

AWARDS, HONOURS AND ACHIEVEMENTS

- South African Mathematical Society Award for the Advancement of Mathematics (with Neil Turok) (2010)
- De Beers Gold Medal of the South African Institute of Physics (1995)
- Havenga Prize for Physics (1991)

SIGNIFICANT MOMENT

Being approached to be a part of the creation of the African Institute for Mathematical Sciences (AIMS). "AIMS was unbelievable."

WHAT PEOPLE MIGHT NOT KNOW

I used to play chess and I jog.

BUILDING SCIENCE ON THE CONTINENT

Fritz Hahne grew up in KwaZulu-Natal speaking English and German. The son of a German pastor, he went on to study physics and mathematics at the University of Pretoria (UP), where he managed – after a while – to also master Afrikaans. At UP he met Chris Engelbrecht, a fellow physicist who had just returned from a PhD at the California Institute of Technology. Drawing on cutting-edge material picked up on the other side of the Atlantic, Engelbrecht taught Hahne at postgraduate level. The two became firm friends and colleagues, and when Engelbrecht got a job at Stellenbosch University (SU) in the early 1980s, Hahne followed him there.

Hahne had already fallen in love with the Cape, having completed his PhD at the University of Cape Town (UCT) in 1967. At the time, UCT was one of the few institutions in the country able to provide doctoral supervision in theoretical physics. After his PhD, Hahne returned to Pretoria to work at the National Physical Research Laboratory, followed by a period at the Atomic Energy Board. In 1981 he joined SU as a professor of physics.

In the 1980s Hahne and Engelbrecht and others started a series of summer schools in theoretical physics. The schools invited lecturers from abroad to come and share their expertise. "We built a group of young South Africans, mostly white but some black and some Indians as well." This was at the time of

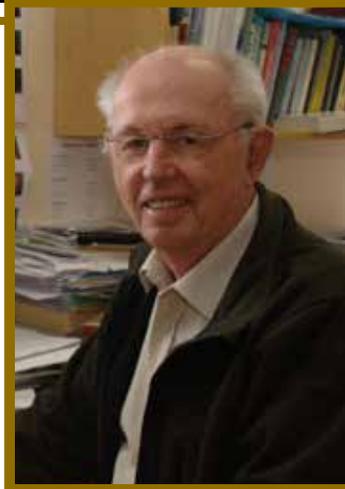
the academic sanctions against South Africa, which meant that not everybody wanted to come here. "I had some very nasty letters from people who said they would never come to South Africa and what were we thinking, inviting them? It was shocking for us, but in a sense we understood. We were living in an unnatural environment and trying to do the best we could."

Many of the students who attended the summer schools went on to become leaders in physics in South Africa. These schools, now called Chris Engelbrecht Schools for Theoretical Physics, continue to the present day, thanks to ongoing efforts by Hendrik Geyer and Frikkie Scholtz. Many of the courses appeared as separate volumes of the Springer series, *Lecture Notes in Physics*.

Hahne became chairman of SU's Department of Physics in 1985 and Dean of Science in 1991. As a leading member of South Africa's physics community, he was also involved in supporting the creation of major infrastructure projects including the Southern African Large Telescope (SALT), inaugurated in 2005. However, as South Africa's physics community blossomed, he could also see the challenges that his colleagues elsewhere in Africa faced. After the apartheid-era travel restrictions eased up, Hahne travelled with an SU delegation to Gabon to visit a science university in the Central African country. Relationships were formed and his Gabonese colleagues visited Stellenbosch. Then, one day in the late 1990s, they stopped replying to his emails. "I thought, what have I done wrong?" Only later did he discover that for more than a year they had been hamstrung by university strikes. "Everything had closed down, including the email servers." He saw it happen again in the Congo and his frustration grew. "A lot of them are really talented, but then there is a strike and the whole place where they work is shut down."

REACHING OUT

Hahne got another chance to reach out to young scientists across Africa in 2002, just as he was looking forward to his retirement. He was on his second five-year term as Dean of Science at SU with a long and illustrious career as a physicist behind him. But then he met Neil Turok, a much younger physicist with big plans. Turok, the son of anti-apartheid activist Ben Turok, was a professor at



Cambridge University at the time. He wanted to create a mathematics training institute for African students in his home country. In 2002, he approached several institutions and leading academics in South Africa with the idea. But few thought it would work. Then he went to see Hahne: "I said it's a wonderful idea, we *have* to make it work."

The African Institute for Mathematical Sciences (AIMS) opened its doors in Muizenberg, a beachside suburb of Cape Town, in July 2003, with Hahne as its founding director. "It took a little over a year from the time Turok knocked on my door to AIMS taking on its first students." The institute accepted a few dozen students from around Africa for year-long courses. The students had undergraduate science degrees but needed additional preparation – especially in mathematics – to attain an academic level where they would be able to pursue international-level postgraduate training.

With AIMS, Hahne was able to feel that he was doing something concrete to help build science on the continent. That feeling buoyed him and Turok even though they were going through some tough times. The big challenge was funding, and six months before welcoming the first batch of students, the two had a long phone conversation about money. Simply put, there wasn't enough. "Eventually, at 3 am, we said let's just do it" It was a big chance we

took, but shortly after that call the money began to trickle in. The first students had to help them carry the furniture into the building, which was still being renovated. But they did it with big smiles on their faces, says Hahne. "That was wonderful."

Hahne stayed on as Director of AIMS for seven years. A research centre was linked to AIMS in two separate buildings. In that time, the project snowballed and today there are several AIMS institutes dotted across Africa. Its headquarters have moved to Rwanda's capital Kigali. AIMS gave birth to the Next Einstein Initiative – a multimillion-dollar project to make sure that African scientific talent is given the opportunity to develop and thrive, to nurture a generation of 'Einsteins' in Africa. It's all got very big, Hahne admits. But at the start it was small, yet very effective, he says. "We started AIMS with four staff. Much of the curriculum was left to the visiting lecturers to design. Everyone worked on a first-name basis. I really enjoyed breaking out of the stiff university environment."

After leaving AIMS, Hahne was approached to chair the Science, Technology, Engineering and Mathematics (STEM) Education Standing Committee of the Academy of Science of South Africa. Among several projects, he got involved in school education, and with the help of colleagues of the French Academy of Sciences, Hahne remains involved in furthering inquiry-based science and mathematics education in the Western Cape and beyond.



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)