Nuclear Data Analyst / Programmer(P3) - (2025/0298 (006619))

Organization: NAPC-Atomic and Molecular Data Unit
Primary Location: Austria-Vienna-Vienna-IAEA Headquarters
Job Posting: 2025-06-16
Closing Date: 2025-07-27, 11:59:00 PM
Duration in Months: 36
Contract Type: Fixed Term - Regular
Probation Period: 1 Year
Full Competitive Recruitment: Yes

https://bit.ly/4eF9gEI

This selection exercise may be used to generate a roster of pre-approved candidates to address future staffing needs for similar functions in any of the Departments and Offices of the Organization.

IMPORTANT NOTICE REGARDING APPLICATION DEADLINE: Please note that the closing date for submission of applications is indicated in local time as per the time zone of the applicant's location.

Organizational Setting

The Nuclear Data Section (NDS) is primarily responsible for the generation and maintenance of a number of high-quality and fundamental nuclear and atomic databases and providing services to users worldwide. The main means of dissemination is via the NDS website, which provides interactive tools to present the required data.

The Division of Physical and Chemical Sciences is responsible for assisting and advising Member States in research and development for the nuclear sciences, especially the physical and chemical sciences. Specifically, the Division provides support to Member States in the following fields: production of radioisotopes and radiolabelled products for applications in health care and industry; radiation source applications; research reactor utilization; applications of accelerators and nuclear instrumentation; nuclear and atomic data for applications; controlled nuclear fusion and isotope hydrology and geochemistry.

Additionally, the nuclear science activities carried out by the Nuclear Data Section and Physics Section in the Division of Physical and Chemical Sciences of the Department of Nuclear Sciences and Applications fall under Major Programme 1.

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.

Main Purpose

As a member of the Atomic and Molecular Data Unit, the Nuclear Data Analyst contributes to the development of nuclear and atomic data software, the production of relational databases and manages the updating of the Section's software. These IT resources assist Member States in enhancing the peaceful use of fission and fusion energy technologies and non-energy applications. He/she also provides technical assistance with the most efficient access to the data at the request of Member States. The Nuclear Data Analyst invents and develops new methods of access to the data and formats for their presentation on the Section's website in an open source, flexible and effective manner to ensure long-life cycles, and is responsible for the visualisation of many types of data in an efficient and user-friendly fashion. She/he adopts universally recognized, open source, modern data technologies for this. An important component of these innovations concerns nuclear structure and radioactive decay data.

Role

The Nuclear Data Analyst is: (1) a technical specialist, developing the software and relational databases required by the Section; (2) a manager of the maintenance and updating of the Section's nuclear data software; and, (3) a technical expert providing definitive advice on nuclear data software issues to Member States and external organizations.

Functions / Key Results Expected

- Provide technical input to the planning, development and implementation of the IAEA Nuclear Data programme for a variety of applications including those based on fission, fusion, medical and analytical methods.
- Develop innovative software and database designs to meet the needs of users of nuclear data, using SQL, noSQL , Java and Python for data search and retrieval over web and Internet protocols.
- Develop software and utility codes for day-to-day maintenance of major nuclear databases with specific focus on, but not limited to, nuclear structure data. Provide support to professional staff to enable efficient use of databases and tools across all areas of work and application.
- Connect with the current technology in Data Science and ensure that new project designs are being discussed among the Section staff, to ensure transparency and reusability.
- Create software tools that accurately process and interpret nuclear data, user-friendly interfaces that allow users to easily access, visualise and analyse nuclear data, and APIs that allow for easy access to the nuclear data.
- Improve and extend the IAEA Nuclear and Atomic Data Services by designing and implementing new features based on user feedback.
- Maintain numerical nuclear databases, regularly updated by an international network of nuclear structure data centres and groups.
- Conceptualize fully professional modern interfaces and programmes, modernizing the many existing customized nuclear and atomic physics databases.

Competencies and Expertise

Core Competencies (Competency Framework)

Name	Definition
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.
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.

Functional Competencies

Name	Definition
Client orientation	Helps clients to analyse their needs. Seeks to understand service needs from the client's perspective and ensure that the client's standards are met.
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.
Technical/scientific credibility	Ensures that work is in compliance with internationally accepted professional standards and scientific methods. Provides scientifically/technically accepted information that is credible and reliable.

Required Expertise

Function	Name	Expertise Description
Information Technology	Computer Programming	Expertise in visualisation techniques and related dataflows, proficiency in version control using Git.

Information Technology	Data Modelling	Proficiency in database architecture and modelling for scientific data (using either SQL or noSQL databases)

Qualifications, Experience and Language Skills

- Master's Degree - Advanced university degree in Computer science, nuclear data or related field.
- Minimum five years' experience in using different programming languages (specifically JAVA and SQL) and DBMSs to store and develop data for multiplatform environments, including substantial experience in a scientific environment. Of those, two years of relevant working experience in an international environment desirable.
- Experience in database design, interface development.
- Experience with nuclear reactions or nuclear structure is desirable.
- Experience of working in a partially decentralized IT development environment and across organizational boundaries is desirable.
- 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 $70212** (subject to mandatory deductions for pension contributions and health insurance), a variable post adjustment which currently amounts to **US $ 36580***, dependency benefits, rental subsidy, education grant, relocation and repatriation expenses; Other benefits include 6 weeks' annual leave, home leave travel, pension plan and health insurance. More information on the conditions of employment can be found at: https://www.iaea.org/about/employment/professional-staff/conditions

----

The IAEA is committed to gender equality and to promoting a diverse workforce. Applications from qualified women and candidates from developing countries are strongly 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.

Learn More and Apply Here!

https://bit.ly/4eF9gEI