

Job Description for Professional Posts

Reference:NA2024/22

Position and Grade:	Associate Data Scientist (DDU), P2
Organizational Unit:	Data Development Unit Nuclear Data Section Division of Physical and Chemical Sciences
Duty Station:	Vienna
Type/Duration of Appointment:	FT – JPO, 1 year

Organizational Setting

The Department of Nuclear Sciences and Applications (NA) 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 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 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.

Main Purpose

As a member of the Data Development Unit within the Nuclear Data Section the Associate Data Scientist provides support to the work of the Section in the compilation, evaluation, and dissemination of nuclear structure and decay data, nuclear reaction data, and data for the characterization of ion-matter interactions. He/she will have hands-on experience in (i) exploitation of experimental nuclear data, (ii) modelling and evaluation of nuclear data, as well as in (iii) programme development and database management for a wide range of nuclear data, under the guidance of senior professionals.

Role

The Associate Data Scientist is: (i) a database developer, maintaining data libraries and developing their implementation as online services; and (ii) a team member, carrying out scientific or technical research to enable the exploitation of these data through evaluation, validation, and visualization.

Partnerships

The Associate Data Scientist maintains professional contacts with IAEA scientific and technical staff and with external developers and users of nuclear data and ion-matter interaction data.

Functions / Key Results Expected

Under close supervision of the Section Head and Data Development Unit staff, the Associate Data Scientist carries out the following responsibilities to address Member States' needs related to nuclear data and data for ion-matter interaction processes.

- Read journal literature in order to support nuclear data evaluation and modelling work;
- Carry out scientific and data analytic research including computational studies to support the evaluation and exploitation of nuclear data and data for ion-matter interaction processes;
- Contribute to implementation of database development needs linked to the above subjects;
- Participate in other daily activities within the Section as required and assigned by the Section Head.

Competencies and Expertise (do not revise or edit)

Core Competencies		
Competence	Occupational Role	Behavioural Indicator
Communication	Individual Contributor	Communicates orally and in writing in a clear, concise and impartial manner. Takes time to listen and understand the perspective of others and proposes solutions.
Achieving Results	Individual Contributor	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	Individual Contributor	Actively contributes to achieving team results. Supports team decisions.
Planning and Organizing	Individual Contributor	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.

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Functional Competencies		
Competence	Occupational Role	Behavioural Indicator
Analytical Thinking	Associate	Gathers and analyses information, identifying critical relationships and patterns among data and proposes workable solutions.
Knowledge sharing and learning	Associate	Actively seeks opportunities to learn by formal and informal means; learns from others, adopting and sharing best practice.
Technical/scientific credibility	Associate	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.

Expertise	
Expertise	Description
Information Technology/Computer Programming	Experience with numerical programming in a modern programming language such as Python or C++ is required.
Information Technology/Database management	Experience with database management.
Information Technology/Data Modelling	Experience with the development of nuclear models and statistical methods, data visualization tools; experience with Machine-Learning algorithms would be an advantage/Asset

Education, Experience and Language Skills

- University degree in Physics, Chemistry, Computer Science, Engineering, or a related field.
- Minimum two years of professional experience in scientific research involving a significant component of numerical data analysis and software development in a modern programming language.
- Experience in international cooperation with proven ability to participate effectively in a multinational and multidisciplinary team with sensitivity and respect for diversity.
- Fluency in spoken and written English. Knowledge of any other official IAEA language (i.e. Arabic, Chinese, French, Russian or Spanish) would be an advantage.

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