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## Fighting imposter syndrome to break glass ceilings as women mechanical engineers



Sherlyn Gabriel

Photo: Lerato Maduna/UCT

Sherlyn Gabriel's PhD journey was rough; it was very rough. "I suffered from a bad case of imposter syndrome and even to this day, I catch myself feeling like I am not smart enough to get this degree. I mean, I forget concepts related to my work that I really should know," she said.

On Friday, 22 July, she will receive her PhD in mechanical engineering during a University of Cape Town (UCT) winter graduation ceremony. And she couldn't be happier. However, before graduation day, Sherlyn has a point to make. For those who think that mechanical engineers are car mechanics, she has these words of advice: Banish that thought. With a loud laugh, she said, "There's tons more to this career than knowing your way around an engine."

What do mechanical engineers do then? Plainly put, she said, they design, develop, build and test things. They deal with anything and everything that moves – from components to machines (including a car engine), and even the human body.

This 30-year-old, who arrived at UCT in 2010 as a young, introverted first-year mechanical engineering student from Pretoria, is breaking glass ceilings in a male-dominated industry. On receipt of her PhD, she will become one of only a handful of women in the country to reach this milestone. Yet, coming to UCT was not a walk in the park. Sherlyn described it as a “daunting experience”. Before becoming a student, she had hardly ever spent a large amount of time away from home and her beloved family, and it was difficult to adjust to life in the Mother City without their physical support.

Her undergraduate degree was no child’s play either and it was especially challenging to sit through lectures with dozens of students vying for lecturers’ attention. Her master’s was doubly tough, but she made it through, passing all her courses successfully. And then came that “crazy decision” to upgrade to a PhD. “I’m not going to lie. My PhD was unlike anything I’ve ever experienced. It was like a rollercoaster, a crazy rollercoaster that just wouldn’t stop. But after what feels like a mighty long time, the wheels have stopped turning,” she said.

The title of Sherlyn’s dissertation is: “The effect of blast loading on composites that contain sustainable materials”. The aim of her research project was to understand how composites made from sustainable materials respond to blast loads and comparing them to composites made from natural fibre. For this project, she selected a fully synthetic glass fibre reinforced epoxy composite (with the lowest sustainability rating) and a medium density board – a popular, inexpensive, readily available composite made from wood fibres (with highest sustainability rating).

Her research found that glass fibre composites contained better blast-resistant properties when compared to those natural fibre composites, which, she added, was expected.

It’s important to understand the blast behaviour of certain materials in order to determine the recommended (and safe) number of explosives needed to demolish a structure, and in worst-case scenarios, what can go wrong in an unfortunate situation like a bomb blast.

While she is elated with her research results, Sherlyn noted that her journey to her PhD was far from plain sailing. Throwing in the towel crossed her mind many times. And when it all became too much, she secured a teaching job in Japan and jumped on a plane to go and work as an English teacher in Tatsuno for a year – just for a break from the books.

When she returned, her mental health had improved. But in 2021, things veered off course again and she came close to abandoning her academic programme despite being so close to the finish line. Her aunt, who had played an essential role in her upbringing, took ill and passed away – three weeks before an important chapter deadline and while Sherlyn was on campus to tie up a few loose ends. But thanks to her family, friends and supervisor’s support, she managed to pull through.

Sherlyn has found inspiration throughout her life from a phrase from the animated movie *Finding Nemo*: “Just keep swimming.” Strongly influenced by her mother and her aunt – two forceful, independent women as her role models – Sherlyn was encouraged to chase her dreams with zest, determination and her integrity intact. And she did, even if it meant pursuing a career in an industry dominated by men.

“There are so many different sectors that need mechanical engineers. It’s important that young women know and understand this. The opportunities are endless and high schools need to play an integral part in this education process,” she said.

“Women should not feel as though they’re giving up ‘girly’ things for this industry; you can still do what you love and wear what you want. Women mechanical engineers have a responsibility to showcase this and highlight the work we do, while upholding the lifestyle and interests we enjoyed before our careers.”

*Story by Niémah Davids, UCT News.*

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