

1st Protein; Sugar and Moisture Measurement Summer School

Supporting the consumers right to choose through accurate measurement.

In recent years there has been a strong movement towards paleo and ketogenic diets. These diets have shifted the macronutrient profile of many foods. In general paleo diets focuses on the consumption of protein and fresh produce while it eliminates grains, legumes, processed sugar and dairy. Whereas ketogenic diets change the macronutrient distribution in favour of fat based diets with moderate protein content and very little carbohydrates. Therefore, the measurement of sugar and protein has become very important in foodstuffs marketed towards these diets.

In paleo diets natural sugars such as honey, maple syrup and other plant-based sugars are allowed, while refined sugars are prohibited. To ensure that the products have the correct sugar profiles, authentic product, sugar analysis where clear differentiation between various sugars becomes crucial. For ketogenic diets the quantity of protein is critical as this is the main macronutrient after fats. Therefore, it is important that all essential proteins are consumed.

The aim of this summer school is to look at both theoretical and practical considerations in the accurate measurement of protein, sugar and moisture measurement in food.

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

**JOIN OUR FOOD ANALYSIS
JOURNEY**

**The consumers right to
choose – how measurement
ensures what you purchase
is what you get.**

3 - 14 July 2023

**An informative workshop
aimed at anyone interested
in the analysis of proteins,
sugars and moisture in food.**

**Schedule and contents subject to change;
minimum of ten participants required.**



The AFRIMETS initiative is supported by



Visit www.nmisa.org or contact us on +27 12 947 2780 for more information.

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

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:
 - Dr Nontete Nhlapo (NMISA)
 - Thabang Chiloane (NMISA)
 - Desiree Prevoo-Franzsen (NMISA)
 - Deirdre Claasen (NMISA)
- Technical applications featuring the following manufactures/ suppliers: Agilent; Elementar; Leco Africa; Metrohm; Mettler Toledo; Perkin Elmer and Waters

WEEK 1 - MOISTURE AND PROTEINS

DAY 1: High protein, low sugar - new dietary trends and its effect on analysis

- Welcome and Remarks
- Recent movement towards alternative diets, changes in macronutrient distributions
- Sugar analysis – kilojoules to authenticity
- Break
- Methods commonly used in protein analysis
- Advances in protein analysis
- Discussions
- Dietary essentials – amino acid analysis
- Why is moisture in food important?
- Techniques in moisture determination
- New advances in macronutrient measurements
- Questions
- Closing remarks

DAY 2: Moisture determination

- Moisture analysis in food products
- Moisture determination through oven drying

DAY 3: Instrumental moisture determination

- Introduction to instrumental moisture determination
- Karl Fischer
- Moisture analysers

DAY 4: Protein measurements

- Introduction to protein measurements

DAY 5: Method specific workflows

- Dumas
- Elemental analysis



nmisa
training centre



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

The AFRIMETS initiative is supported by



Visit www.nmisa.org or contact us
on **+27 12 947 2780** for more information.

Excellence through measurement
Opening the doors to Africa and beyond

Measurement and calibration expertise

The NMISA offers calibration and measurements in a wide field of scientific disciplines including, but not limited to:

- Acoustics, Ultrasound and Vibration
- DC Low Frequency and Radio Frequency
- Fibre Optics
- Gas Analysis
- Mass Calibration Services
- Temperature and Humidity Calibration Services
- Photometry and Radiometry
- Essential oils
- Environmental contaminants
- Toxic and nutritional content
- Food contaminants and nutritional content

WEEK 2 - LET'S GET PRACTICAL SAMPLING TO REPORTING

DAY 1: Amino acid analysis	DAY 2: Sugar analysis	DAY 3: Sugar analysis	DAY 4: Sugar analysis	DAY 5: Method validation and quality
<ul style="list-style-type: none"> • Introduction to amino-acid analysis 	<ul style="list-style-type: none"> • Introduction to sugar analysis 	<ul style="list-style-type: none"> • Preparing standards • Prepare samples • Setting up the LC-RI 	<ul style="list-style-type: none"> • Data interpretation • Quantification 	<ul style="list-style-type: none"> • Method validation • Use of QC materials

We are with you every step of the way

To support your measurement quality control and quality assurance objectives, the NMISA has released several reference materials and certified reference materials. These materials where possible originate from within the African Continent, to ensure compatibility with the samples routinely measured in your laboratory. Reference materials currently available include mycotoxins (analytical standards as well as naturally incurred materials such as maize flour and peanut slurry), forensic blood alcohol analysis analytical standards, matrix materials for nutritional content, nutritional and toxic elements as well as pesticides. Please visit our on-line store for available products and pricing www.store.nmisa.org

- The NMISA provides an extensive suit of products and services to meet your laboratories needs. This includes but is not limited to consultation services that spans the entire lifetime of your laboratory from design to implementation.
- Training in method development; validation and uncertainty.
- Providing calibration, proficiency testing and reference materials to assist your laboratory in meeting quality control and assurance objectives.

Finding a course that is right for you

The NMISA Training Centre is committed to building measurement capacity in Africa. The centre has a number of courses that may meet your training needs, from personnel at the beginning of their careers to those wanting to develop advanced skills. Please visit our website www.nmisa.org for more information or contact us at training@nmisa.org or call **+27 12 947 2461**.

Finding Proficiency Tests that suit your needs

The NMISA is an ISO/IEC 17043 accredited proficiency testing service provider with accreditation in the following fields: Food Testing (chemical additives, residues, and nutritional content); Water Testing (Chemical contaminants and residues) and Forensic Testing (forensic level alcohol, forensic preservatives and breath alcohol).



The AFRIMETS initiative is supported by



Visit www.nmisa.org or contact us on **+27 12 947 2780** for more information.

Excellence through measurement
Opening the doors to Africa and beyond