

Job Description for Professional Posts

Reference:NA2025/28

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| Position and Grade: | Associate Water Quality Analyst, P2 |
| Organizational Unit: | Isotope Hydrology Section Division of Physical and Chemical Sciences |
| Duty Station: | Vienna, Austria |
| Type/Duration of Appointment: | FT – JPO, 1 year |

Organizational Setting

The Isotope Hydrology Section is responsible for planning and implementing the IAEA's water resources programme. The programme assists Member States in the sustainable management of all aspects of their water resources, but with a particular focus on isotope hydrology. Major activities include internationally coordinated research, global isotope monitoring, capacity building, and technical assistance to Member States to help them with the assessment, development and use of water resources. The Section also operates a well-equipped laboratory for the analysis of stable and radioactive isotopes. The laboratory trains counterparts in using analytical techniques for high-quality measurements of isotopes in water samples.

Main Purpose

As a member of a team led by the Section Head, the Associate Water Quality Analyst contributes to a results-oriented programmatic response to Member States' priorities in the application of nuclear technologies to meet their development goals related to water resources. The Associate Water Quality Analyst is provided with opportunities for practical exposure to programme development and execution in the scientific area of water resources management under the guidance of senior professionals.

Role

The Associate Water Quality Analyst will work on further developments in the application of stable isotopes of nitrate (N-15 and O-18) as well as radioisotopes of S (S-35) to understand water quality issues. Both isotopes are challenging to collect and preserve sample integrity prior to analysis. In order to improve Member State outcomes for evaluation of water quality using these isotope tracers, the Associate Water Quality Analyst will be responsible for development of improved methods for preservation of sample integrity following collection in the field, evaluate application of these isotope tracers for monitoring natural remediation of water pollution, and evaluate the potential of these isotope tracers to be collected through citizen science campaigns to improve the spatial distribution of data in large wetland systems and other terrestrial aquatic systems impacted by pollution.

Partnerships

The Associate Water Quality Analyst maintains professional contacts with IAEA scientific and technical staff and with external experts and stakeholders in isotope tracer method development using nuclear

techniques for water quality management. She/he will establish collaborative relationships with relevant member state institutions to support the use of the isotope tracers for water quality management.

Functions / Key Results Expected

Under supervision of the Section Head and under the direct guidance of the responsible P-staff member, the Associate Water Quality Analyst carries out the following duties to address Member States' needs related to tracer method development in water resources management:

- Evaluate the sample integrity for analysis of stable isotopes of dissolved nitrate following different methods of preservation and storage.
- Based on the experiments provide guidelines for sample conservation and storage for stable isotopes of dissolved nitrate to member states
- Review end-member identification using Bayesian mixing models via coupled lab and field experiments.
- Evaluate residence time and denitrification potential using radio sulphur and stable isotopes of dissolved nitrate and sulphate.
- Test techniques developed by the Isotope Hydrology Laboratory for sampling radio sulphur in field conditions.
- Engage with citizen science groups to test the implementation of methods by non-experts to determine gaps in knowledge/procedures and streamline processes for inclusion in global networks.

Competencies and Expertise (do not revise or edit)

| Core Competencies | | |
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| 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 | | |
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| Competence | Occupational Role | Behavioural Indicator |
| 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. |
| Analytical Thinking | Associate | Gathers and analyses information, identifying critical relationships and patterns among data and proposes workable solutions. |

| Expertise | |
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| Expertise | Description |
| Laboratory Analysis | Analytic experience in a practical laboratory context |
| Water quality Evaluation | Good knowledge in evaluation of any type of water quality descriptors, for example, isotopes, nutrients, contaminants |

Education, Experience and Language Skills

- University degree in hydrology, hydrogeology, geography, atmospheric or climate sciences and related fields.
- Minimum two years of relevant practical work experience in the area of water quality applications.
- Experience in the application of isotope techniques for water resources management 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.

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