



**AFRIMETS**  
Intra-Africa Metrology System  
Système Intra-Africain de Métrologie



# **AFRIMETS TCRI Report**

**Ms Grace Ateka**

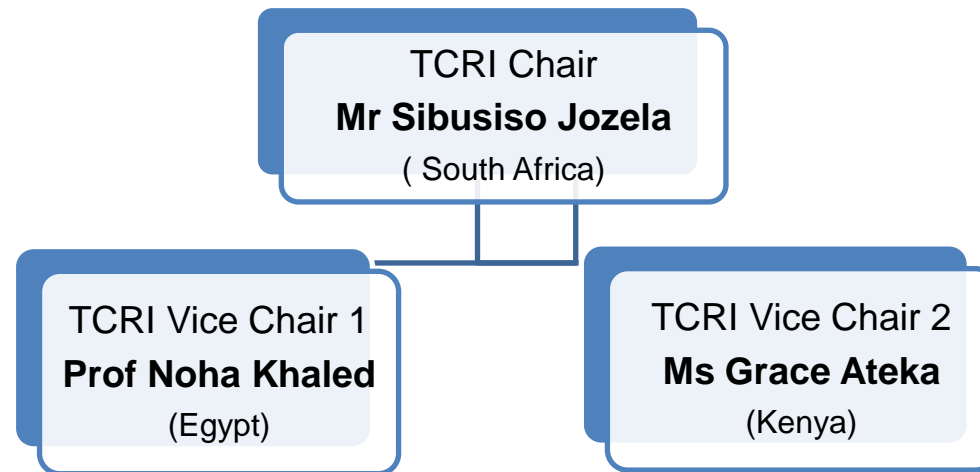
**obo (TCRI Chair: S Jozela)**

17<sup>th</sup> AFRIMETS GA  
*01 August 2024*

# OVERVIEW

- Afrimets TCRI Structure
- Feedback from the Recent TCRI Meetings
  - Country Representations
  - Report on Comparisons
  - Current and future developments
  - Regional Capacity Building
- Afrimets TCRI CMC Activities

# Changes in the Afrimets TCRI Structure



**CCRI (I):** Prof Noha Khaled

**CCRI (II):** Dr M van Rooy

**CCRI (III):** Prof Ahmed El-Sersy

**Diagnostic Radiology:** Mr Refuoe Pepenene (SA)

**Services:** Dr Reham Hamdy

# Feedback from the Recent TCRI Meetings

## Country Representations

- The meeting was held virtually on 30 July 2024, with the following countries represented:
  - **Egypt (2), Kenya (2), South Africa (3), Nigeria (2) and Sudan (1)**
- Stable connectivity is an issue resulting in participants not being audible. **Ethiopia (1)** struggled to join the meeting.
- The country representatives were encouraged to include more participants from their institutes as this meeting was virtual (**10 participants** in the meeting)
  - Increased exposure to TCRI activities
  - Help with succession planning

# Feedback from the Recent TCRI Meetings

## Report on Comparisons

- There are currently no on-going comparisons organised within the RMO.

### RECENT PARTICIPATION ON OTHER RMO, CC COMPARISONS

Comparison	Period	Participating NMI	Status	To Support CMC?
APMP.RI(I)-K3 (Air Kerma for medium energy X-rays )	2016	NMISA, NIS	Final Report published	Yes
APMP.RI(I)-S3 (Air Kerma for ISO X-ray beams )	2016	NMISA	Final Report published	Yes
APMP.RI(I)-K8 (Reference Air Kerma for Ir-192)	2017	NMISA	Final Report published	Yes
EURAMET.R(I)-S16	2020	NMISA	Final Report published	Yes
IAEA Protection	2024	KEBS	Report Received	Yes
IAEA Therapy	2024	KEBS	Report Received	Yes
CCRI(III)-S1 (Ambient dose equivalent rate meters)	2022	NMISA	Awaiting Draft A report	Yes
APMP.RI(I)-K7	2022	NMISA	Draft A report	Yes
CCRI(III)-S2.Hp(10):	2025	NMISA	Planned	Yes

# Feedback from the Recent TCRI Meetings

## Report on Comparisons

### Radioactivity Comparisons Completed (NMISA) (2023-2024)

- ✓ Participation in IAEA-TERC-2023-01/02 Proficiency Test Exercise on the determination of anthropogenic and natural radionuclides in water and soil.
- ✓ LSC H-3 measurements for NNR in fresh water and effluent samples from Koeberg Nuclear Power Station
- ✓ Impurity analysis of oxygenated water from PET Labs accelerator used for F-18 production
- ✓ Participation in IAEA-TERC-2022-01 Proficiency Test Exercise on the determination of anthropogenic and natural radionuclides in water.
- ✓ Participation in BIPM.RI(II)-K1.Na-22 comparison for the Activity of Na-22 (Primary measurement method).
- ✓ Participation in SIM.RI(II)- K2.Zn-65 comparison for the Activity of Zn-65 (Primary measurement method).
- ✓ Successfully completed ISO 17025 assessment. Maintain ISO 17025 accreditation.

# Feedback from the Recent TCRI Meetings

## Report on Comparisons

### PLANNED TCRI COMPARISONS

Comparison	Pilot NMI	Period	Protocol Finalisation
AFRIMETS.RI(I)-K1	NIS	2024	Q4/2024
AFRIMETS.RI(I)-K4	NIS	2024	Q4/2024
AFRIMETS.RI(I)-S1	KEBS	2027	Q1/2027
AFRIMETS.RI(III)-S1	NMISA	2026	Q1/2026

# Feedback from the Recent TCRI Meetings

## Current and future developments

NMI	Current Project	Future Plans
SAEC (Sudan)	<ul style="list-style-type: none"><li>• Lab not operating due to the conflict</li></ul>	<b>Establishment of:</b> <ul style="list-style-type: none"><li>• Neutron Capabilities</li><li>• Diagnostic Radiology</li><li>• Contamination monitor calibrations</li></ul>
KEBS (Kenya)	<ul style="list-style-type: none"><li>• Completed Co-60 Radiotherapy calibration setup</li><li>• Completed Bi-lateral Comparison with the IAEA</li><li>• Upgrading calibration capabilities for imaging</li></ul>	<ul style="list-style-type: none"><li>• Personnel monitoring( equipment already arrived)</li><li>• Radiotherapy Audits( to start after commissioning OSL reader)</li><li>• Calibration of brachytherapy equipment</li><li>• CMC claim submission</li></ul>

# Feedback from the Recent TCRI Meetings

## Current and future developments

NMI	Current Project	Future Plans
NIRPR (Nigeria)	<ul style="list-style-type: none"><li>• Establishment of the National Diagnostic reference level</li><li>• Participation in IAEA CRP E24024</li><li>• Participation in IAEA Postal Audits</li><li>• Proficiency Test Conducted For Dosimetry Service Providers</li></ul>	<b>Benchmarking measurement capabilities:</b> <ul style="list-style-type: none"><li>• Involvement in research activities and publication of papers</li></ul>
NMISA (South Africa)	<ul style="list-style-type: none"><li>• Establishment of radon measurement capabilities</li><li>• Re-establishment of ISO Narrow Spectrum Beams</li><li>• Establishment of National DRLs</li><li>• Establishment of a Brachytherapy audit methodology (IAEA CRP)</li></ul>	<b>Benchmarking measurement capabilities:</b> <ul style="list-style-type: none"><li>• Publication of CMCs on KCDB</li><li>• Pilot Comparisons</li></ul>
NIS (Egypt)	<ul style="list-style-type: none"><li>• Primary standard Mn-bath for neutron dosimetry in IRML is being established</li><li>• CRP proposal in diagnostic radiology submitted to IAEA</li><li>• Research on characterization</li></ul>	<b>Benchmarking measurement capabilities:</b> <ul style="list-style-type: none"><li>• Pilot of comparisons</li><li>• Publication of CMCs on KCDB</li></ul>

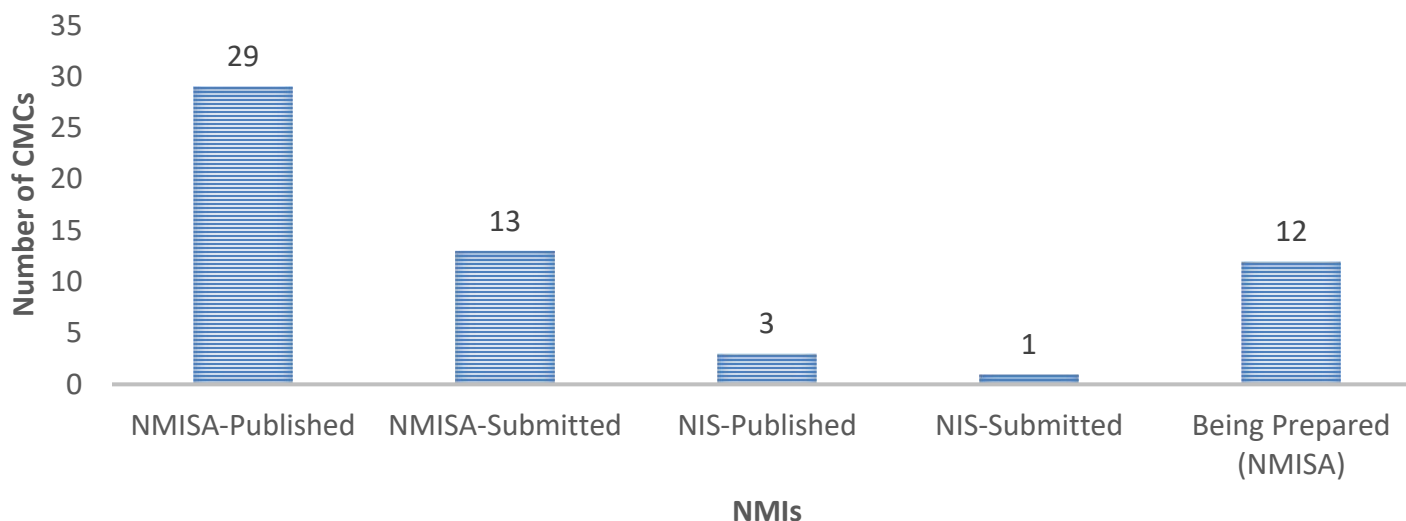
# Feedback from the Recent TCRI Meetings

## Regional Capacity Building

- In line with the CCRI strategy **to build capabilities at smaller NMIs/Dis**, the TCRI identified areas where capacity needs to be developed in the region:
  - Webinars on relevant technical areas organised by **BIPM** and **IAEA**
  - Training on piloting of comparisons
  - Training in Dosimetry measurements - Continuing
- The TCRI will utilise available avenues within CCRI to achieve the goal of building capacity.
- Knowledge sharing activities within Afrimets TCRI will also be virtually organised.
  - Planned **Technical Workshops** on completed development projects
  - This will ensure that the barrier created by travelling expenses is removed
  - A database of videos training material will also be documented and shared
- Many NMIs and SSDLs have benefited from the acceptance of the IAEA comparison reports for claiming CMCs (this was advocated for by the Afrimets during RMO WG chairmanship)

# Afrimets TCRI CMC Activities

## CMC ACTIVITIES IN TCRI



- ✓ NMISA recently submitted CMCs for publication
  - ✓ 13 new CMCs submitted, currently under Intra-RMO Review.
- ✓ NIS Egypt submitted a claim for one new CMC in air kerma
- ✓ Afrimets TCRI currently reviewing a 7 EURAMET submitted CMCs on the KCDB platform.



THANK YOU