

# Job Description for Professional Posts

<b>Position and Grade:</b>	Research Scientist (JPO) (P-2)
<b>Organizational Unit:</b>	Radioecology Laboratory IAEA Environment Laboratories (NAEL), Monaco Department of Nuclear Sciences and Applications
<b>Duty Station:</b>	Monaco
<b>Type/Duration of Appointment:</b>	Junior Professional Officer / 2 years (subject to a probationary period of 6 months)

## Organizational Setting

IAEA Environment Laboratories (NAEL) is a Division of the Department of Nuclear Sciences and Applications and consists of four laboratories, three of which are located in Monaco (including the Radioecology Laboratory) and one in Seibersdorf, Austria (approx. 45 km south of Vienna). NAEL implements the IAEA Programme Environment under the Major Programme 2. The Division operates in a complex matrix environment with inputs from many parts of the organization, such as the Technical Cooperation (TC) Department for implementation of the IAEA TC Programme as well as other Departments for horizontal collaborations.

The role of the Radioecology Laboratory (REL) is to improve knowledge of the processes which determine the behaviour and fate of radionuclides and other contaminants in the environment, with a particular emphasis on the biosphere. Its activities are in the field of radioecology with applications to ecotoxicology and biogeochemistry. REL project work aims to assist and enhance capability in Member States in the use of nuclear and isotopic techniques to understand and assess contaminant transfer and environmental processes.

The ocean plays a major role in the carbon cycle and the regulation of climate. About 25% of man-made atmospheric carbon dioxide is absorbed by the ocean, mitigating the CO<sub>2</sub>-related warming of the atmosphere. Absorption of these vast quantities of CO<sub>2</sub> is increasing the acidity (reducing the pH) of the ocean. The potential impact of acidification on carbon export to marine sediment is not well known despite its relevance to the buffering role of bicarbonate in the ocean. Through participation in projects of applied research using natural radionuclides to assess carbon fluxes in the upper ocean, the JPO will contribute to our understanding of the role of the ocean in the carbon sequestration, and the possible changes associated with ocean acidification.

## Main Purpose

As part of a team led by the Laboratory Head, the Junior Professional Officer (JPO) carries out research using isotopic techniques to assess, in the context of global environmental and climate change, the importance of carbon sequestration by the ocean, and the possible effect of ocean

acidification on it. The researcher will conduct experiments and participate in other activities to support the projects and mission of the Radioecology Laboratory.

## **Role**

Under supervision of the Head of the Radioecology Laboratory, the JPO Research Scientist is: (1) *a technical specialist* assisting in planning and conducting experiments, (2) *an analyst* processing data and analysing experimental results, and (3) *a communicator* preparing and presenting results to the scientific community through technical reports and scientific publications. The JPO will perform other related duties as opportunities arise.

## **Partnerships**

The JPO Research Scientist builds and maintains working relationships with staff of the REL and other laboratories of the Environment Laboratories Division. The incumbent builds relationships with staff of the Nuclear Applications Department (and other departments) of the IAEA and other UN system organisations, including collaboration with other international organisations such as UNEP (United Nations Environment Programme), GEF (Global Environmental Facility), UNDP (United Nations Development Programme), UNESCO-IOC (Intergovernmental Oceanographic Commission) or international projects sponsored by bodies such as the European Union, to ensure the effective utilisation of technical inputs to the design and implementation of marine pollution and climate change programmes. The research scientist also develops and builds networks with scientists and technical staff from Member State laboratories in training activities related to analytical methodologies for measuring parameters of climate change and ocean acidification in the marine environment.

## **Functions / Key Results Expected**

- Participate in field and laboratory experiments to quantify carbon particulate flux, analyse data and present results and conclusions.
- Assess the impact of ocean acidification on particle aggregation in relation to carbon export.
- Analyse and evaluate experimental data and infer conclusions for the preparation of technical reports and scientific manuscripts for publication.
- Contribute to the development and implementation of projects with national institutes and international organizations to demonstrate the value of nuclear and isotopic applications in marine carbon cycle research through collaboration and presentation of results of scientific studies.
- Perform other related duties as assigned.

## **Knowledge, Skills and Abilities**

- Good knowledge of biogeochemistry and oceanography.
- Ability to conduct field and laboratory experiments using radioelements and basic knowledge of radionuclides analyses.

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- Good planning and organizing skills with the ability to work in a team, as well as independently.
- Strong analytical skills: ability to articulate, conceptualize, plan and execute ideas.
- Interpersonal skills: demonstrated ability to work in a team with scientific, technical and administrative staff and to maintain collaborative partnerships across organizational boundaries.
- Ability to work in a multicultural/multidisciplinary team with respect and sensitivity for diversity.

**Education, Experience and Language Skills**

- University degree in environmental sciences (i.e. biology, radioecology, oceanography, marine geochemistry).
- Minimum of 2years of experience in the study of oceanography, radioecology and/or marine sciences.
- Publication of research in peer-reviewed, scientific journals is an advantage.
- Fluency in spoken and written English is essential; working knowledge of another official IAEA language (Arabic, Chinese, French, Russian and Spanish), especially French, an asset.

<b>Internal Human Resources use only:</b>	
Effective Date:	
Occupational Group(s):	
Post Number:	