

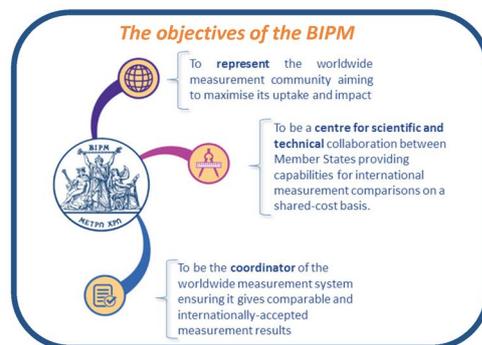
# Ionizing Radiation Metrology: Secondment Opportunities at the BIPM

*Helping the development of new cancer therapies  
and supporting environmental protection.*

The International Bureau of Weights and Measures (BIPM) is an international organization established by the Metre Convention, through which Member States act together on matters related to measurement science and measurement standards.

The BIPM has a number of vacancies for short-term secondments in the Ionizing Radiation Department. Two types of secondment are available:

- 1) Contributing to the improvement of measurement techniques.
- 2) Working with BIPM staff to carry out and analyze comparison exercises, to learn about metrology at the international level.



Both are opportunities for career development, involve working with scientists from the BIPM and colleagues from national metrology institutes, helping to deliver the BIPM Work Programme and contributing to the international measurement system that underpins the safe use of ionizing radiation in healthcare and the nuclear industry.



## ▪ About the Ionizing Radiation Department

The mission of the department is to support national metrology institutes in demonstrating the international equivalence of standards for radiation dosimetry and radioactivity. The department develops and maintains the technical infrastructure to enable comparisons of primary standards; it has a set of irradiation facilities and standards for dosimetry, access to a high-energy photon beam facility, a radiochemistry laboratory and a range of specialist radioactivity measurement systems (ionization chambers, liquid scintillation counters, gamma spectrometer, etc). It has a staff of nine scientists and specialist technicians.

## ▪ Working on secondment at the BIPM

The BIPM offers a unique environment for a secondment. It is located in Sèvres, on the outskirts of Paris (France) and has an international staff of about 75. There is a wide range of accommodation available nearby, including furnished apartments. There is an excellent public transport network to central Paris and the international airports are in easy reach.



## ▪ Terms and conditions

Applications are welcome from employees of a national measurement institute, a designated institute or an international organization such as the IAEA. You would not be employed by the BIPM and would remain an employee of your institute. The BIPM will normally pay an allowance to cover your additional living expenses.

Help will be given in finding local accommodation for the duration of the secondment.

## ▪ Experience needed

The experience needed depends on the project.

A good level of English or French (spoken and written) is essential.



▪ Secondments – 2018/2019

Index	Aim	Project	Duration*	Qualifications / experience needed
IR-S1	The development of a new, high precision method to compare primary standards of beta-emitting radionuclides (for applications in nuclear medicine).	Development and testing of measurement protocols for use with the TDCR method, working in collaboration with colleagues from other national metrology institutes.	2-3 months	Experience in radiochemistry & liquid scintillation counting
IR-S2	To significantly reduce the time needed to publish results from comparison exercises of primary activity standards (for applications in nuclear medicine and environmental monitoring).	To automate and validate a spreadsheet for the production of reports.	1-2 months	In-depth knowledge of MS Excel and MS Word (including the development of macros) and statistics, in compliance with ISO17025.
IR-S3	Reducing uncertainties in primary standards for high energy photon dosimetry.	Investigation into the possible impact of the radiation spectra from different linear accelerators on measurements using primary standards.	6-12 months	Detailed knowledge of primary standards for radiation dosimetry.
IR-S4	Improvement of the SIR for comparison of gamma emitting radionuclides.	Investigation into the replacement of analogue current measurement techniques using new technologies (quantum metrology), construction and testing of a prototype.	6-12 months	Experience of implementing new techniques for low current measurement, including devices based on quantum metrology.
IR-S5	Supporting international comparison or calibration exercises.	Under the close supervision of BIPM staff, carrying out and analyzing measurements for comparison exercises or calibrations.	1-2 months	At least 2 years experience of working in a primary or secondary standards laboratory.

*\*The duration of the project is flexible, to meet your requirements*

▪ How to apply

Please contact the Department Director, Dr Steven Judge ([steven.judge@bipm.org](mailto:steven.judge@bipm.org)) to discuss the project and confirm whether the secondment opportunity is still available. If you decide you would like to go ahead, please forward a copy of your CV so that the BIPM can confirm that the project would be suitable. The BIPM will then send a copy of a Secondment Contract which should be signed by the authorized person at your organization.

If the secondment opportunity is no longer available or the project is not suitable, the BIPM would be pleased to discuss opportunities for a secondment in the future.

