: The Life and Work of Marjorie Courtenay-Latimer.* (Makhanda: Footprint Press, 2019). Professor Emeritus Mike Bruton FRSSAf, recipient of the Society's Marloth Medal in 2020, studied under the Smiths and was the founding head of the Department of Ichthyology and Fisheries Science at Rhodes University, succeeding Margaret Smith as Director of the JLB Smith Institute of Ichthyology. Smith had been the first recipient of the Marloth Medal when it was inaugurated in 1944.

[4] J.L.B. Smith, 'A living coelacanthid fish from South Africa', *Transactions of the Royal Society of South Africa 8*(1), 1940: 1–106. https://doi.org/10.1080/00359194009519797. See also J.L.B. Smith, 'A surviving fish of the order Actinistia', *Transactions of The Royal Society of South Africa 27*(1), 1939: 47–50. https://doi.org/10.1080/00359193909519786

[5] Quoted in Brain, *Austin Roberts:* 144-145. Oldfield Thomas was born in Cape Town but had returned to England as a youth.

[6] When reproduced in Robert's 1940 field guide, Lighton's paintings were, of necessity, much reduced and lacking in colour. In 1977, the South African Natural History Publications Company in Cape Town produced a large-format book of these illustrations, edited by Dr Allan V. Bird, entitled *The Paintings of Norman Lighton Roberts Birds of South Africa*.

[7] The colour plates to Smithers's book were contributed by Clare Abbott (1921–2008).

[8] See: https://en.wikipedia.org/wiki/Pierre_Jacques_Smit. His son, Dr Bernard Smit, became a well-known South African entomologist.

Personal Perspectives

The Taylor & Francis Voucher: a Treasure-Trove unlocked; Francis Guthrie and Solar Energy (contributed by **John Douglas Hey**, Emeritus Professor, School of Physics, University of KwaZulu-Natal, Durban, South Africa)

The granting of a voucher affording members internet access to the Transactions has turned out to be a greater boon than I had imagined: for the first time, after nearly four decades of membership of the Royal Society of SA, the predecessor to the Journal, the *Transactions of the South African Philosophical Society* have become readily available. I can heartily recommend the older journal as an outstanding source of information on research into the geology, fauna, and flora of the Cape Colony, carried out by people whose names are now celebrated in the annals of our country. Among these, the name of Francis Guthrie (1831-1899), Professor of Mathematics at the South African College (predecessor to UCT), caught my eye. This immediately took me back to the 1977 centenary celebration of the founding of the Philosophical Society, which I attended as a lecturer in physics at UCT. The style of the presentations in 1977 was indeed very different from that at the Royal Society centenary celebration in 2008: PowerPoint did not exist, and papers were read from a lectern. One of the points of interest at the earlier celebration comes to mind: the announcement that the **Four-Colour Theorem** had finally been proved. There was considerable scepticism amongst 'purists' at the time, when it was explained that the 'proof' had involved the use of a computer, which to many was hardly legitimate in pure mathematics. The history of the theorem, with the various attempts to prove it, is quite well recorded in Wikipedia.

This brings me back to Francis Guthrie, a graduate of the University College of London, in an uncommon combination of subjects: botany, law, and mathematics, in all three of which he practised at various times. In mathematics, he was a student of the celebrated logician Augustus de Morgan (**Bell 1953**), to whom his brother Frederick referred the problem in 1852, after Francis had discovered it while attempting to colour in a map of the English counties. Indeed, the Theorem is often attributed to De Morgan.

On moving to the Cape Colony, Francis Guthrie was appointed mathematics master at the Graaff - Reinet College, and it was there that he carried out pioneering measurements on solar energy in September and October 1868, in which he determined that 1 HP could be derived from 1 square yard of insolation in the Karoo (**Guthrie 1877**). Particularly prescient in this paper is his remark "**that the sun's heat, if it could be economically utilized, would be an almost unlimited source of mechanical power**." Any visitor to the Vaal Triangle, forced to breathe in the smoggy atmosphere on a winter's day, can appreciate how lamentably we have failed to make the best use of this source of 'clean energy', unlike numerous households in Germany under far less favourable conditions. Later papers of Guthrie deal with stresses and strains in continuous girders (relevant to railway construction), and with the free rotation of rigid bodies (**Guthrie 1878, 1880**). The reader easily notes his considerable skill in a field we would now call Applied Mathematics. As time went on, he moved more fully into botanical research, in collaboration with Harry Bolus, becoming an expert on the Cape fynbos with an interest in evolutionary theory applied to flora (**Guthrie 1888**). His name is also to be found in the Transactions on various lists of ordinary members and council members for the years 1877-1897.

Unfortunately, his tombstone in the small cemetery, which once stood outside the grounds of Diocesan College in Rondebosch, was demolished when the cemetery was de-consecrated and turned into a playing field ca. 1977.

Perhaps this little sketch will serve as an incentive to some readers to delve deeper than I have done!

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