IAEA International Atomic Energy Agency

Job Description

Analytical Chemist (Food Authenticity)(P2) - (2018/0099 (005436))

Organization NAFA-Food and Environmental Protection Laboratory

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

Posting Date 2018-03-06, 12:16:59 PM

Closing Date 2018-04-20, 10:59:00 PM

Duration in Months: 36

Contract Type: Fixed Term - Regular

Probation Period: 1 Year

Organizational Setting

The Department of Nuclear Sciences and Applications implements the IAEA's Major Programme 2, "Nuclear Techniques for Development and Environmental Protection". This Major Programme comprises individual programmes on food and agriculture, human health, water resources, environment and radiation technologies. These programmes are supported by laboratories in Seibersdorf, Monaco and Vienna. The Major Programme's objective is to enhance the capacity of Member States to meet basic human needs and to assess and manage the marine and terrestrial environments through the use of nuclear and isotopic techniques in sustainable development programmes.

The Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture assists Member States of the Food and Agriculture Organization of the United Nations (FAO) and the IAEA in using nuclear techniques and related technologies to improve food security, alleviate poverty and promote sustainable agriculture. The Joint Division consists of five Sections, each with an associated laboratory (located in Seibersdorf, 45 km south-east of Vienna), in the areas of: animal production and health; plant breeding and genetics; insect pest control; soil and water management and crop nutrition; and food and environmental protection.

The Food and Environmental Protection Section and Laboratory assist Member States in ensuring the safety and quality of food and agricultural commodities through the development of analytical techniques and application of food irradiation, focusing on the use of nuclear and related technologies in the management of food and environmental hazards and on strengthening capacities for nuclear emergency preparedness and response in agriculture.

Main Purpose

As a member of a team led by the Head of the Food and Environmental Protection Laboratory, the Analytical Chemist provides expertise on molecular fingerprinting, metabolomics and isotopic analytical techniques and associated statistical and modelling analysis to aid capacity building and research in FAO and IAEA Member States, in order to enhance food safety and quality and help meet requirements for international trade in food commodities.

Role

The analytical chemist is: (1) an analyst, developing/adapting and validating analytical methods for food authenticity and to support food traceability systems, for transfer to Member State laboratories; (2) a trainer of personnel in Member State laboratories in analytical methods and laboratory procedures, and; (3) an advocate of laboratory quality assurance/quality control procedures in Member State laboratories and in the Food and Environmental Protection Laboratory.

Functions / Key Results Expected

- Adapt and validate analytical/instrumental methods for the analysis of food samples for authenticity, determination of origin, and the control of food contaminants and adulterants, principally using chemical and molecular fingerprinting and stable isotope measurements.
- Perform statistical analysis, including multi-variate analysis and class modelling, for the interpretation and visualisation of analytical results.
- Operate and carry out basic maintenance of laboratory instrumentation including isotopic analysers, HPLC (high performance liquid chromatography), LC-MS(MS) (liquid chromatography-tandem mass spectrometery) and GC-MS (gas chromatography-mass spectrometry) instruments.
- Prepare and present training materials and laboratory exercises.
- Prepare and revise standard operating procedures (SOPs), elaborate internal quality control methods and collaborate in the maintenance of the laboratory's quality system.
- Evaluate scientific data and prepare technical reports and scientific manuscripts for publication

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	Gathers and analyses information, identifying critical relationships and patterns among data and proposes workable solutions.
Knowledge sharing and learning	Actively seeks opportunities to learn by formal and informal means; learns from others, adopting and sharing best practice.
Technical/scientific credibility	Acquires and applies new skills to remain up to date in his/her area of expertise. Reliably applies knowledge of basic technical/scientific methods and concepts.

Required Expertise

Function	Name	Expertise Description
Food Science	Food Authenticity and Quality	Ability to apply analytical methods to authenticate foods using instrumental techniques (including HRMS, LC, GC and spectroscopy). Interpretation of data using statistical, multivariate and modelling techniques.
Food Science	Food Safety	Good knowledge of food safety issues and their relationship to food authenticity and traceability.

Asset Expertise

Function	Name	Expertise Description

Food Science	Food Science and Technology	Background knowledge of food production and processing techniques with relevance to food authenticity and safety.
Food Science	Food and Environmental Contaminant Detection	Background knowledge of food and environmental contaminants and their relevance to food safety and authenticity.

Qualifications, Experience and Language skills

- University degree in analytical chemistry, instrumental methods of analysis, food chemistry or a related discipline. A post-graduate degree in related field an advantage.
- Two years' working experience in food authenticity/traceability using chemical and molecular fingerprinting and metabolomics techniques and/or stable isotope ratio measurements.
- Experience in experimental design and the use of statistical methods, multi-variate analysis and class modelling for food-related applications.
- Practical skills in the operation and maintenance of analytical instruments, preferably including high resolution mass spectrometry, isotopic analysers, HPLC, GC, LC-MS and GC-MS.
- Working knowledge of the principles of laboratory quality assurance and quality control procedures, preferably based on ISO 17025.
- Strong presentation and communication skills and ability to communicate project results effectively to diverse audiences.
- Confirmed ability to write and edit scientific and technical reports.
- Familiarity with the needs and conditions of developing countries would be an advantage.
- Experience in teaching or providing training in laboratory activities is an advantage.
- Excellent oral and written command of English. Knowledge of other official IAEA languages (Arabic, Chinese, French, German, 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 $46472** (subject to mandatory deductions for pension contributions and health insurance), a variable post adjustment which currently amounts to **US $ 22446***, dependency benefits, rental subsidy, education grant, relocation and repatriation expenses; 6 weeks' annual vacation, home leave, pension plan and health insurance

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Applications from qualified women and candidates from developing countries are encouraged

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