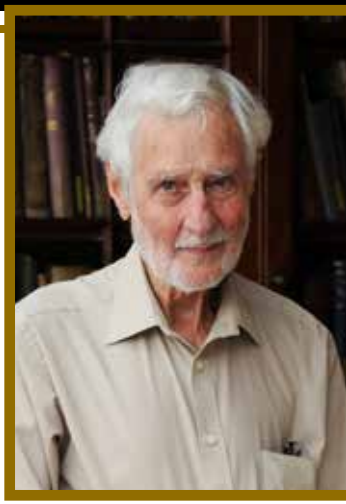
MICHAEL FEAST



AWARDS, HONOURS AND ACHIEVEMENTS

- National Research Foundation Lifetime Achievement Award (2015)
- Gold Medal from the South African Institute of Physics (1992)
- Having a minor planet named after him in 1977, called 10985 Feast

DEFINING MOMENT

He came to South Africa's Radcliffe Observatory in 1952 and has stayed in the country ever since.

WHAT PEOPLE MIGHT NOT KNOW

He went door to door in Pretoria and Johannesburg canvassing on behalf of Allan Paton's multiracial liberal party in the 1950s and 1960s.

A HEAD AMONG THE STARS

Michael Feast has always been fascinated by star light. While many astronomers start off being mesmerised by the constellations and the names of the stars, Feast has always wondered about light from the stars and the secrets it holds. "How did the stars make light and what were the stars made of? That seemed very interesting to me and when I began to read school textbooks, it seemed to me that there was still a lot to learn about the stars." World War II would inhibit opportunities for him to do astronomy, but the light never stopped shining.

"I would have liked to have gone into astronomy, but I was at school during World War II and I got an opportunity to go to university during the last year of the war," he says. He saw physics as the closest thing to astronomy that he could do and at the time it was encouraged as it was believed to be important for the war effort. During his degree at Imperial College, he lived through what he calls 'an interesting time,' when London was being bombarded with V-2 rockets.

After some physics postdoctoral work in Canada, Feast made a career move that would begin to merge astronomy and physics in South Africa – a merger that had already come naturally to him. He received a letter from his old supervisor in London asking if he would be interested in a job at the Radcliffe Observatory in Pretoria. Having never visited the observatory, he was pleasantly surprised to find that they were in need of someone specialising in his speciality, spectroscopy. "I came to Pretoria in 1952 and that's where my life has been since. I worked there doing research on astrophysics of stars and of galaxies."

He had finally gone into astronomy and he learned quickly on the job, at a time when astronomy required a great deal of actual looking through a telescope and photography, different from today's reliance on digital technology. Living in isolation at the observatory with a handful of colleagues, he found a lot of time for research and this allowed him to contribute to raising the profile of the observatory. "We eventually developed quite a reputation in the international community for doing research," he says. Urban development meant the telescope at the observatory had to move to the South African Astronomical Observatory at Sutherland in the Northern Cape in 1974, and Feast moved to Cape Town and later became the Director of the observatory until he retired in 1992.

He has been an Emeritus Professor at the observatory and the University of Cape Town (UCT) since then. "I am not as active as I used to be but I'm still fairly active."

A NAME IN SPACE

This physicist-turned-astronomer has grown his field with important work that has gained South African astronomy international recognition. While working on the astrophysics of stars in the 1960s, Feast split the light from a star very much like our sun and discovered that it had large amounts of lithium, a substance not expected to be present in such stars – a discovery that took other researchers 30 years to explain.

In the 1950s, he worked with colleagues to study the structure of our Milky Way galaxy and they found a way to use the motions of young stars in our galaxy to see how far the sun was from the centre of our galaxy, which turned out to be roughly 25 000 light years. Scientists all over the world are constantly making new discoveries about the structure of the Milky Way galaxy, and in 2014 Feast

and his colleagues found that the disk of our galaxy was not flat all the way out, but instead found stars that should belong to this flat disk but which were far away from it.

"We did a lot of work studying the structures of the Magellanic Clouds and showed that one of the Magellanic Clouds formed in the same way as our galaxy, although it is around 100 times smaller."

An important aspect of astronomy is being able to know the distances to the stars and galaxies that astronomers point their telescopes at. In order to do this, astronomers need to calibrate Cepheid variables – stars that glow and change brightness in repeating patterns, Feast had a breakthrough in the 1990s when he and his team gained access to space satellite data. "It gave us the best calibration of galaxy distances known at the time, by using Cepheid variable stars. In 2011 we were able to use the Hubble Space Telescope together with a group of American astronomers to improve calibration further," he says, anticipating further work in the field.
His move to South Africa was a welcome transition for him into astronomy, but when he arrived, he was welcomed by a country where astronomy and physics were fragmented and where science had fewer resources than he was used to. As with other aspects of his work, he learned quickly and made the best use of the available resources. "The driving force for my career since I came to South Africa has been to use the available resources and equipment to its full extent," he says. "As astronomers we are very privileged to do what we do, and we should do the very best we can."

While he was never one to be fascinated about the names of heavenly bodies, his name can be found floating in space as a minor planet named after him – '10985 Feast'. While having a minor planet named after you would be a wonderful milestone for most people, the humble professor says smilingly, "it is rather amusing, but then there are vast numbers of minor planets out there."

Academy of Science of South Africa (ASSAf)

ASSAf Research Repository **http://research.assaf.org.za/**

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

http://hdl.handle.net/20.500.11911/146

Downloaded from ASSAf Research Repository, Academy of Science of South Africa (ASSAf)