

## AWARDS, HONOURS AND ACHIEVEMENTS

- Technology Top 100 Award of the South African Medical Research Council for Research Management (2008)
- Council for Scientific and Industrial Research Management Board Top Achiever Award (1997)
- National Association for Clean Air Management Award (1994)

## DEFINING MOMENT

The Council for Scientific and Industrial Research (CSIR) entrusting me with change management processes in the integration of AECI laboratories into CSIR BioChemtek in the late 1990s. To integrate two different cultures creating a common vision and to build a team that could change the world was a profound leadership challenge for me. At this early stage of my career in a top leadership position, I realised that as leaders the only thing that really matters is our ability to keep the people with us, not only today but also tomorrow and the day after.

## WHAT PEOPLE MIGHT NOT KNOW

I have 90 horses that I care for, my two girls are my life and in my free time I write poetry.

## PUTTING SCIENCE TO WORK

“One of the most precious moments of my career was meeting Petrus Vaalbooi, Chairperson of the South African San Council,” says Petro Terblanche. “He took my hands and said ‘Dr Terblanche, I do not care how much you know, until I know how much you care.’ Those words stayed with me.”

Terblanche was Executive Director of the Food, Biological and Chemical Technologies Division at the CSIR when the CSIR discovered a potential weight-loss drug from an indigenous plant called *Hoodia*. The San people have been using *Hoodia* for thousands of years to control hunger and thirst, but at the time there was no law to protect indigenous knowledge.

“With my commercial mindset, I wanted to bring a therapeutic approach to market – we had discovered a possible cure for obesity,” she explains. “Around

that time, the South African San Council was established to track what happened to their knowledge. I was lucky to lead a fantastic team at the CSIR to create a beneficiation model for the first time in South Africa.”

This agreement ensures that a proportion of all royalties from drug development and sales is returned to the indigenous people of South Africa as originators of the knowledge used to create the weight-loss drug. Perhaps more importantly, it paved the way for South Africa's progressive biodiversity laws, which will ensure that future development recognises the long-term value of indigenous knowledge. “The Biodiversity Act now includes a clause for benefit sharing,” says Terblanche. “If I have to choose science or the fruits of science, I choose the fruits.”

The natural world and its inhabitants – both human and animal – have always been close to Terblanche's heart. She recalls her wonder at the world from her youngest days, growing up on a farm north of Pretoria: “I grew up close to nature, and I remember so clearly the smell of fresh earth behind the tractor opening up the soil for planting. Even then I wanted to understand how the world works.”

She pursued a BSc at the University of Pretoria, and completed an Honours degree in zoology in 1981, studying the differences in liver enzymes between diurnal and nocturnal rodents. She enjoyed the chance to visit different parts of the Kalahari, but the work didn't hold her attention. “Who cares about liver enzymes in mice? I didn't want to do this with my life, I wanted to do more than just generate knowledge without purpose,” she recalls. “I walked out, but I think it was meant to be. I saw an advert calling for a Medical Research Officer at the Department of Medical Oncology.”

## VENTURING INTO APPLIED RESEARCH

It was the first of several career changes, and her first exposure to applied research. She was responsible for coordinating research for international companies developing cancer therapies. She completed her MSc and DSc studying non-Hodgkin's Lymphoma under Professor Geoffrey Falkson. He was a huge influence in my life, a phenomenal mentor.”



# PETRO TERBLANCHE

Terblanche has always concerned herself with scientific work that makes a difference. Following her cancer studies, she changed tracks once again. “I got restless; I wanted to learn about other fields of science,” she says. “I went to do a postdoctoral degree at the School of Public Health at Harvard University. I decided to go into air pollution epidemiology – a totally new field of science.”

Returning to South Africa in 1990, she was soon responsible for the acclaimed Vaal Triangle Air Pollution Health Study, intended to be a ten-year study of how industrial pollution and burning coal as a domestic energy source affected children’s health. “By year four of the project, I did something unorthodox: I discontinued the study,” she says. “Because we had our answers already – if we don’t fix coal burning and poverty, we won’t affect health. We took that information to the decision-makers and to the community.”

Her actions had a direct effect on policy and public health: The findings of this study led to fundamental changes in air pollution legislation in South Africa, and the study itself served as an excellent example of effective translation of science into evidence-based policy. Her contributions to the cause of clean air were recognised by several organisations, including the National Association for Clean Air.

This penchant for science that makes a difference found a natural home at the CSIR, where in 1995 she was appointed the first female Director in the organisation’s history. She oversaw applied health and biosciences research

for the benefit of South Africa for ten years before moving on to positions of leadership at organisations such as the South African Medical Research Council, the South African Nuclear Energy Corporation and Pelchem, a state-owned fluorochemical production company.

“I am a specialist rather than an academic,” she says. “I dig deep until I understand something, and then I make decisions. I want to make a difference, and to me that means making decisions based on evidence.” That drive to keep making a difference has seen her move into the bio-entrepreneurship sector in recent years: She has run several technology or research-based companies, and provides guidance and mentorship for young entrepreneurs. “I embrace a culture of abundance – I never say no if young entrepreneurs or scientists approach me.” She attributes this generosity to the quality of mentorship she herself received: “At every phase of my career I have had mentors who I could learn from, who shaped my thinking and my contributions. Now, I give back to whoever asks, scientists and entrepreneurs, from all different sectors.”

Petro Terblanche is now Chief Executive Officer of Afrigen Biologics, a company working on vaccines and other therapies for African diseases like Tuberculosis (TB) and human immunodeficiency virus (HIV), and a full professor at the North-West University (NWU). But it’s all still about the people for her. “I’m privileged to be working with the San people again, to be bringing new products to the market,” she says. “I have come full circle: we’ve changed the model, but we’re still using science to make a difference to people’s lives.”



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# Legends of South African Science II

Academy of Science of South Africa (ASSAf)

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