

## **ADVERTISEMENT**

### **SCIENTIST: GAS ANALYSIS**

**Salary Range R406 553 – R553 446.95 per annum (all inclusive)**

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](http://www.nmisa.org).

#### **Purpose Of the Role**

The NMISA Gas Analysis Section currently provides measurement traceability for air pollution monitoring through the production of reference gas mixtures and the analysis of gas mixtures produced by other manufacturers. These are used as calibration standards for a wide range of analytical instrumentation in the field of air pollution monitoring and other industrial sectors. In particular, the group produces and analyses gas mixtures that underpin measurements for ambient air and emissions monitoring, greenhouse gases (causing climate change), breath alcohol, and medical gases.

The Gas Analysis Section has a vacancy for an experienced analytical scientist to develop and maintain National Measurement Standards for gas measurements, and to disseminate measurement traceability from these standards to industry. The laboratory supports South African trade with reference materials that are supplied to assist scientific and commercial laboratories with quality control and measurement traceability.

#### **Minimum Requirements, Skills and Experience**

- A BSc (Hons) in Chemistry degree
- Up to 5 years of experience in the field of gas chromatography, coupled with various detectors (such as FID, NPD, SCD, PHID), including mass spectrometers is a requirement.
- Experience working with gas analysers, including optical spectroscopy techniques, such as non-dispersive infrared and ultraviolet spectroscopy would be a distinct advantage
- Knowledge of primary methods, such as titrimetry and gravimetry
- Knowledge of weighing procedures for sample preparation, including preparation of standards for GC and GC-MS analysis
- Experience in basic statistical analysis
- Understanding of the ISO GUM and the Estimation of Measurement Uncertainty
- Ability to prepare scientific research reports.
- Research project planning and execution (budgeting, proposal preparation, sampling, reporting)
- Experience in basic statistical analysis

- Working knowledge of ISO/IEC 17025
- Computer literacy is essential (preferably MS Office suite)
- The person must be in possession of a valid driver's license.
- The person will be expected to lift and handle gas cylinders
- Registered with South African Council for Natural Scientific Professions (SACNASP) as a registered scientist is an advantage

#### **Duties and Responsibilities:**

- Maintenance and development of national measurement standards for air pollution monitoring and other gaseous substances.
- Development of applications and the solving of measurement problems in the field of gas analysis using chromatographic, mass spectrometric and spectroscopic techniques.
- Calibration of instruments related to the fields of gas metrology, such as breath alcohol analysers and air pollution analysers.
- Operation of equipment, analysis of data, compilation of calibration certificates, calculation of measurement uncertainty and technical reports.
- Adherence and maintenance of the laboratory quality management system, good laboratory practice and ISO/IEC 17025 and ISO 17034 accreditation requirements.

#### **Person Specification:**

The ideal candidate should have analytical problem-solving abilities, with good attention to detail and a hands-on approach. He/ she should be a positive dynamic self-starter not requiring much supervision. Good communication and writing skills with fluency in English are important, as he/she would need to interact and communicate with clients and technical staff on a daily basis. The ability to work both as part of a team and independently are essential.

#### **Please note:**

The NMISA subscribes to and applies the principles prescribed by the Employment Equity Act. Preference will be given to candidates who meet the requirements and who will add to the cultural and gender diversity of the organisation.

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

Closing date for applications: **17 February 2025**

Correspondence will be limited to short-listed candidates only. National Metrology Institute of South Africa reserves the right not to appoint. 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 relevant authority in relation to

the position that require trust and honesty and/or entails the handling of cash or finances and may also verify the applicant's educational qualifications and employment history. You voluntary give NMISA consent to process your personal information and all the applications will be processed in accordance with the Protection of Personal Information Act 4 of 2013 (POPIA).