

AWARDS, HONOURS AND ACHIEVEMENTS

- First United Nations Environmental Programme Women in Science Award (2016)
- Honorary Doctorate from Sorbonne University (2005)
- L'Oreal-UNESCO Award for Women in Science for Africa (2004)

DEFINING MOMENT

One murky day in Basel, when Marc van Montagu invited her to work in his laboratory at the University of Ghent.

WHAT PEOPLE MIGHT NOT KNOW

She likes surprising guests and friends with home-made chocolates – many based on her own recipes.

AT THE FOREFRONT OF BIOSCIENCES AND WOMEN'S RIGHTS

Jennifer Thomson has spent more than her fair share of time in hotel rooms across the world – all in the name of African biosciences in general and towards ensuring a stronger footing for women working in science. She's travelled across Africa, been to the World Economic Forum in Davos (twice) and had lunch with Kofi Annan in the United Nations building before addressing ambassadors about the role of genetically modified (GM) crops in food security. Most recently, she's visited India and Italy as President of the Organisation for Women in Science for the Developing World (OWSD).

Thomson was born in Cape Town on 16 June 1942 and grew up in Johannesburg where she was head girl of Hyde Park High School. She showed a knack for teaching and liked plants and animals. In her biographical publication, *Food for Africa: The Life and Work of a Scientist in GM Crops* (2013), she explains how she decided which course of study to follow: "When I discovered that most of my friends were planning to do a BA degree I decided to register for a BSc, just to do something different."

In similar fashion she has since often steered herself quite deliberately towards the road less travelled and in the process, she has championed many causes as researcher, advisor and science communicator.

After receiving the BSc degree in Zoology and General Physiology in 1967 from the University of Cape Town (UCT) with distinction and top of her class in zoology, she intended taking her studies further in this field at Cambridge University. When things did not turn out as hoped, she bravely cycled across Cambridge to ask the head of the genetics department if she could study further in that discipline – despite having a limited knowledge of the subject. She received an MA in genetics in 1970. However, as the organisms she studied grew too slowly she decided to switch to bacterial genetics for her PhD studies at Rhodes University (RU) (obtained in 1973) where she investigated why the hides used in the leather industry were being spoilt. To this end, she received a bursary from Shell SA – at the time the most lucrative award to a PhD in the country.

A Rotary Foundation postdoctoral fellowship made further studies possible at Harvard University. During this time, she and her then husband made a deliberate choice not to have children. Thomson felt it would be the only way she could fully reach her goals. Years later, she would tell a journalist that this choice was one that she would not want any other woman in Africa to have to make.

Her subsequent commitment to furthering the cause of women scientists has seen her sit on national and continent-wide policy committees and task groups. In 1995, it led to the creation of South African Women in Science and Engineering (SAWISE), which she set up along with UCT colleague Lesley Shackleton. Thomson has led the South African National Chapter of OWSD since 2014 and became its worldwide President in 2016, when she also became Co-chair of GenderInSITE.

BIOTECHNOLOGY LEADER

Her career started at the University of the Witwatersrand from 1977 to 1983, and at the Council for Scientific and Industrial Research (CSIR) as Director of its Laboratory for Molecular and Cell Biology from 1984 to 1987. From 1982 to 1983, she was a Visiting Scientist at the Massachusetts Institute of Technology (MIT). Years after her undergraduate studies she returned to UCT in 1988 to become the first woman head of a department in the Science Faculty. Thirty



JENNIFER THOMSON

years later she retired as a professor in the Department of Molecular and Cell Biology, after serving as Vice-Dean of its Faculty of Science and as a senate representative on the UCT council.

She has used her skills in molecular biology to help develop transgenic maize that is resistant to the maize streak virus and potentially tolerant to drought. To start putting the latter feature to the test in greenhouses, her team received a R12 million grant from the Technology Innovation Agency in 2017, but frustratingly the money has yet to be paid.

"I was very lucky to have studied the techniques needed to further my research under the guidance of leading experts of the time," notes Thomson. This included Nobel Prize winner Werner Arber, and Belgian professor in molecular biologist Marc van Montagu who along with others worked out how to introduce foreign genes into plants. The inventor of Southern blots, Ed Southern, even showed her how to use it in DNA analysis!

In the foreword to Thomson's book, former UCT Vice-Chancellor, Dr Mamphela Ramphele wrote that her work "has been transformational in demonstrating the value of biotechnology to food security on a continent suffering from droughts and adverse weather patterns". Thomson also wrote two other

popular science books: *Genes for Africa* (2002) and *Seeds for the Future* (2006). In 2015, she edited a National Research Foundation publication celebrating the people involved in South Africa's biotechnology industry.

She has championed the cause of GM crops worldwide, served on numerous advisory bodies and helped draft South African policy about biotechnology. Since 2002, Thomson has served on National Advisory Council on Innovation and was also part of the leadership structures of the Department of Science and Technology's (now the Department of Science and Innovation) Public Understanding of Biotechnology, the National Biotechnology Advisory Committee, African Centre for Gene Technologies and AfricaBio. Thomson served the Academy of Science of South Africa as Vice-President from 1996 to 1998, and as Council member from 2004 to 2006. She was President of the South African Society for Microbiology and served on both the South African Biochemical Society and the South African Genetics Society.

What does she rate as her greatest challenge over the past seventy years? "Being the first woman head of a department in the UCT Science Faculty." In typically passionate Thomson style, she did such a sterling job that instead of rotating the headship as usual every three years, her department voted her in for the next 12 years.



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A. Academy of Science of South Africa (ASSAf) Publications

C. ASSAf Policymakers' Booklets

2020

Legends of South African Science II

Academy of Science of South Africa (ASSAf)

Academy of Science of South Africa (ASSAf)

Academy of Science of South Africa (ASSAf), (2019). Legends of South African Science II.

[Online] Available at: DOI <http://dx.doi.org/10.17159/assaf.2018/0036>

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