

Professor of science aims to improve society

Award winning professor of physiology and Fulbright scholarship recipient Faadiel Essop excitedly explains his newest venture, a heart centre for Stellenbosch University.

Hayley Grammer talks to him about his profession and plans.

Henk Oets takes photos.

It will be a joint venture between the Faculty of Science and the Faculty of Health Sciences. We still need to work out the logistics but it will straddle the two campuses.

"The centre will have two key focus areas: the one would be excellent research to address some of the problems in our society. But what I think would make this centre unique would be post graduate student training.

"It will be a place where we can harness the minds of students. I see it as a training ground for African students as well as globally."

He adds that half of the places for each course will go to South African students and the other half will be for international students.

"Those positions would be fully funded; I just need to find the money. So if I'm a Nigerian student and I decide to apply and I'm suitable for the course and lucky enough to get accepted, I'll get a scholarship covering both study fees and living expenses.

"Hopefully by next year it will be up and running."

Essop comes from a humble background, growing up in the rural parts of the Western Cape.

"I was born in Ceres, a beautiful little town but very small. It was fun days, I remember growing up playing bare foot in the streets.

"We soon moved to Paarl, which was actually my parents' hometown. We left Ceres because there was an earthquake and our house was destroyed."

Essop soon delves into where his fascination with science began.

"I don't recall having any particular interest in science when I started primary school. I think I got my eye smashed playing some sort of game and ended up in Grootte Schuur Hospital, that exposed me to the scientific side of things.

"I got to experience the big city academic hospital, all these people walking around in white coats and tests being done, it was fascinating to me. That's my earliest memory of expressing an interest in the sciences."

His interest in science didn't stop at mere intrigue, things started to get practical rather swiftly.

"I had a pet rabbit when I was in primary school and one day I saw that he had died. I don't know what got into me but I dissected him.

"He was my beloved pet but I felt the urge to open him up and see, to discover on my own.

"When I was in high school one of my friends nicked his foot on some glass. Before he got it treated I asked him for some blood so that I could look at it on a slide. He was furious, he was in pain and all I wanted was blood so that I could study it under the microscope," he says.

High school saw Essop develop a keen interest in biology, especially on the biochemical side of things. Unfortunately political upheaval disrupted his studies.

"The best school that was available to me because of apartheid was Noorder-Paarl Secondary School, so I went there. The facilities weren't very good and we missed out because of boycotts.

"It was very difficult for me to focus on studies and I basically lost my entire matric year. I learnt a lot on the political side of things but matric is a ticket to university and that side suffered badly.

"I passed well but not exceptionally because of all the disruptions. That cost me my place at medical school."

After medicine didn't work out, Essop decided to pursue science and moved to Cape Town to complete a Bachelor of Science (BSc) degree at the University of Cape Town (UCT).

"Being away from home was a huge learning process, especially having to figure out buses and trains.

"You're amidst all these smart people, people from top schools. I thought it was great, despite coming in with a backlog.

"We spent our first day of chemistry in the lab and were required to do an assessment of inventory and look at all the equipment. I didn't have a clue; I had never seen half of it so I just ticked everything down. But you learn quickly and catch up."

After Essop graduated from UCT the question of "what next?" began to surface.

"My students ask me the same question all the time and I give them the same speech I was given back then.

"You can either become a teacher by doing a year-long diploma or you can get into companies such as the biotech industry and use the generic skills you've picked up."

"So I had the same choices as students have today. A lot of my friends started to exit the system, branching into teaching and so forth.

"With no disrespect, it wasn't enough for me. I wanted to aim for more and I convinced my father to allow me to stay at university for another year."

Essop explains that it is important to trust in life's plan for you, emphasising that when he started out he never pictured himself being where he is today.

"It's an important lesson I teach my students. I was just following the journey of life; you have to go with the flow. I didn't have any preconceived plans. I always say 'happiness is a journey, not a destination'."

He applied again for medicine just before starting honours and had to choose between science and medicine.

"I decided on honours in medical biochemistry at the UCT medical campus and I was happy. I had amazing lecturers and it was fascinating. My professors there taught me things that I still remember today.

The professor tasked with supervising his honours project was a clinician which meant that Essop was left to his own devices a lot of the time. This enabled him to grow as a scientist.

"I could have taken his absence in two ways, I see it now in my students. Some of them panic and ask for help,

others take it as an incentive to try things on their own. I was the latter."

"It was a chance to explore. I would report back to him but I had already started to take ownership of the project and I think perhaps students do less of that today."

A masters (MSc) degree wasn't something that Essop considered until his father received a phone call from his professor.

"He called my dad's shop and said that the university had a study grant for me. So I registered for my masters and continued studying. You can also upgrade to a doctorate (PhD), so I did and there I was doing a PhD.

"Many years had passed by now and my friends started moving on with their lives, getting married and having babies.

"I viewed those who had left academia as the ones who were missing out. They were running around occupied with other responsibilities whilst I got to do all these fascinating things."

With a number of interests stemming far and wide, philosophy has always played a big role in Essop's life. "I had a philosophical discussion group with some friends during my MSc and PhD years where we would meet up once a week.

"Science was only a component of a larger world view. We would stay up into the early hours of the morning looking at texts, engaging in fierce arguments and debates. People would leave there angry, myself included, egos bruised.

"It forced us to check our arguments again and strengthen them, a good skill to have in the sciences because you have to consider all the deficiencies in your work, see where you were caught out and make sure it doesn't happen again," he says.

One day Essop noticed an advertisement in the paper for a post doctorate fellowship in the heart unit at UCT. By this time Essop was married and had started having children.

"I applied for the program purely because it was interesting to me, it was probably a bit of a selfish but I'm lucky to have such a good wife because she didn't stop me."

"So now I was in the top laboratory at the UCT medical school, which was an important stage in my development as a scientist. I received top mentorship from Professor Lionel Opie which was fantastic because this field involves a lot of learning from your mentors.

"Opie was interested in the heart and metabolism, that's where I found my niche, in the biochemistry of the heart."

"Then I was awarded a Fulbright scholarship and spent time in the States," he says.

After returning from America, Stellenbosch University (SU) made some advances towards Essop but he showed no interest in accepting a position at the university.

"It was probably arrogance and loyalty towards UCT that initially

made me decline.

"I went for the interview and was offered the job. It was closer to home so my family said that I had to take the position, until then I had been driving from Paarl to UCT and back every day.

"At Stellenbosch I had the opportunity to build my own thing. I could get my own funding and make my own stamp in the sciences.

"That's how I could delve further into the heart and also my own interests. That's what brought me here."

Essop became head of the Department of Physiological Sciences and held that position for 6 years until stepping down this year to refocus on research and teaching.

"My approach to teaching is open minded, I wait for the student to approach me, to show initiative. If they have no passion, they shouldn't be here."

"I'm not the policeman, I'm here to inspire and stimulate you. To work together to create new knowledge, not to drive you."

Although Essop says he has reached the pinnacle of his success, boredom has started creeping in, pushing him to look for a new challenge.

"I'm working on a fresh project. The longer you continue down the path of academia, you begin seeing your influence spreading a bit wider into society and you start having a greater philosophical influence.

"For me it's not about the closed science in the lab, my life story will tell you that. It's about how I can play a wider role in society."

Essop draws his attention to a poster, pointing out one of his favourite Dalai Lama quotes. It's something that remains with him constantly, he says.

"Man surprised me most about humanity. Because he sacrifices his health in order to make money."

"Then he sacrifices money to recuperate his health."

"And then he is so anxious about the future that he does not enjoy the present, the result being that he does not live in the present or the future; he lives as if he is never going to die, and then dies having never really lived."

What his students think:

"He likes to pose burning questions that you have to prepare for and present in front of the class. By doing this he allows you to research the topic, ensuring you are well prepared for his lectures," says Nataasha Driescher, a PhD student.

"Prof is an outstanding academic and a fantastic mentor. He has an unbelievable ability to simplify something initially horrifying and complex, making it accessible to whoever he's speaking to. His lecturing style stimulates an understanding behind physiology, and in doing so, he makes the complexities seem like small obstacles that just need a little bit of attention," says Marco Saieva, a third year physiology student.

