The University of Paderborn is a high-performance and internationally oriented university with approximately 20,000 students. Within interdisciplinary teams, we design forward-looking research, innovative teaching and the active transfer of knowledge into society. As an important research and cooperation partner, the university also shapes regional development strategies. We offer our more than 2,300 employees in research, teaching, technology and administration a lively, family-friendly, equal opportunity environment, a lean management structure and diverse opportunities.

Join us to invent the future!

The Faculty of Science, Department of Physics, Integrated Quantum Optics Group, offers the position of

**Postdoc / Experienced researcher**
(Pay scale 13 TV-L)

Applications are invited for a full-time researcher position within the EC quantum flagship project "Sub-Poissonian Photon Gun by Coherent Diffusive Photonics (PhoG)." The position will commence as soon as possible and is limited to two years. It aims at the qualification of young scientists, including scientific management, according to the German law “Wissenschaftszeitvertragsgesetz”.

**Scientific Background:**
PhoG aims to deliver deterministic sources of non-classical light states, which will be applied in advanced optical imaging and metrology. The sources are based on coherent diffusive photonics operating with tailored dissipatively coupled optical waveguides, fabricated by ultra-fast laser inscription. The role of Paderborn University is to develop efficient quantum diagnostic tools to verify source performance and non-classicality of the generated states.

**Position Profile:**
You will investigate the design, implementation and characterization of efficient quantum diagnostics for non-classical multi-photon states. This includes a low-loss time-multiplexing network with 100 outputs for use with superconducting nanowire detectors for photon counting, and a two-channel weak-field homodyne detector for phase-space reconstruction of entangled multi-photon states. Additional duties include the day-to-day supervision of undergraduate and graduate students, and the coordination of the Paderborn University contribution to PhoG.

**Your Profile:**
Applicants are expected to hold a PhD in physics or in a related relevant subject at the time of appointment. Experience in quantum optics, quantum state or detector tomography, weak-field homodyning, and organising funding proposals (e.g. EU projects) is highly desirable.

Applications from women are particularly welcome and, in case of equal qualifications and experience, will receive preferential treatment according to state law (LGG). Qualified disabled people (in the sense of the German social law SGB IX) are also encouraged to apply.

Please send your application by **23.11.2018** with reference no. 3570 to:

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