# Postdoctoral position in Quantum Metrology

## Job Offer

<table>
<thead>
<tr>
<th>Topics:</th>
<th>The Basque Center for Applied Mathematics is launching one Postdoctoral position of 1 year, to work in the area of on Doppler Quantum Metrology in the group of Dr. Mikel Sanz at BCAM. The researcher will work on the design of new quantum-enhanced metrology protocols for rotational quantum systems, adapting the mathematical machinery to the situation in which the observed parameter can change with the measurement, and applying them to experiments with quantum gyroscopes in collaboration with Dr. Gabriel Molina-Terriza (CFM). Applications to relativistic systems will be also explored. We are looking for a promising young researcher, who has the PhD degree preferable in Quantum Metrology, Quantum Information, or related topics and expertise connected to the research interests of the group Quantum Mechanics (QM). The project is funded by IKUR project - Quantum Technologies. The position is for a postdoctoral contract of one year (renewable depending on evaluation) at the Basque Center of Applied Mathematics, under the supervision of Dr Mikel Sanz.</th>
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<tbody>
<tr>
<td>PIs in charge:</td>
<td>Dr. Mikel Sanz</td>
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<tr>
<td>Salary and conditions:</td>
<td>The gross annual salary of the Fellowship will be: 29.994€ - 36.420€ according to experience. It will then be on your own responsibility to make your yearly income declaration at the Bizkaia Treasury Agency. Additionally, we offer a moving allowance up to 2.000€.</td>
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Mazarredo 14, 48009 Bilbao, Basque Country, Spain | (+34) 946 567 842 | www.bcamath.org
Should the researcher have a family at the time of recruitment:

1. 2,000€ gross in a single payment will be offered (you must be married-official register or with children and the certificate to prove it must be sent).
2. 1,200€ gross per year/per child (up to 2 children) will be offered (the certificate to prove it must be sent).

Free access to the Public Health System in Spain is provided to all employees.

<table>
<thead>
<tr>
<th>Nº Positions offered:</th>
<th>1</th>
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<tbody>
<tr>
<td>Contract and offer:</td>
<td>1 (renewable depending on evaluation)</td>
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<tr>
<td>Deadline:</td>
<td>July 5th, 2024, 14:00 CET (UTC+1)</td>
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<td>How to apply:</td>
<td>Applications must be submitted on-line at: <a href="https://joboffers.bcamath.org">https://joboffers.bcamath.org</a></td>
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</table>

### Scientific Profile Requested

#### Requirements:
- Degree in Physics, Mathematics, or related fields.
- PhD degree preferable in Quantum Metrology, Quantum Information, or related topics.

#### Skills and track-record:
- Good interpersonal skills and ability to work as a part of a collaborative research team.
- A proven track record in quality research, as evidenced by research publications in top scientific journals and conferences.
- Ability to present and publish research outcomes in spoken (talks) and written (papers) form.
- Desirable experience managing international projects.
- Provable ability to communicate with experimentalists.

#### Scientific Profile:
In the selection procedure we will appreciate:
- Strong background in quantum metrology.
- Previous knowledge about quantum parameter estimation and inference.
- Ideally, with background on relativistic quantum information.
- Interest and disposition to work in interdisciplinary groups.
- Desirable international experience.

**Application and Selection Process**

**Formal Requirements:**

The selected candidate must have applied before the application deadline online at the webpage: [https://joboffers.bcamath.org](https://joboffers.bcamath.org)

The candidates that do not fulfil the mandatory requirements will not be evaluated with respect to their scientific profile.

**Application:**

Required documents:
- CV
- Letter of interest
- 2 recommendation letters
- Statement of past and proposed future research (2-3 pages)

**Evaluation:**

Based on the provided application documents of each candidate, the evaluation committee will evaluate qualitatively: the adaption of the previous training and career to the profile offered, the recommendation letters, the main results achieved (papers, proceedings, etc.), the statement of past and proposed future research and other merits; taking in account the alignment of these items to the topic offered.

**Incorporation:**

May 2024