

BRINGING GLOBAL CONVERSATIONS ON SCIENCE ENGAGEMENT TO KENYA



How to bridge the gap between science and society? Around the world, science engagement practitioners find unique and inspiring answers to that question. Science engagers reach out to target groups all too often ignored in scientific debate. They do this using different formats, like poetry, storytelling, dance, virtual reality and podcasts.

The science community gains more trust by allowing non-experts to make valuable contributions to scientific questions. As non-scientists take more ownership in the process and create a sense of belonging, the scientific sphere gets richer with a more diverse range of voices and perspectives.

Falling Walls Engage is launching a series of Falling Walls Engage Hubs around the world. The hubs aim to facilitate the international exchange between science engagers operating on their local level. They will serve as a platform for science engagers to learn from each other, address mutual challenges together, and scale the best-practice examples abroad.

Our first spotlight is on Kenya and its lively hands-on and bottom-up science engagement scene. We travelled to Nairobi for a 4-day exchange with a group of science engagers from Portugal, Greece, Argentina, Ghana and the US. Here, we met with the most successful science engagement practitioners and organisations in Kenya.

Throughout the exchange, the participants discussed the state of public engagement in science, what science engagement could look like 10 years from now, and how to collaborate and engage across languages, cultures, and borders.

COMMITMENT TO ACTION

by Bernard Appiah, Texas A&M University School of Public Health, US/Ghana

On the first day, we discussed science engagement more broadly and identified challenges and their solutions. We identified the following as the key topics and discussed these in groups.

ENGAGEMENT OF THE NON-SCIENTIFIC COMMUNITY

We identified groups in the non-scientific community, including school children and parents. We agreed that approaches that non-scientific communities are more familiar with – such as sports, drama and mass media – could be used more creatively to engage with these communities. Case studies for engaging the non-scientific community were suggested as a strategy to guide science engagers in their efforts to reach such audiences.



EVALUATING THE IMPACT OF SCIENCE ENGAGEMENT

We highlighted the need for science engagers to adapt evaluation frameworks to suit the needs of science engagement. Moreover, there was a consensus that social scientists need to be involved in helping evaluate engagement initiatives. There were suggestions for using case studies as an approach for showcasing exemplary science engagement evaluation approaches.

INCENTIVISING INSTITUTIONS

We identified specific incentives for different institutions such as universities, enterprise-related institutions and other associations. For universities, it was agreed that there is the need for universities to reward scientists for their engagement efforts. This reward could be in the form of credits toward promotion.

There were some discussions about the need for scientific and educational institutions including universities to make science engagement compulsory. Science engagers also need to engage universities from the bottom-up approach by involving local champions.

FUNDING FOR SCIENCE ENGAGEMENT

Inadequate funding for science engagement was identified as a major challenge. We agreed that science engagers should target the private sector in getting funding to promote science engagement. However, we were of the opinion that science engagers need to have skills in grant writing to aid this effort. Thus, training in grant writing was suggested. Freely available online resources in grant writing may also help science engagers to get such skills.

There is the need for science engagers to engage the public to help influence policymakers to fund their efforts. Compiling a list of funding opportunities and their deadlines for engagers may also be helpful.

NAIROBI IDEAS EXCHANGE: THE CASE FOR SCIENCE ENGAGEMENT

by Ana Faustino, Open Science Hub, Portugal

On the morning of the second day of the Falling Walls Engage Hub Kenya 2020, we attended the workshop 'Nairobi Ideas Exchange: The Case for Science Engagement' co-hosted by the [Mawazo Institute](#). The workshop aimed to generate a discussion about science engagement and focused on our shared vision in 10 years from now. The workshop examined science engagement best practices, specifically on how to engage specific audiences, and sustainability models for science engagement projects.



WHAT WILL SCIENCE ENGAGEMENT LOOK LIKE IN 10 YEARS?

During the workshop we outlined our shared dream for the field of science engagement in 10 years from now. This vision sees science engagement integrated in the school curricula and in research programmes of scientific institutions. It is also institutionalized in universities, so that researchers can be rewarded with incentives for their science engagement work (e.g. funding for attending conferences, credits leading to career promotion, increased salary).

As a consequence, our vision would increase science literacy and enable society to make decisions (e.g. political, economical, health-related) based on scientific evidence. The challenges the planet is facing at the moment would also be tackled. Big dreams can come true!

To make this dream a reality, we discussed best practices for science engagement. This included strategies on how to engage different audiences (e.g. youth, low socio-economic backgrounds and rural or indigenous communities). We agreed that best practices in science engagement are built upon existing successful practices and have a contextual relevance. It was also mentioned that successful science engagement practices often gain momentum and more visibility through a competitive factor.

SUSTAINABILITY OF SCIENCE ENGAGEMENT PROJECTS

Finally, we discussed the sustainability of science engagement projects after funding is finished. Different strategies were proposed, based on individual experiences:

- Include science engagement in funding applications: by making science engagement a mandatory deliverable, professionals have to comply with the deliverables initially promised

- Be profitable to be sustainable: find alternative funding schemes through corporate social responsibility (CSR) or other corporate strategies
- Institutionalise science engagement: create training programmes for scientists on how to involve citizens in their research, besides the incentives mentioned above

WORKSHOP: AN INTRODUCTION TO SCIENCE ENGAGEMENT

by Julian Ferreras, Café Científico Posadas, Argentina

This workshop took place at the Chiromo Campus of the University of Nairobi and was coordinated by the [Training Centre in Communication \(TCC\)](#). TCC is the first African-based training centre to teach effective communication skills to scientists. The goal of this workshop was to highlight the responsibility for spreading scientific literacy and promoting understanding for and belonging in science.

The event started with initial remarks from Dr Julius Ogeng'ó, Deputy Vice Chancellor Academic Affairs, University of Nairobi. This was followed by three short presentations by Dr Hillary Nyan'anga, who works at the Department of Agricultural Economics at the University of Nairobi, Moina Spooner, Commissioning Editor for the Conversation Africa, and Theo Anagnostopoulos, Co-Founder and Director of SciCo in Greece.



SCIENCE AND SOCIETY

After a short break, Joy Owango – Founding Director of TCC – moderated a plenary session on 'Science and society: The role of science communication and engagement'. The panel was formed of Susan Onyango from World Agroforestry Centre, Stephanie Okeyo from Under the

Microscope, Vera Okeyo from Daily Nation, and Bernard Appiah from Texas A&M University (TAMU) School of Public Health.

During the exchange, they discussed the merging borders between journalists and scientists, the lack of specific training, the lack of representation, and the need for diversity in stories and role models.

All participants discussed the challenges of moving from science communication to science engagement. We agreed on some points:

- We need to know our audience
- Science engagement comes in many different forms
- Each science engagement practitioner needs to find what works for them to develop their initiatives

PINT OF SCIENCE

by Theo Anagnostopoulos, Mind the Lab, Greece

[Pint of Science Kenya](#) took place at the Nairobi Planetarium in partnership with Falling Walls Engage and the [Travelling Telescope](#). The event brought together a group of scientists to share their discoveries and projects with a local audience plus the Falling Walls Engage participants. It also included the screening of a 25-minute wildlife series about Kenyan wildlife warriors.

The speakers of the night were:

- Michael Waiyaki: CEO of Miti Alliance, a Kenyan social enterprise that focuses on planting and growing trees. His background is on project management and he is currently a masters student on energy and sustainability.
- Alex Karl: a German space engineer who protects the Earth from asteroids. He is co-chair of the Planetary Defense Conference and chair of International Aeronautical Federation IAF Technical Committee on Near Earth Objects. He works in an ISS control center supporting astronauts from the ground.
- Prof. Jared Arama: a Kenyan professional mediator and an expert in peace building and conflict transformation. He is an environmental scientist specialising in climate change, environmental impact assessment and waste management.



KARURA FOREST

by Kyerewaa Akuamoah Boateng, West African Centre for Cell Biology of Infectious Pathogens, Ghana

Situated in the outskirts of the buzzing city of Nairobi, the Karura Forest contains nearly 605 species of wildlife including three types of antelope. Entering the forest, we were advised not to carry plastics and were given a little insight into the forest by our tour guide. There was excitement and fear on our faces as the story of a huge African rock python snake was told (no, I'm not kidding). Yes, it was once spotted in the forest by visitors, we were told. I wondered if we would spot it!

As we stepped into the amazing dark woods, we noticed the different species of plants and birds, and the beautiful red clay paths through the forest. After a short walk, we arrived at the Karura Waterfalls. It was inspiring and jaw-dropping as the water was gushing from its source. Our guide explained that the water is orange during the rainy season and clear during the dry season. The water cascades over the rocks before settling down with a gentle flow joining the Karura River.

Embracing the beautiful and calm atmosphere of the 50-foot waterfall, one thing stood out for me. I realised that just as the water tumbled down the mountain, roiling and bubbling, flowing, never-ending and breaking boundaries, giving life and energy, so are science engagers. Symbolically, we are breaking down boundaries to connect science with our societies.



A few metres on, we came across the Karura Caves. Our tour guide explained that the caves were considered sacred by the local community and served as a religious place of worship. It was also a hideout for the Mua Mua people during the fight for independence from British colonial rule.

It was a fun-filled educational day. Wondering if we saw the python? No, we didn't. We were, however, glad to see monkeys playing on trees and running up the branches from where we stood. Oh...and if you're looking to get the best out of the Karura Forest, wear comfortable walking shoes, not high-heeled wedges like I did.

WOMEN AND SCIENCE IN AFRICA: A SILENT REVOLUTION

by Stephanie Okeyo, Under the Microscope, Kenya

The Nairobi Ideas Night was a public engagement programme by the Mawazo Institute. The night began with a brief introduction from Fondation L'Oréal discussing the need to have women in science and what they are doing to support this.



HOW ARE WOMEN IMPACTING SCIENCE AND INNOVATION IN AFRICA?

The presentation was followed by screening of the documentary film 'Women and Science in Africa: A Silent Revolution.' This documentary explores how African women are impacting science and innovation on the continent. The documentary follows three women from the Congo, Madagascar and South Africa, and tells the stories of how they are using science to transform their countries.

The female scientists featured in the film have a passion for breaking barriers, being mentors to young girls, creating an enabling working environment back home and positively contributing to their community. Determination, hard work and resilience were key to bringing them this far.

The last section of the night was a panel discussion with leading Kenyan women scientists working in a diverse range of scientific fields and moderated by the CEO of the Mawazo Institute. The main point was that Africa needs to invest in creating a conducive working environment for its scientists to minimise brain drain. Leadership training is key in all mentoring programmes for women and girls. It was clear there is still more work to be done to reach gender parity.

FURTHER INFORMATION

The Kenya Hub is just the start. In the following months, we will continue to bring the conversation to new places and highlight the amazing work that is done by science engagers around the world. Follow us on [Twitter](#), [Facebook](#), and [Instagram](#) for the latest updates and reach out to us if you know of an amazing initiative that is bridging the gap between science and society in your country.