

Strengthening Chemical Metrology for Food Safety in the AfCFTA

Reliable Food Safety Testing supported by a sound chemical metrology skill and infrastructure.

Attention all National Metrology Institutes (NMIs) and designated institutes (DIs) in the Africa Continental Free Trade Area

We are pleased to offer a comprehensive on-line training course on Chemical Metrology, aimed at supporting the development of chemical metrological services within the food safety arena.

Key Topics

- Introduction to Chemical Metrology
- Establishing metrological traceability and reporting of results
- Validation of Analytical Methods
- Estimation of Measurement Uncertainty for chemical measurements
- Assessment through practical sample analysis

Methodology

The training will be a mix of on-line lectures, customised proficiency tests and workshops where participants will also engage in interactive discussions and hands-on exercises designed to reinforce the concepts covered in the lectures.

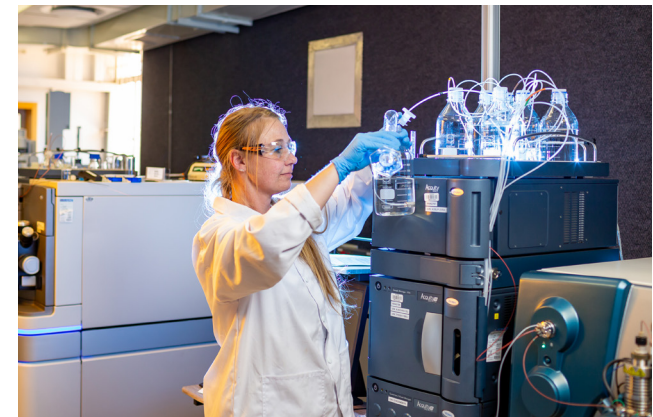
**Limited space available,
maximum of fifteen
participants - register now!**

**JOIN OUR FOOD SAFETY
TESTING JOURNEY**

**How to ensure the quality of
your analysis.**

August 2023 - March 2024

**An informative workshop
aimed at all National Metrology
Institutes (NMIs), designated
institutes (DIs) and Food Safety
Testing Laboratory managers
and analysts.**



The AFRIMETS initiative is supported by



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**Excellence through measurement
Opening the doors to Africa and beyond**

COURSE Programme August 2023 – March 2024

Introduction to Chemical Metrology	Establishing Metrological Traceability	Method validation	Estimation of Measurement Uncertainty	Practical assessments	Feedback Workshop
August 2023	September 2023	October 2023	November 2023	Nov 2023-Feb 2024	January 2024
Day 1	Day 1	Day 1	Day 1	1st Assessment:	One day only
<p>Stand-alone course introducing the Metrology system and Quality Infrastructure Chemical metrology</p> <ul style="list-style-type: none"> • Importance for trade • Quality management systems (ISO/IEC 17025) • Metrological traceability • Reference measurements (Primary and primary ratio) • Method validation • Uncertainty of measurement • Certified Reference Materials (ISO 17034) • NMI Core competencies • CCQM Comparisons • Calibration and Measurement Capabilities <p>Questions & Discussion</p>	<p>This is a great introductory course for staff new to chemical metrology, providing practical insights into how traceability is practically established in the laboratory for chemical measurements</p> <ul style="list-style-type: none"> • Scope and field of application • Principles of metrological traceability • The international definition • International system of quantities and units (SI) • Establishing traceability • Choice of the reference • Reporting traceability <p>Worked examples</p>	<p>The practical guidance on how to validate methods in the laboratory.</p> <p>Step-by-step look at method validation parameters and how to implement the validation experiments.</p> <p>Implementing Quality Controls</p>	<p>Introductory course to setting up an uncertainty budget using the bottom-up approach.</p> <ul style="list-style-type: none"> • Overview of the Guide to the Expression of Uncertainty in Measurement (GUM) Definitions • Specification and modelling • Identify the uncertainty sources. • Quantify the uncertainty sources. 	<p>Nov-Dec 2023 Practical assessments are designed to solidify the theoretical concepts learned.</p> <p>Participants are supplied with reference materials for analysis and are required to report on:</p> <ol style="list-style-type: none"> 1. The measurement results. 2. The method validation data for the method applied. 3. The metrological traceability of the result. 4. The measurement uncertainty budget. <p>Performance evaluation reports are provided.</p>	<ul style="list-style-type: none"> • Participant feedback • Result summary • Measurement challenges and areas for improvements • Reporting of results • Measurement traceability • Estimation of measurement uncertainty • Q&A



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Système Intra-Africain de Métrologie

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Day 2	Day 2	Day 2	Day 2	2nd Assessment:	
Implementation of Infrastructure at National Level <ul style="list-style-type: none"> Raising stakeholder awareness Identification and prioritisation of needs Obtaining Government Commitment Capability Building Dissemination of Services Questions & Discussion	Group exercises on establishing and reporting metrological traceability for chemical measurement results. <ul style="list-style-type: none"> Titration Organic Analysis Inorganic Analysis 	<ul style="list-style-type: none"> Method validation and Quality control exercises Exercise feedback Introduction into Uncertainty Estimation employing Method validation and Quality Control data NORDTEST Reproducibility 	<ul style="list-style-type: none"> Calculate the sensitivity coefficients. Calculate the combined standard uncertainty. Reporting uncertainty. 	Feb 2024 Following individualized workshop feedback on areas for improvement, participants are afforded another opportunity to analyse samples and report their results according to concepts learned.	<ul style="list-style-type: none"> Participant feedback Result summary Measurement challenges and areas for improvements Reporting of results Measurement traceability Estimation of measurement uncertainty Q&A Lessons learned, way forward
		Day 3	Day 3		
		<ul style="list-style-type: none"> NORDTEST Method and Laboratory bias NORDTEST Combined uncertainty. Exercises Exercise feedback 	Practical examples, solutions and exercises		
COST (per person)					
294 EURO		2 353 EURO – Comprehensive suite			



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REGISTRATION REQUIREMENTS:

Language of learning: English

Skills level: Beginner/Refresher

Duration: 11 days excluding practical assessments (2 rounds)

Delivery: On-line through NMISA Training Centre

SYSTEM REQUIREMENTS:

- Laptop/ PC with speaker and microphones (built-in or free-standing).
- Internet access will be needed, virtual platform to be used will be Zoom.
- Participants will receive links by email to attend the training sessions.

Friendly, Knowledgeable Facilitators

- The course will be presented by facilitators that strongly encourage interactive training, with a willingness to share.
- The first day of the course will be combined with a virtual workshop to encourage the sharing of information from suppliers to users throughout the continent.
- Facilitators will include:
 - Maré Linsky (NMISA)
 - Dr Angelique Botha (NMISA)
 - Dr Maria Fernandes-Whaley (NMISA)



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