

AWARDS, HONOURS AND ACHIEVEMENTS

- Gold Medal of the South African Society for Microbiology for exceptional service in the field of microbiology in South Africa (2002)
- Elected Member of Academy of Science of South Africa (ASSAf) (1998)
- President of the South African Society for Microbiology (1990 – 1992 & 1998 – 2000)

DEFINING MOMENT

Forced to switch courses in his second year, he chose microbiology and found it to be fascinating.

WHAT PEOPLE MIGHT NOT KNOW

"I am interested in classical music and although I do not have much talent for it, one of my children has become a professional musician and I helped direct her in that field. I also love woodwork."

CITY BOY TURNED MICROBIOLOGIST TURNED WINE TASTER

Naturally inquisitive, Bernard Prior is a renowned scientist in the field of microbiology, who had fallen in love with research during a time when all he had wanted was to be a farmer. "I realised that it is an exciting field to go into because you always have a new horizon to discover, new questions to ask, and the answers might lead to further new questions. I knew that it was something I wanted to do for the rest of my life."

As a Durban-born city boy interested in farm life, Prior had always been happiest when farmers visited his school looking for young volunteers who wanted to experience the farm life. "It was during those times that I learned what it was to be a farmer." The farming bug had firmly taken hold but his parents could not afford to send him to university to study agriculture. For three years he took on odd jobs, including sorting letters at the Post Office, to save up for his university education. Finally, he secured a bursary that would cover the tuition fees of his BSc Agriculture degree and he worked part time as a taxi driver to cover his other costs. "I also found jobs helping on research stations and that stimulated my interest in research."

Prior very nearly missed the road to microbiology research, opting first to study agricultural statistics. "I failed the pre-requisite mathematics course in the second year. But in life you learn that failure is never the end of the road; when one door closes another door will open. I am so glad I failed that course, otherwise I would be in another field that I am not so sure I would be happy in." This fortunate failure charted his course towards microbiology.

"I got lucky," he says, referring to a fully-paid scholarship he received a couple of years later to complete his PhD at the University of Wisconsin in 1972. "I don't think many people get such a wonderful opportunity to study at a top university in the United States. It had a huge influence on the rest of my career and on how I approached research later."

After returning to South Africa, he worked at the National Food Research Institute in Pretoria briefly before being "poached" by the former University of the Orange Free State, now the University of the Free State (UFS) in Bloemfontein. There he spent a quarter of a century, starting as a lecturer and finally becoming head of the Department of Microbiology. "It was a good period in my life: I did the most productive work of my career and was happy where I was," he recalls. That is, until he received a call from a former student of his in 1998 about a position at Stellenbosch University (SU). "I thought it was time for a change."

Prior then became a professor in the Department of Microbiology and Chairman of the Stellenbosch University (SU) School of Biological Sciences until 2005, when he left for a short stay as Visiting Professor at the Louisiana State University in Baton Rouge. "After I came back to South Africa, I was thinking about retirement, but I think that scientists never really want to retire," he says. In fact, he remained an Extraordinary Professor at SU until recently.

WORKING ON YEAST

Prior says his most important work over the years has been on yeast and how it tolerates stresses like temperature, substances and chemicals. He even likens





it to the way humans react to the same stresses. An avid wine taster, Prior has also conducted research into using yeast to change or improve the flavours of different wines. Using his expertise as a microbiologist and his knowledge of agriculture, he has worked to improve the taste and quality of wines by looking at improving their production.

Prior co-authored a research paper in *Wineland*, about the facts and fictions surrounding the effects of glycerol (produced by yeast at different levels depending on stresses) on the taste and quality of wine. The research found that the quality of white wine was related to glycerol levels, but this was not the case in red wine. He also showed that selecting the right yeast strain could yield higher glycerol levels in wine. Prior was a South African representative to the International Yeast Commission for a quarter of a century from 1988.

He also spent 12 years at the International Energy Agency Bioenergy (liquid biofuels) and has been a part of Task 39 – an international group of experts who consult on matters surrounding the commercialising of sustainable biofuels used for transportation. He helped assess the state of biofuels in South Africa, concluding that the local biofuel industry holds huge potential for growth and job creation.

Prior's many publications in national and international journals include *Molecular Microbiology*, *Molecular and Cellular Biology* and *Applied and Environmental Microbiology*. Many organisations have called on the knowledge generated through his research over the years, including the South African Society for Microbiology and congresses focused on biotechnology and bioenergy.

Prior acknowledges that he has had a lot of luck in his life and career; however, he says he was luckiest when he met his wife: "We met on a blind date and we are still together after 50 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)

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