

Metrology is the science of precise and standardized measurement and is fundamentally essential for the natural and engineering sciences. One area of metrology is currently developing in relation to nanosystems. The aim of the Research Training Group "Metrology for Complex Nanosystems NANOMET", established by the Technische Universität Braunschweig and the Physikalisch-Technische Bundesanstalt, is to examine new approaches to defining standard measurement variables in complex nanosystems. Within the frame of this Research Training Group, single-photon sources based on nanomaterials and nanostructures shall be developed and characterized with respect to application in quantum radiometry and quantum metrology.

For PTB's Division 4 "Optics" we are looking for a

PhD-student

to join us as soon as possible. This position is available based on a 3-year fixed-term contract. The salary will be 85 % of the remuneration group E13 TVöD.

The work will be performed at the Physikalisch-Technische Bundesanstalt (PTB), which is the national metrology institute providing scientific and technical services and promotes progress and reliability in metrology for the benefit of society, trade and industry, and science.

Your tasks will consist in:

- development and characterization of single-photon sources based on nanomaterials and nanostructures for application in quantum radiometry and quantum metrology;
- metrological characterization of these sources with respect to photon flux, photon statistics, purity, indistinguishability and higher order correlation functions;
- development of automated measurement programs for the characterization of the single-photon sources;
- publishing articles in peer reviewed journals;
- presentation of the results at national and international conferences;
- active participation in the qualification programme of the Research Training Group.

Your qualifications:

- university degree in physics, electrical engineering or comparable;
- excellent experimental abilities and theoretical knowledge on the field of optics, in specific single-photon sources, quantum optics, spectroscopy, microscopy, solid state physics and laser physics;
- basic knowledge of programming, ideally in the programming languages Agilent-VEE or LabVIEW;
- ability to carry out scientific work independently;
- excellent teamwork and communication skills;
- very good command of the English language.

Disabled persons will be given priority if they have the same occupational aptitude.

PTB promotes the professional equality of women and men and is thus especially interested in applications from women.

Are you interested? Then please submit your application using our Online Application Portal

or

by post to: Physikalisch-Technische Bundesanstalt, Referat "Personal",
Reference number xx/xx-4, Bundesallee 100, 38116 Braunschweig, Germany.
The closing date for applications is xx.xx.2017. Unfortunately, we cannot accept applications
sent via e-mail.

For further information, please contact:

Dr. Stefan Kück, Tel.: 0531 592 4010, E-Mail: stefan.kueck@ptb.de.

Dr. Marco Antonio López Ordoñez, Tel: 0531 592-4130, E-Mail: marco.lopez@ptb.de