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UCT scientists celebrated as superheroes who save the world to expose children to science

University of Cape Town (UCT) researchers and academics are among the heroes of a programme that aims to bring the achievements of scientists closer to children, to inspire their interest in maths and science.

Two years ago, non-profit organisation (NPO) Codemakers started the <u>SuperScientists</u> <u>programme</u>, which has since been sharing the superpowers of science with children through an activity book, posters and calendars.

Dr Justin Yarrow of Codemakers said they started the initiative to expose young people to scientists, while appealing to their love for comic heroes. "Young people, for the most part, don't know a scientist. The image in their head is Einstein, a 'mad' scientist, and not someone they can relate to. The phrase 'You can't be it if you can't see it' is really quite true. Representation matters; and so, when young people can't connect a name and face to these careers, it limits their imagination to see themselves in them," said Dr Yarrow.

"Young people live in a world of superheroes, imagination and characters – whether on television, in books, or on social media. They are incredibly social; and yet when we teach science, we don't connect them to the people and characters who are doing the work," he added.

"To date, we've made cards, posters, an activity book, and a calendar featuring our art and notable dates in science and technology in South Africa and beyond. More than 15 000 [items] of our materials have been given to young people, schools, community centres and clinics."

Representation in science

SuperScientists brings diverse faces to represent who scientists can be. It features scientists from across Africa, including Ghana, Uganda, Kenya, Botswana, Zambia and Rwanda.

"Racial and gender inequity in science is a problem. It limits who becomes a scientist, and it limits young people when they don't see scientists who look like them," said Yarrow.

Oceanographer and UCT PhD candidate Kolisa Sinyanya is one such scientist; she has been depicted as superhero Nitro. In an activity booklet, she challenges children to find their way through a maze in the deep oceans.

"Having little boys and girls colour in photos of Nitro, who is a character based on me, is mind-blowing. It makes me proud to be the woman I chose to be today – a black woman who stands tall and speaks loudly about the science that I am so passionate about. I'm especially proud of my decision to have heeded the call to join SuperScientists, when Dr Justin Yarrow picked me from an 'ocean' of scientists to be Nitro," said Sinyanya.

"Initiatives like SuperScientists are key in society, because they create awareness that there are black and POC [people of colour] scientists out there in the various science fields. The series of educational materials additionally educates young and old about scientific concepts that surround us [but that] we hardly – or never – pay attention to. We are unapologetically addressing what we see that is lacking: representation."

While superhero Nitro looks after the oceans, Galactica – or Dr Rosalind Skelton – studies the stars. Dr Skelton is a Southern African Large Telescope astronomer at the South African Astronomical Observatory, and an assistant lecturer at the UCT Department of Astronomy.

Of being portrayed as a superhero, Skelton said, "It's a bit scary to put oneself out there and be described as a kind of superhero – not something I'm used to, as a scientist! I feel somewhat embarrassed, and proud at the same time. I'm happy to be sharing what I do in a novel way, and would be very happy if it inspires a child to follow their interests into a career in science.

"It's a wonderful initiative that highlights the relatively unknown work being done in South Africa, in many very interesting areas of science. I like that it includes diverse fields, and I think it will open children's eyes to career options they may not have realised were possible. It provides role models who are real, local people, hopefully up-ending outdated ideas of what scientists look like," Skelton added.

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