Position ID	PhotonQ-TUM-PhD1
Type of position	PhD
Subject Area	Experiment
Type of institution	University
Start date	1 March 2022 (or as soon as possible thereafter)
Type of contract	24-months (75% TVL-E13), extension possible subject to satisfactory performance
PI	Prof. Dr. Jonathan Finley
Location	Technical University of Munich, Walter Schottky Institut
Application deadline	28 February 2022
Position description	The chair for Semiconductor Nanostructures and Quantum Systems (SNQS) at the Walter Schottky Institut (WSI - **Prof. Dr. J. J. Finley**) is looking for **a doctoral student (m/f/d)** to work in the field of deterministic entangled photon sources built using III-V semiconductor quantum dot nanostructures. The position is based at the Walter Schottky Institut, an interdisciplinary central research institute of the Technical University of Munich. The successful candidate will join our close-knit team of researchers working on: • The growth of semiconductor samples consisting of III-V quantum dot (QD) and QD-molecule (QDM) nanostructures emitting in the telecommunications C and O-bands. • Numerical photonic design + device fabrication in the WSI shared nanofabrication facilities. • Exploration of optically addressable single and few spin qubits using low-temperature quantum optical methods. • Development of deterministic sources of quantum light for applications in photon-based quantum information processing. **What we offer you:** • A vibrant research environment that provides you with the opportunity to perform curiosity driven and applied research as part of an international team. • High level training in semiconductor growth, nanofabrication, optical spectroscopy, quantum optical and nanoanalytical characterization techniques. • Research towards PhD qualification at a leading German University.
Requirements	**What we expect from you:** Candidates are expected to hold a M.Sc. degree in physics, electrical engineering, materials science or similar with outstanding academic record and should possess exceptional motivation and creativity combined with very good communications skills and proficiency in English (oral and written). A strong background in quantum physics, opto-electronics and photonics of semiconductor-based nanostructures both

	experimentally and theoretically is an advantage. Knowledge of state-of- the-art nanofabrication methods, advanced optical spectroscopy, and numerical photonic simulation is considered an asset.
Application documents	Interested applicants should submit their application via email (see below) including: ▪ A one-page letter of motivation / statement of research interests, ▪ Your CV including any publications, certificates and transcript of records as well as details of three referees, ▪ An electronic copy of your MSc thesis.
Application email	Please send your application by email to: finley@wsi.tum.de With subject **PhD-QDM Applicant**.
Contact email	For additional questions, please contact: finley@wsi.tum.de