

***“Equity, Epistemic and Decolonial frameworks on the applications of the new ICOM definition of Museums in Science and Technology Museums”***

**Keynote Presentation by:** Dr. Elizabeth Rasekoala, President: African Gong-The Pan African Network for the Popularization of Science & Technology and Science Communication

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**Introduction: Definitions, Contestations and Imperatives for Social Justice**

The new ICOM Museum Definition voted on and adopted at the Extraordinary General Assembly of ICOM, in Prague, in 2022, states: ***“A museum is a not-for-profit, permanent institution in the service of society that researches, collects, conserves, interprets and exhibits tangible and intangible heritage. Open to the public, accessible and inclusive, museums foster diversity and sustainability. They operate and communicate ethically, professionally and with the participation of communities, offering varied experiences for education, enjoyment, reflection and knowledge sharing.”***

This new ICOM definition has been developed through a consultative process that has at times generated contestations by ICOM members. It is thus, a landmark achievement for advocates of reforms to the previous definition. Furthermore, it is in line with imperatives for enhancing social justice, diversity and inclusion in the roles played by museums, in societies.

For comparison, the previous ICOM definition states: ***‘A museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communicates and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment’.***

Following on from this new definition, this keynote presentation will focus on the Equity, Epistemic and Decolonial frameworks on the applications of the new ICOM definition of Museums within Science and Technology Museums – such as, CIMUSET members. In plotting a way forward, myself and 30 other Colleagues from across the Global North and South regions, have got together to produce a ground-breaking book volume published in July 2023, entitled, [“Race and Sociocultural Inclusion in Science Communication: Innovation, Decolonisation, and Transformation”](#), and I would like to share with you all some of the key learnings, and good practice strategies from this unique book that relate to science and technology museums.

**1. ICOM Definition Applications: Equity Frameworks**

A critical aspect of what we have learned and shared in this seminal book is the profound nature of the challenges that science and technology museums face across the globe in truly delivering STEM Equity experiences, for *all*, inclusively and consistently, within their institutional frameworks and practices. These challenges are demonstrated across a range of issues from the lack of race, gender diversity and inclusion in their staff/personnel profiles across all areas of activity; the lack of inclusive narratives and representations with regard to exhibits; and failure to contextualise knowledge *with* and *for* their diverse local communities.

Inherent in these challenges is the failure to deliver on their core mandate of ‘brokering’ scientific knowledge in ways and means that empower the diversity of their local communities through inculcating, valuing and centring knowledge from diverse sources, Indigenous, ancestral and from the lived

experiences of their visitors. It seems that the epistemic dominance of Western/Eurocentric knowledge is so imposing in these institutions, that many simply either do not or cannot overcome its pervasive influences on how they operate as 'brokers' of knowledge *from and for all*.

### **Good Practices in Equity Frameworks:**

First, racial and gender diversity in staffing/Explainers is critical – *you cannot give what you don't have!* The enhanced perspectives and 'wide-angled' lenses on equity and inclusion that science and technology museums gain from their diverse Staff and Explainers cannot be overstated - they really are your 'brains trust!' - and, therefore, your first line of approach to delivering equitable and inclusive STEM knowledge and experiences in your science and technology museum.

Second, capacity-building/training of these diverse staff/Explainers is crucial to inculcating and sustaining, inclusive 'habits of mind' (such as: curiosity, engagement, persistence, flexibility, empathy, and being personable) as informed by the good practices of the New York Hall of Science (NYSCI) in the book. These transformative 'habits of mind' help Explainers to respond nimbly to the diverse needs of visitors with different perspectives, cultural backgrounds, experiences, and interests. In addition, this capacity-building/training framework should also embed values, insights, and motivations from the lived experiences of these diverse Explainers themselves (Liu, Mohabir & Bennett, 2023).

Other recommendations from the book include: Science and Technology Museums should work to deliver systematic change in STEM equity and inclusion experiences through moving from the limitations of 'integration tactics' which simply create 'silos' of superficial integration to the multi-dimensional lenses of 'inclusion strategies'. The rationale here is of good practice strategies that are powered by the leveraging of: 'mission driven intentionality'; 'blended language' programming; Universal Design Principles; equitable collaborative partnerships with minority and underserved communities; and fully addressing the 'chain of accessibility' for excluded groups within and beyond their institutional settings and contexts (Leyman Pino, 2023).

## **2. ICOM Definition Applications: Epistemic Frameworks**

Science and technology museums aim to amplify the explanatory power of science, but often fail to answer the profound question of 'whose knowledge is it anyway?' Indigenous Knowledge Systems (IKS) address the constructivist perspective in how diverse audiences can find meaning and relevance in science and technology museums. In the book volume, we explore and offer ways for science and technology museums to engage diverse communities through utilizing Indigenous Knowledge Systems to engender epistemic inclusion and enrichment.

A pivotal exemplar of what we have learned and shared, is that science and technology museums are increasingly confronted by the need to authentically reflect how diverse publics conceive of and construct STEM knowledge. In an expanding, globalized world, many communities feel alienated by academic and Western-dominated science discourse, because it does not reflect them or their knowledge gained through ancestral traditions and lived experiences with natural phenomena.

Adults and learners can only achieve meaning in science and technology museums, when they can connect their selfhood to a diverse spectrum of knowledge, norms, traditions and storytelling, in these facilities. We have also learned through other aspects that challenge current perceptions of the history of science communication, through bringing to the fore the interrogation of science communication as a Western developed field. This is evidenced by the fact that there are multiple histories of knowledge-sharing practices across the Global South regions of the world, that are centuries older, but which have been marginalised in 'mainstream' science communication discourses.

Science and technology museums in the Global South, in particular, are at the forefront of the challenge of centering the Indigenous knowledge of their communities, rather than locating them at the margins of their narratives and representations. Their challenges in 'mainstreaming' their local Indigenous knowledge is in no small measure due to the profound legacy of the 'epistemic loss' and 'epistemic injustice' of colonialism, which has extroverted and marginalised much of the Indigenous knowledge

and innovation assets, of nations in the Global South (Herrera-Lima and Gutiérrez-Ramírez, 2023). While these pernicious legacies may be daunting to overcome, advocates of transformation recommend that science and technology museums in the Global South mobilise domestic resources, enhance their resilience to Eurocentric hegemony and implement human capital/capacity-building and socially inclusive sustainable strategies, which can help.

### **Good Practices in Epistemic Frameworks:**

First, science and technology museums should intentionally engage with visitors and diverse local communities to bring on board 'lay epistemologies (multiple ways of knowing)' and create an enabling environment that will engender the sharing and affirmation of inclusive knowledge from *all* sections of their localised communities, equally valued, welcomed, and engaged.

Second, together with multiple stakeholders, including Indigenous knowledge holders, they should engage in respectful dialogue sessions to highlight and address critical questions around the role science and technology museums can serve in ensuring that *all* voices are heard and diverse epistemic contributions valued. The end-goal of these equitable and reciprocal partnerships should be that of igniting a collaborative community of practice for equitable, inclusive, and more welcoming science and technology museums, by having science content redesigned to meet the needs of their diverse communities. Science and technology museums will thus, be enabled and encouraged in their institutional frameworks to decolonise the existing pedagogical, cultural, and intellectual structures; challenge and diversify their STEM narratives; and create collaborative accessibility as a bridge to participation and engagement, especially for the youth and adults from underserved communities (Macdonald and Parzen, 2023).

### **3. ICOM Definition Applications: Decolonisation Frameworks**

The current mainstream discourses on the decolonisation agenda in science communication have been predominantly focused on the pressing issues concerning the repatriation/restitution of 'looted' museum artefacts in Global North museums, back to their countries of origin across the Global South, from which they were unlawfully taken, during the colonial era. While this imperative is critical and laudable, it has in some respects served to 'skew' the decolonisation debate – such that science and technology museums which in the main, do not have collections – see themselves as not being rightful targets for engagement in decolonisation conversations and actions. This is an oversight that urgently needs to be corrected!

There needs to be a clearer understanding within science and technology museums that decolonisation mechanisms are grounded in, and driven by the imperatives of overturning hegemonic thinking, which centre Western-derived references, representations, norms and constructs, at the expense of those from non-Western parts of the globe (Belhorma, 2023). These processes can thus, become the means of establishing science and technology museums as *critical reconciliation, mediation and recalibration intercultural contact zones* for emancipatory interactions by diverse publics, visitors and stakeholders. The end goal is to have science and technology museums in the Global North that act as agents for science and society transformations, but also in the Global South to have them as fully embedded in their indigeneity, unshackled from the impositions of Western hegemonic paradigms, such that they move away from being 'carbon copies' of their Northern counterparts (Rasekoala, 2023a).

The growth and proliferation of science and technology museums and their membership networks across both the Global North and South regions, attests to the maturity of the field, and its potential as a sector to deliver systemic transformation through inculcating decolonisation approaches and socio-cultural inclusion good practices. Networks, such as CIMUSET have a vital sector-wide leadership and peer-peer support (at both institutional and practitioner levels) and advocacy role to play, in advancing diversity, equity and inclusion in their membership institutions and multi-disciplinary frameworks for overcoming hegemonic thinking in science communication. In addition, they can create dynamic and equitable *contact zones* for initiating and sustaining mutual learning dialogue and 'respectful' listening discourses between science communicators and practitioners from both the Global North and South.

These dynamic processes will go a long way towards bridging the Global North-South divide in science communication institutional frameworks, representation and 'voice' (Rasekoala, 2023b).

## **Conclusion:**

A key overarching learning from the book is that the systematic and sustainable transformation of science and technology museums for the delivery of equity and epistemic inclusion in STEM experiences, takes time, and once initiated needs to be reflectively driven through an unyielding commitment and consistent forward-moving direction, over time. It is a never ending-endeavour, challenging, but equally rewarding. In this regard, the ten-year (and still ongoing) journeys of the New York Hall of Science and the Museum of Us, both in the United States, as described in the book are highly illustrative, and should serve as encouragement and inspiration for other science and technology museums.

Finally, the book fully captures and articulates the shared burden of responsibility that science and technology museum practitioners in both the Global North and South bear with regard to the challenges of delivering inclusive knowledge *from and for all*, across these diverse regions of the world, and how through mutual learning, equity and decolonisation approaches, they can work together to deliver a transformed science and technology museum field, fit for purpose for the 21st century and beyond. In this regard, there is thus, a collaborative pathway for science and technology museums across the globe to work together in equitable partnerships to deliver the laudable goals, vision and imperatives of the new ICOM definition of museums in science and technology museums, worldwide.

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**About the Author:**

Dr. Elizabeth Rasekoala is the President of African Gong: The Pan-African Network for the Popularization of Science & Technology and Science Communication, which aims to advance the Public Learning and Understanding of Science (PLUS), scientific outreach and scientific literacy on the African continent. She is the Editor of the influential book, "[Race and Sociocultural Inclusion in Science Communication: Innovation, Decolonisation, and Transformation.](#)"

Elizabeth with a professional background in Chemical Engineering, has researched, presented and written widely on public innovation and transformative development through advancing diversity, sociocultural inclusion and race and gender equality issues in science communication and science, technology, engineering and mathematics (STEM) education and skills development, for over twenty-five years. She has been internationally recognised for her innovative, dynamic advocacy and transformative practice, with various awards, the most recent being the International NAT AWARD for Science Communication - conferred by the Natural Science Museum of Barcelona, in 2019.

Conclusion – Advancing Globally Inclusive Science Communication: Bridging the North-South Divide Through Decolonisation, Equity, and Mutual Learning –  
***Elizabeth Rasekoala***