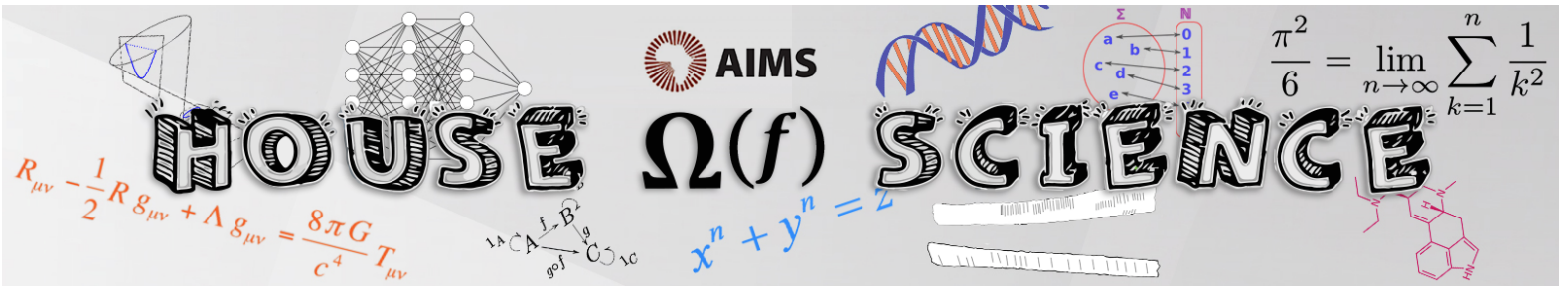

AIMS House of Science Manager presents at the SAASTA SciComm Knowledge Share

Introduction

The dissemination of research findings and knowledge transfer is an integral part of the scientists' activities to demonstrate the societal impact of research, facilitate research uptake, and translate scientific knowledge into practice. Such a research process involves engaging with a broader audience like policymakers. The South African Agency for Science and Technology Advancement (SAASTA) monthly webinar - *SciComm Knowledge Share* - provides a forum/platform for scientists to communicate and engage with the science policymakers and science engagement practitioners about research relevant to the work of SAASTA and National Research Foundation (NRF).

On the 15th of July, the SAASTA *SciComm Knowledge Share* webinar hosted Dr Mpfareleni Rejoyce Gavhi-Molefe, AIMS's House of Science Manager. The webinar was attended by SAASTA representatives, science communication practitioners and researchers from the NRF research entities. Dr Gavhi-Molefe shared the key research findings from the recently published study on *Why scientists agree to participate in science festivals: Evidence from South Africa* (co-authored by Prof Eric Jensen and Dr Marina Joubert). The subsequent discussions included benefits/implications for South African science policy, practice and future research studies. This groundbreaking research study on scientists' participation in an African science festival was published by the International Journal of Science Education and promoted through The Conversation Africa. Dr Gavhi-Molefe further engaged the participants on the critical challenge and imperatives of building the scientists' ability and capability skills to deliver science engagement activities in South Africa and how such a challenge impacts the growth of public engagement in South Africa.

Q & A Discussion Points

During the discussion, participants had an opportunity to share their experiences within their own spaces on science engagement in South Africa, the challenges and recommendations. Key points for discussion put forward by Dr Gavhi-Molefe were:

- **The challenges of growing science communication and public engagement in South Africa and the implications of the research findings.** One of the key challenges highlighted during the discussion was the lack of capacity building opportunities/courses to equip university students and scientists with effective and impactful public dialogue skills across the national science system. The issue of language and socio-cultural barriers, which are linked to the lack of Afro-centric training, was also a concern.

- **DSI/SAASTA science festivals framework on expanding science festivals across South Africa and the implications of the research findings.** The participants highlighted that, for the science festivals and other public engagement activities in South Africa to be successful, they need to be inclusive and diverse regarding the audience and scientists involved. For instance, most of the science festivals in South Africa are attended by school learners, and the scientists from the mathematical sciences disciplines are less represented. Moreover, the science festival organisers need to be innovative, adapt to the "new normal" as the Scifest Africa did in 2020, evaluate its long-term impact, and encourage scientists to broaden their approach from the "*one-way* or *deficit model*" of communication which assumes that people are empty vessels that they need to fill with scientific knowledge to "dialogue model". The participants further commended the current research in terms of providing valuable insights about the participation of scientists in a science festival and laying a good foundation for future research studies on science festivals. There were also recommendations regarding the findings of the research study. These include the need for a comparative study for the Scifest Africa study post-COVID-19 onset to understand the motives of scientists and the audience of the newly adapted online Scifest Africa. Another recommendation was to expand the current research to include more government-funded science festivals in South Africa. Such research would inform the current draft of the Department of Science and Innovation DSI/SAASTA science festivals framework intended to scale up regional science festivals across the country.

- **Science engagement policy strategies and the implications of the research findings.** It was clear that the science communication skills development has been identified in the DSI 2015 Science Engagement Strategy (SES). To address this gap, SAASTA has been running some courses on an ad hoc basis. In addition, the DSI has been developing a science communication course with the University of Limpopo that will be the second course following the one running at the University at Stellenbosch. This year DSI/SAASTA is also working with the Human Sciences Research Council (HSRC) to conduct a science communication skills audit to understand the science communication skills needed in the country. The SES further defined the eleven target audiences (i.e., learners, educators, students, scientists and researchers, science interpreters, industry, decision-makers, journalists, tourists, indigenous knowledge holders and the general public) for science engagement in South Africa.

Summary and Reflections

South Africa is among the countries committed to a science engagement agenda intended to bridge the gap between science and society. To strengthen its commitment, the country has developed

science policy frameworks. These frameworks emphasize the imperative for scientists and scientific institutions to engage actively with the broader society across various platforms. They also point to the need for training scientists with practical and effective public dialogue skills. These include the 1996 White Paper on Science & Technology, 2015 Science Engagement Strategy, and 2019 White Paper on Science, Technology and Innovation.

- The research has shown that similar to their counterparts elsewhere in the world, many South African scientists are responding to the calls to engage with the public and are willing to participate in science engagement activities. However, from the webinar discussion and current study, it is evident that the lack of training opportunities for scientists to deliver effective and impactful science engagement activities is the main barrier. It limits more scientists' participation and is a critical challenge to the growth of science communication in South Africa. Moreover, very few science communication training programmes are done on an ad-hoc basis without a sustainable coordination framework and resources. Although structural changes are underway, the progress is not yet as fast as it is desired. Thus, scientists should be equipped with the necessary skills to engage with the public. Otherwise, efforts around implementing the South African science engagement policy frameworks to mould a scientifically literate South African society are doomed to failure. The research has shown that scientists also benefit from participating in science engagement activities with their research and career development.

- From the discussion, it was also evident that the existing science engagement activities (including science festivals) in South Africa still fall into the trap of engaging school learners. However, school learners are one group of the eleven target audiences for science engagement in South Africa. While it is critical to engage and expose learners to science and technology, more efforts need to be done to reach the neglected public because such publics have different levels of knowledge, socio-cultural backgrounds and experiences that can shape and advance the science engagement agenda in the country. The fact that school learners are still the main target for science engagement activities in South Africa could also be one of the driving factors of the "*one-way* or *deficit model*" of communication on participating scientists.

- While the current study lays a good foundation for future research studies on science festivals in South Africa, it is important to note that the success of this endeavour will lie in having good collaboration between policymakers, science engagement researchers and practitioners and sustainable resources.

Recommendations

- **The critical gap between policy and implementation:** Now more than ever, it is crucial for South African scientists to be empowered with the necessary science communication skills to become well-rounded scientists. Without investing in building a capacity building for science communication and public engagement, South Africa will fail to address the present-day and persistent legacy of apartheid and other pressing developmental challenges. Countries with

thriving economies and advanced scientific literacy amongst their citizens invest in human resource development. Supporting and scaling up the few existing good training programmes could be the first step in closing this long-standing gap that exists between policy imperatives from the South African government and practice.

- **The SAASTA SciComm Knowledge Share forum** is without a doubt a great opportunity where scientists can share knowledge and engage with policymakers and science engagement practitioners to promote 'upstream' knowledge generation, but its reach is limited. For the forum to be impactful within the South African science system, it should become open to more stakeholders to attend. Making it open will be a good step towards building effective engagement or collaboration between sectors, sharing good practices and reaching multi-stakeholders (e.g., universities, research institutions and other science engagement entities) to shape and grow science communication and public engagement in South Africa.

Photo: *Visitors engaging with scientists at a 'Water World' display put up by the South African Institute for Aquatic Biodiversity (SAIAB) at Scifest Africa, March 2019*

Byline

First published in the online newsroom at the African Institute for Mathematical Sciences (AIMS) House of Science

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