Pint of Science: Bringing science to the public and highlighting African research

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A physicist, a biologist and a neuroscientist walk into a bar. What sounds like the beginning of a joke is in fact how the Pint of Science Festival works. This year, from 14 to 16 May, 26 scientists from varying backgrounds walked into bars at three venues across Cape Town to bring us three nights of TED-styled science talks.

Stemming from an idea to 'Meet the Researchers' in which UK scientists Dr Michael Motskin and Dr Praveen Paul brought the public to the lab, Pint of Science was born in 2013 when they decided instead to take the lab to the public, in the most quintessential of British meeting places – the pub. Now in its sixth year, Pint of Science is held annually in May across the globe, with more countries joining the festival each year.

South Africa joined in with its first Pint of Science in 2016, and remains the only African country to be a part of the festival. When the Founding Director of Pint of Science South Africa, Eugenie Marais, faced a personal challenge in 2017, Chantal Louw stepped up to take it forward, and the second Pint of Science South Africa was hosted in 2018.

> *Two years ago the first Pint of Science South Africa was launched by Eugenie Marais and I joined the team as a volunteer. I loved it! I am passionate about bringing the conversations into public spaces, and hope that scientists all over South Africa will use this as an opportunity to have a drink and chat to their community about their work,* says Louw.[1]

Pint of Science events are arranged in three themed evenings at each bar or pub venue. This year's Pint of Science covered four of the six Pint of Science themes: (1) Beautiful Mind, which covers neuroscience, psychiatry and psychology; (2) Atoms to Galaxies, which encompasses physics, chemistry and maths; (3) Our Body, which spans human biology, health and medicine; and (4) Planet Earth, which covers earth sciences, zoology and plant science. At each event, two or three scientists speak about science related to their research, with an opportunity for the audience to ask questions after each talk.

> *We often find that the public doesn't really know what scientists do and that this gap in information contributes to a sense of mistrust,* explain Motskin and Paul[2]. *The Q&A session is an opportunity for attendees to ask questions directly to the people doing the research. It allows scientists to clarify confusion, to put their work in perspective, and to be seen as important members of the community or, in some cases, partners in the same fight.*

According to the 2018 Edelman Trust Barometer, people are seeking credible sources in this era of fake news, and turning to experts more and more.[3] This makes science communication events like Pint of Science, during which the public can interact directly with scientists, all the more important to create trust in and enthusiasm for the scientific research that is driving the world forward.

Of the 26 talks that were held at Pint of Science South Africa 2018, nearly half were about research that related to human health. TB and HIV dominated the stage with two talks each – unsurprising given the prevalence of these diseases in South Africa.

'If you're worried you have an STD, go get tested,' emphasised HIV postdoctoral researcher, Dr Smritee Dabee. 'Talk about your STDs, people. The more you know about an STD, the more you can do about it.' Dabee also highlighted the problem of asymptomatic issues, such as inflammation, which can increase the risk of HIV transmission.

PhD student Hayley Tomes spoke on the 'black box' of the brain, mentioning a number of technologies that are used to study the brain. 'It maybe is not as useful as it is pretty, but it is definitely still quite useful', joked Tomes as she showed a microscopy image of a rainbow patterned brain known as a brainbow. This technique, which uses fluorescent chemicals to create the colours, is useful for studying connections in the brain.

Dr Jonathan Shock, a string theory researcher at the University of Cape Town, attracted great interest with his talk on the legacy of Stephen Hawking. Shock spoke about how Hawking's theories on black holes have informed the string theory of the universe, and how he repeatedly lost bets about scientific predictions, despite being one of the luminary scientists of our time.

> *Stephen Hawking showed by looking at black holes, these weird objects which are the end points of massive stars, that something funny must happen. And that strange thing,* […] *– one of the bets that in fact he lost – turned out to be the most important piece of the puzzle in trying to understand the nature of space and time.*

Pint of Science speakers ranged from well-established mid-career scientists to postgraduate students doing their master's degrees. The inclusion of graduate students in the line-up of Pint of Science speakers plays an important role in giving young scientists a voice in the public sphere.

There is a growing belief that all PhD students should be required to present their research to a mixed audience of experts and enthusiasts as a way of encouraging scientists early on to engage with the public and share their science effectively with a wider audience. Pint of Science is another way of facilitating this dialogue.

In addition to giving a voice to young scientists, the role of Pint of Science in giving a platform to underrepresented population groups in science has been highlighted.[4] Notably, the Association of South African Women in Science

and Engineering, which organised the events at the northern suburbs venue, placed a particular emphasis on choosing female speakers as a way of highlighting women in science.

Along with the benefits of giving a platform to underrepresented population groups and encouraging young scientists to engage in science communication, joining with global organisations like Pint of Science also helps to showcase African research. For Africa to be able to highlight its own science is of utmost importance if it is to raise its profile and play a more active part in the scientific debates of the world. This will be especially important as genetic research expands, given that the richest genetic information in the world is found in Africa.

'South Africa is the first country in Africa to start Pint of Science and I hope it won't be the last', says International & France Director of Pint of Science, Elodie Chabrol.

Pint of Science is organised by a team of volunteers from varying walks of life, who share a passion for science. While Pint of Science South Africa is currently only held in Cape Town, as a volunteer-run festival it is an open field for anyone to pick it up and run with it in other cities in South Africa.

There is also room for expansion into the other two themes which were not covered this year: Tech Me Out, which covers technology, engineering and computing, and Our Society, which focuses on sociology, law, history and policy.

'We aim to have events all over South Africa and would love your help!' says Louw. 'We are looking for speakers, volunteers, partners and chapter heads. Please have a look at our new website and chat to us.'

'It is a wonderful opportunity to bridge the gap, making science more accessible to people who would not usually engage in science', enthuses Dr Taime Sylvester, a postdoctoral researcher at Stellenbosch University.

Pint of Science South Africa will be returning in May 2019. So next time a physicist, a biologist and a neuroscientist walk into a bar, join them for a chat.

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