

**Are you a quality driven individual?
Do you have a passion for perfection?**

If you answered Yes to these questions, you could be just the individual we are looking for.

Senior Scientist: Organic Analysis

Salary Range R771 330.68 to R907 447.86 per annum (All inclusive)

OVERVIEW OF THE ORGANISATION:

The NMISA is a Type 3A Public Entity established in accordance with the Measurement Unit and Measurement Standards Act, No. 18 of 2006 (the Act). The NMISA is mandated by the Act to provide for the use of the international system of units (the SI) and other measurement units in South Africa, to maintain national measurement standards (NMS) and to determine and ensure the comparability of the NMS. More information can be obtained from www.nmisa.org

The Organic Analysis Section is responsible for the research, development and application of analytical techniques such as titrimetry, gas chromatography, liquid chromatography and mass spectrometry for the accurate identification and quantification of organic compounds in various matrices. The section supports the agro-processing sector, through measurement services in environmental pollution monitoring and food contaminant analysis, of water; soil; sediment; biological fluids; and agricultural commodities. Other sectors where measurement capabilities have been established include essential oils, biofuels, forensic blood alcohol and polymer analysis. The core capability of characterizing high purity organic substances, using diverse analytical techniques has been developed and benchmarked internationally. Dissemination to industry is provided through services encompassing the development of reference measurements for analysis, the production of Certified Reference Materials (CRMs), and Proficiency Testing Schemes (PTs).

The laboratory is accredited to the following international standards:

ISO/IEC 17025:2017 for calibration and testing,

ISO 17034:2016 for reference material production and

ISO 17043:2010 for the provision of proficiency testing schemes.

THE POSITION:

A vacancy exists for an experienced Senior Scientist in the Chemistry, Materials and Medical Metrology Division of NMISA to research, develop and implement reference measurements in the field of quantitative organic analysis.

EDUCATIONAL QUALIFICATIONS AND EXPERIENCE:

- Master of Science (MSc) degree in Analytical Chemistry or Biochemistry or Environmental Science with at least level 2 (second year) subjects in Mathematics or Statistics
- A Doctorate in Chemistry or related equivalent field qualification will be an advantage
- 10 years' experience working independently in the field of quantitative organic analytical chemistry in complex food, biological or complex environmental sample analysis background.

- Experience in diverse sample preparation techniques for complex food, environmental, for biological matrices for organic analysis.
- Extensive experience in the use of gas chromatography-mass spectrometry including troubleshooting and maintenance of instrumentation
- Extensive experience on quantitative analysis of multicomponent extracts by GC-MS/MS
- Extensive knowledge and experience in the use of liquid chromatography tandem mass spectrometry including troubleshooting and maintenance of instrumentation
- Experienced in research, method development and validation for quantitative organic analysis.
- Experience in compiling project proposals, including budgets, project management and supervision of interns/students
- Preparation of accurate scientific technical reports and peer reviewed publications
- Experienced in the routine use of Microsoft Word, Excel and PowerPoint applications
- Knowledge and application of statistics for analytical chemistry and statistical data quality management
- Ability to network on a local and international level
- Good time management skills, ability to work on multiple projects, in multi-disciplinary teams under strict time frames

Additional experience that would be an added advantage for this position:

- Sample preparation and instrumental analysis for: Residual solvents; cannabis; essential oils, persistent organic pollutants, pesticides, mycotoxins, steroids, veterinary drug residues, vitamins, fatty acid methyl esters, terpenes
- Knowledge and application of automated extraction systems, preparative and semi-preparative chromatographic purification
- Knowledge and experience in GC-FID and GC-ECD analysis, including maintenance and troubleshooting
- Knowledge and experience in LC-UV/PDA, ELSD, RI or Charged Aerosol detectors, including maintenance and trouble shooting
- Knowledge and experience in ICP-OES and ICP-MS analysis and sample preparation techniques
- Knowledge and experience in Nuclear Magnetic Resonance Spectroscopy and QNMR
- Working knowledge of ISO/ IEC 17025; ISO 17034, guide 35 and 17043 quality management systems

MAJOR CHALLENGES AND RESPONSIBILITIES:

- Research, develop and implement reference measurements, including method validation and compiling standard operating procedures
- Troubleshoot and conduct preventative maintenance on analytical instruments and equipment
- Lead and participate in NMISA projects thereby contributing to technical excellence within the NMISA.
- Adhere and contribute to the Total Quality Management System policies and procedures.
- Generate certificates and/or reports for the purpose of reporting measurement results.
- Provide technical training to staff and through NMISA training centre
- Participate in national technical committee activities (SANAS assessments and STC meetings, etc.), thereby contributing to knowledge transfer to industry.
- Provide technical and consultation services to South Africa and internationally thereby contributing to knowledge transfer to industry.

- Deliver technical presentations at workshops and conferences and publish in peer-reviewed international publications and marketing articles in local media.

The ideal candidate will be self-driven, an analytical thinker, fast learner, who is persistent, accountable, persuasive, with attention to detail, acts with integrity, and has the ability to lead research projects and take on responsibilities and challenges in line with, and committed to the goals and success of NMISA.

Please note:

NMISA subscribes to and applies the principles prescribed by the Employment Equity Act. Preference will be given to previously disadvantaged candidates who meet the requirements and who will add to the cultural and gender diversity of the organisation. The NMISA is focused on recruiting the following candidates in order of preference: Coloured, African, & Indian.

Interested and suitably qualified persons may forward all supporting documentation required (updated CV, certified educational qualifications, certified academic record and certified ID.) when applying for the position email NMISA Human Resource at careers@nmisa.org Only candidates with all supporting documents will be considered for the position. Clearly indicate which position you are applying for.

People with disabilities are encouraged to apply

Closing date for applications: **15 October 2022**

Correspondence will be limited to short-listed candidates only.

By applying for this position at the NMISA, the applicant understands, consents and agrees that the NMISA may solicit a credit and criminal report from a registered credit bureau and/or the SAPS in relation to positions that require trust and honesty and/or entails the handling of cash or finances and may also verify the applicant's educational qualifications.