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UCT professor elected as Fellow of South African Academy of Engineering

Harro von Blottnitz, professor of Chemical Engineering at the University of Cape Town (UCT), has been elected a Fellow of the South African Academy of Engineering (SAAE). His election places him among an elite group of 213 fellows who straddle the worlds of academia and industry, and who are considered thought leaders in their fields.

"It feels like a professional achievement," said Von Blottnitz, who has maintained his registration with the Engineering Council of South Africa while also being a full-time academic. "Keeping a professional presence alongside my work at UCT is something I've been deliberate about throughout my career."

Importantly, this has allowed him to keep a finger on the pulse of South Africa's engineering industry, which has in turn afforded him the opportunity to enhance professional best practice through his own research and the mentorship he offers students.

Nominations are considered by the executive committee of the academy; and once the candidate has been confirmed compliant with certain minimum criteria associated with professional expertise and recognition from within the engineering profession, all fellows of the academy are invited to indicate their approval of the candidate being elected.

Since the earliest days of his career, Von Blottnitz has been interested in finding ways to improve the sustainability of South Africa's engineering industry. "I've been passionate about my research and the sustainability angle, and felt impatient as a younger engineer that our profession in South Africa was moving very slowly in relation to this agenda."

Von Blottnitz added that historically the engineering professions were very much focused on public safety and making sure that all work is done properly, while not putting anyone in danger; and rightly so, of course.

"But in the last 20 years, the sustainability agenda has come up as a strong additional focus in engineering work globally, which is hugely encouraging."

Currently, Von Blottnitz's research is focused on two specific areas of sustainable engineering.

"The one is directing the Energy Systems Research Group, which is South Africa's leading think tank for quantitatively understanding our energy futures and associated greenhouse gas emissions," he said.

In terms of his own research, Von Blottnitz has been devoting a good deal of time and energy to the question of plastics.

"I had a PhD graduate last year whose research focused on understanding how to take a lifecycle approach to plastics in South Africa. Now, I have another PhD student who is working on quantitatively describing what a circular plastics economy would look like in our country."

There is also an important link between these two fields of research, said Von Blottnitz, in that the raw materials for plastic polymers are manufactured during the conversion of the coal-to-liquid fuel process at the Sasol oil refinery in Secunda.

"For a net-zero greenhouse emissions future, we cannot imagine having Secunda in its current format. So, there's an interesting intersection with how South Africa's biggest industrial site will have to find a future in a low-carbon and circular economy."

The SAAE aims to provide thought leadership on difficult topics in the engineering industry, both locally and globally.

The expertise of fellows is harnessed through various working groups. Currently, the SAAE does not have a group focusing on circular economy, which is Von Blottnitz's main area of research. So, to start off with, he will be joining the discussion on energy, a field he's actively been working in over the past few years.

"Circular economy combines waste management and recycling together with primary resource management to really understand resources as something circular, rather than something that we mine, we manufacture, use and then we put it into a disposal site," Von Blottnitz explained.

"We'll have to see where the academy can make space for that. In time, I may have to have a discussion with the academy's leadership and other fellows."

Written by Nadia Krige, UCT News



Prof Harro von Blottnitz.

Photo: UCT News

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