

Posts at the BIPM in response to Resolution 12 of the 22nd CGPM as at 14 November 2007

The 22nd CGPM in Resolution 12 on the dotation of the BIPM, invited NMIs to second staff to the BIPM and sponsor Research Fellowships.

The following is an extract from the text of the Resolution. For the whole text of this and all other Resolutions of the 22nd CGPM please see the BIPM website (www.bipm.org).

The 22nd CGPM invites national metrology institutes (NMIs)

- *to arrange, at their expense, a continuing series of short-term placements or secondments of their staff to the BIPM to work on projects of mutual interest integrated into the BIPM programme,*
- *to accept staff of the BIPM to work in their institutes on programmes of mutual interest,*
- *to sponsor a permanent programme of Fellowships at the BIPM for suitable staff with a view to establishing four such Fellowships at the BIPM by the end of 2004 on projects of mutual interest to the sponsoring NMI and the BIPM,*

The following gives information on the particular projects for which the BIPM would welcome proposals from Directors of NMIs both for secondments and for Research Fellowships.

A secondment would normally be for a period of time from three months upwards but probably not exceeding one year, while a Research Fellowship would normally be for a minimum period of two years. In the following list, the preferences for Secondments or Research Fellowships are indicated but in most cases this could be a matter for negotiation.

Please note that these projects are of course our proposals; we should also be interested to receive suggestions from NMIs based upon ideas from members of your staff who are well acquainted with the BIPM programme and facilities.

In 2008, there will also be an opportunity for a suitably qualified person from an NMI to be seconded to take up the post of Executive Secretary of the JCRB. This post is just about to be filled for a period of two years by Dr Pedro Espina from NIST.

Time

Research Fellowship:

The BIPM Time Section has the task of establishing and disseminating the reference time scales International Atomic Time (TAI) and Coordinated Universal Time (UTC).

The algorithm used for the calculation of the time scales has been developed at the BIPM to provide a time scale characterized by its long-term stability and frequency accuracy.

As a subject for a research fellowship, we propose a research project that will contribute to the improvement of the algorithm used for the calculation of the reference time scales (frequency prediction of clocks, analytic formulation of uncertainties, etc.).

Ionizing Radiation

Research Fellowships:

Brachytherapy: To devise and establish an international primary standard for brachytherapy source dosimetry comparisons.

Well-type sodium iodide activity: To establish a NaI(Tl) well-type counter, with Monte Carlo simulation of its response, as a primary counting method at the BIPM, to be used during international comparisons.

Secondments

Gamma Spectroscopy: To calibrate the hyper-pure germanium detector and to simulate its response using Monte Carlo techniques.

Digital Coincidence Counting (DCC): To compare the DCC results with the BIPM coincidence method and study the influence of the various parameter settings.

International Reference System for gamma-ray emitting nuclides (SIR): Using the code PENELOPE to produce Monte Carlo simulations of the SIR chamber response as an input to the corrections to the efficiency curve used for calculations of equivalent activity and estimations of the KCRV.

Triple-to-Double Coincidence Ratio (TCDR): To establish the triple-to-double coincidence method for activity measurement as a primary method to extend the SIR comparisons to beta emitters.