



science
& technology
Department:
Science and Technology
REPUBLIC OF SOUTH AFRICA



SARAO
South African Radio
Astronomy Observatory

Apiwe Hotele

Technology commercialization
specialist

Re-imagining women and girls position & status in STEM, knowledge production and empowerment in building a feminist Cape Town



www.ska.ac.za

The South African Radio Astronomy Observatory (SARAO) is a National Facility managed by the National Research Foundation and incorporates all national radio astronomy telescopes and programmes.

Who is Apiwe?

- BSc Computer Science and Biochemistry (*cum laude*) – University of Fort Hare
- BSc Computer Science (HONS) – University of Fort Hare
- MSc Computer Engineering – University of Cape Town
- Founder of Enlighten-Edu, an online peer-to-peer learning platform designed for learners, parents and teachers. <https://www.en-lighten.co.za/>
- Founder of #Breakingthestereotype, an annual event focused on motivating female engineers and scientists at the University of Cape Town. The theme for 2020 is “**Unleashing your superpowers**”
- Profiled by Mail and Guardian as the 200 most influential Young South Africans for the year 2018
- Winner of the Destiny Magazine and Airbnb Host a Hero Campaign; this is awarded to women who selflessly give both their time and money to better the lives of people around them.
- In June 2019 she was listed by News24 as one of the 100 young Mandela, these are South Africans who embody the true spirit of Nelson Mandela.
- She was recently named as one of the top inspiring women in ICT by the kingdom of the Netherlands through the SA embassy and CoCreateSA.

What is a feminist? What is Feminism?

According to Wikipedia

Feminism is a ~~range of social movements~~, ~~political movements~~, and ~~ideologies that aim to define~~, establish, and achieve the political, economic, personal, and social equality of the sexes.

According to International Women's Development Agency (IWA)

Feminism is about **respecting diverse women's experiences, identities, knowledge and strengths, and striving** to empower all women to realise their full rights.

Can anyone be a feminist?

Yes! Being a feminist simply means **believing in equal rights for all genders**. It's not about hating men. It's not about women being better than men. It's not about eschewing femininity.

Being a feminist is about **learning and understanding** the ways that **inequality affect women** and men, and remembering that we're all in this together. **True equality leaves no one behind.**

Girls, Women and StEM

- The number of girls studying Maths and Science in high school is very low, why?
- Women are under-represented in engineering and science degree programs. Women enter these degree programmes in greater numbers each year, however there is a high attrition of female students before completion of degree programmes. Why?
- Statistics from the *Engineering Council of South Africa* showed that 70% of the *women who graduated with engineering degrees* left the sector after starting their careers. Why?

The IMBASA Program

The aim of IMBASA is to ensure that learners from previously disadvantaged communities have access to quality education. We did this in Four ways:

MOTIVATE,EMPOWER,EDUCATE and FINANCE



The IMBASA Program

MOTIVATE,EMPOWER,EDUCATE and FINANCE

Adopted Ikamvalethu High School



The IMBASA Program has grown into Enlighten-Edu

A peer-to-peer learning platform designed for learners, teachers and parents to improve Math and Science competency.

The platform allows learners to receive **individual assistance**, parents to **monitor day to day learner progress** and teachers to **identify individual learner needs** using data supplied by the platform.

The screenshot displays the Enlighten-Edu dashboard. On the left is a navigation menu with options: Dashboard, Learner Management, Session, Student Session Requests, Assignment, Material, My Questions, Q/A Forum, Calendar, Chat, Settings, and Logout. The main content area is titled 'Overview' and includes:

- Sessions Pending Today:** A red box with '4 Sessions Taken' in a green box.
- Pending Assignment Reviews:** A table with columns for Assignment Title, Status, and Time. It shows a pending review for 'dint we' at 5:05 PM and a completed review for 'dint we' at 5:08 PM.
- Chat Windows:** Several chat windows are overlaid, showing messages from 'Deep Dave | ...' and 'Mahesh Gadhi...'. One chat shows a notification: 'has Added you to the group Private group trial'.

"Thanks to the Enlighten-Edu platform I was able to study during lock-down. Having a tutor during lock-down kept my brain active. My best feature on the Enlighten-Edu platform is the virtual classroom and the whiteboard"

Chanté Mathison, Grade 11

"Having a tutor helps me get a more detailed explanation of different topics in Mathematics. The Enlighten-Edu platform is very friendly and easy to use"

Jason Vaas, Grade 11



#BreakingTheStereotype

#BreakingTheStereotype is an annual event focused on motivating young female scientists and engineers studying at the University of Cape Town.

IEEE Presents

#BreakingTheStereotype

Thursday 25 August
16:30
Snape LT1
refreshments will be served

Wiebke Toussaint
Bongani Mthombeni-Möller
Shagita Gounden
Wandile Ngololo
Lisa Kane



What happens when a chemical, electrical, civil, mechanical, and computer engineer meet up... Well a panel of exceptional skill is formed for your enrichment. Bring yourself, friends and a whole bunch of questions.

IEEE PRESENTS

#BreakingTheStereotype

Come and join us as we unpack the future of women in STEM, where phenomenal women from distinct industries share their experiences through a panel discussion.

OUR KEYNOTE SPEAKER



Professor Phakeng will give a keynote address on her experiences as a female scientist, challenges encountered and where we are heading as a country in STEM.

OUR PANEL IS COMPOSED OF:

 <p>Iman Malaka Co-founder and CEO of TIC-IT Telecoms</p>	 <p>Robyn Farah Founder and MD of KATO</p>	 <p>Regina Kgatle Founder and MD of Educade and e7games</p>
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HOSTED BY



Apiwe Hotele
Founder of #BreakingTheStereotype

SAIEE

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IEEE WIE PRESENTS


Come and join us as we unpack the future of women in STEM, where phenomenal women from distinct industries share their experiences through a panel discussion.

Limited seats available, follow the link @ UCT IEEE SAIEE Society FB Page to REGISTER!!!

OUR PANEL IS COMPOSED OF:

 <p>Nomso Kana Founder: Sun n Shield 84 Tech, Commissioner for the Fourth Industrial revolution in South Africa</p>	 <p>Robyn Goff Industrial Engineer</p>	 <p>Nobukhosi Dlamini Founder & MD Bahati Tech</p>	 <p>Krithica Latchman Senior Systems Analyst at ooba Group</p>	 <p>Pontsho Maruping Head: Commercialisation SARAO, Chairperson of the South African Council for Space Affairs (SACSA)</p>
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HOSTED BY



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Founder of #BreakingTheStereotype

Refreshments will be served!!!

IEEE
South Africa Section

Recommendations

- The one size fits all approach does not work, rural, urban and townships have different challenges that require different approaches, same applies for girls and boys. We need to find a solution unique to the environment and implement
- DBE, Institutions of higher learning, Public and Private companies need to converse about requirements
- The government needs to fund more programs focused on:
 - Investigating why girls are not studying STEM Subjects
 - Why there is high attrition in female engineering graduates
 - Why females leave the engineering sector early in their careers
 - Creating an environment that is conducive for learners to study, especially girls
 - Invest in EduTech solutions to assist learners and teachers
 - Invest in STEM entrepreneurship

Thank you



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National
Research
Foundation



SKA South Africa a National Facility of the National Research Foundation We are building the Square Kilometre Array radio telescope (SKA), located in South Africa and eight other African countries, with part in Australia. The SKA will be the largest radio telescope ever built and will Produce science that changes our understanding of The universe

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