



## Statistician (P3) - (2023/0113 (005647))

**Organization:** SGAS-Quality Management Team

**Primary Location:** Austria-Lower Austria-Seibersdorf-IAEA Laboratories in Seibersdorf

**Job Posting:** 2023-03-03, 10:06:09 PM

**Closing Date:** 2023-04-02, 11:59:00 PM

**Duration in Months:** 36

**Contract Type:** Fixed Term - Regular

**Probation Period:** 1 Year

**Full Competitive Recruitment:** Yes



### Organizational Setting

The Department of Safeguards carries out the IAEA's duties and responsibilities as the world's nuclear inspectorate, supporting global efforts to stop the spread of nuclear weapons. The primary role of the Department is to develop and implement IAEA safeguards to ensure that there is no diversion of declared nuclear material from peaceful activities and no indications of undeclared nuclear material or activities in a State as a whole.

The Department comprises nuclear safeguards inspectors, responsible for carrying out inspections and verifications of all-safeguards relevant information for nuclear facilities in over 180 States; and technical staff responsible for a wide range of activities including: developing concepts and approaches for implementing safeguards; developing and maintaining safeguards equipment; providing analytical and laboratory services for sample analysis; collecting, evaluating and analysing safeguards-relevant information; providing information and communication technology infrastructure and services; and providing programme coordination support.

The Office of Safeguards Analytical Services (SGAS) is responsible for the analysis of inspection samples collected in the field. Located about 45 km south of Vienna in Seibersdorf, SGAS is organized into three sections: the Nuclear Material Laboratory (NML), the Environmental Sample Laboratory (ESL) and the Coordination and Support Section (CSS). The laboratory sections conduct the screening, chemical treatment and measurement of the inspection samples. The Coordination and Support Section provides a variety of key services to the laboratories, as well as managing the network of analytical laboratories. SGAS also manages analytical and inspection activities in a dedicated On-Site Laboratory at the Rokkasho Reprocessing Plant in Japan.

### Main Purpose

Reporting to the Team Leader, the Statistician is responsible for the application of appropriate statistical tools in support of the SGAS mission. This includes the effective and efficient assessment of quality of analytical results produced by the Network of Analytical Laboratories (NWAL), including the Safeguards Analytical Laboratories. The Statistician advises SGAS management and laboratory staff on statistical methodologies and best practices regarding estimation of measurement uncertainty, development of quality control charts, and method validation, and is responsible for the design, implementation, evaluation, reporting and consolidation of results of appropriate proficiency tests and inter-laboratory comparisons of the NWAL.

### Role

The Statistician is: 1) an expert supporting the design of the NWAL quality assurance / quality control (QA/QC) programmes based on sound statistical methodologies and compliant with international standards and International Target Values, 2) a technical specialist supporting the statistical analysis of data produced by NWAL by implementation of statistical models, evaluation, reporting and consolidation of quality assurance results, 3) an advisor on maintaining a high proficiency of analytical services in the NWAL, and 4) a focal point for statistics-related issues within SGAS in general and specifically for the laboratories.

### Functions / Key Results Expected

- Design, implement, evaluate and report on the results of appropriate quality assurance measures (such as proficiency tests) to demonstrate satisfactory performance of the NWAL.
- Consolidate results and perform meta-analysis of proficiency tests and other quality assurance measures, to aid in planning of the safeguards sample analysis QA/QC programme.
- Develop and maintain quality control charting applications in the Nuclear Material and Environmental Sample Laboratories, review and update the QC charts using appropriate statistical tools.
- Provide guidance on statistical measures required to improve quality of sample analysis (e.g. methodology for determination of uncertainty budgets, experimental design for method validation).
- Monitor the quality of analytical results provided by the NWAL.

## Competencies and Expertise

### Core Competencies

Name	Definition
Planning and Organizing	Plans and organizes his/her own work in support of achieving the team or Section's priorities. Takes into account potential changes and proposes contingency plans.
Communication	Communicates orally and in writing in a clear, concise and impartial manner. Takes time to listen to and understand the perspectives of others and proposes solutions.
Achieving Results	Takes initiative in defining realistic outputs and clarifying roles, responsibilities and expected results in the context of the Department/Division's programme. Evaluates his/her results realistically, drawing conclusions from lessons learned.
Teamwork	Actively contributes to achieving team results. Supports team decisions.

### Functional Competencies

Name	Definition
Analytical thinking	Analyses information to identify cause and effect relationships and correlations. Identifies critical elements and assesses consequences of different courses of action and proposes solutions.
Commitment to continuous process improvement	Plans and executes activities in the context of quality and risk management and identifies opportunities for process, system and structural improvement, as well as improving current practices. Analyses processes and procedures, and proposes improvements.
Judgement/decision making	Consults with supervisor/manager and takes decisions in full compliance with the Agency's regulations and rules. Makes decisions reflecting best practice and professional theories and standards.

### Required Expertise

Function	Name	Expertise Description
Statistics	Advanced Statistical Methods	Knowledge of statistical theory and application in: Statistical Quality Control, Experimental Design, Statistical Computing, Uncertainty Propagation and Model Diagnostics.
Information Technology	Data Analysis	In depth knowledge and experience with the R statistical programming language.
Safeguards	Quality Management of Analytical Measurement	Experience with use of statistics in quality management context (e.g. ISO 9001, ISO 17025) and with statistical topics covered in international standards 5725, 7870, 13528 and JCGM 100.
Safeguards	Uncertainty Quantification	Experience with the use of the GUM approach to estimate measurement uncertainty as well as methods to estimate detection limits.

### Asset Expertise

Function	Name	Expertise Description
Chemistry	Analytical Chemistry	Experience working in chemometrics, analytical chemistry is desirable. Experience working with data from analytical techniques for characterization of solids in mass spectrometry.

## Qualifications, Experience and Language skills

- Bachelor's Degree - University degree in Mathematics, Statistics or a related discipline.
- Minimum of five years of working experience in applied statistics, preferably in a laboratory environment.
- Experience working in an international safeguards and/or international organizations is an asset.
- Advanced university degree in Mathematics, Statistics or a related discipline is an asset.
- Excellent oral and written command of English. Knowledge of other official IAEA languages (Arabic, Chinese, French, Russian and Spanish) is an asset.

## Remuneration

The IAEA offers an attractive remuneration package including a tax-free annual net base salary starting at **US \$64121** (subject to mandatory deductions for pension contributions and health insurance), a variable [post adjustment](#) which currently amounts to **US \$ 27187\***, dependency benefits, [rental subsidy](#), [education grant](#), [relocation](#) and [repatriation expenses](#); 6 weeks' annual vacation, [home leave](#), [pension plan](#) and [health insurance](#)

### **Applications from qualified women and candidates from developing countries are encouraged**

Applicants should be aware that IAEA staff members are international civil servants and may not accept instructions from any other authority. The IAEA is committed to applying the highest ethical standards in carrying out its mandate. As part of the United Nations common system, the IAEA subscribes to the following core ethical standards (or values): [Integrity](#), [Professionalism](#) and [Respect for diversity](#). Staff members may be assigned to any location. The IAEA retains the discretion not to make any appointment to this vacancy, to make an appointment at a lower grade or with a different contract type, or to make an appointment with a modified job description or for shorter duration than indicated above. Testing may be part of the recruitment process

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