Call for PhD candidates

Within the remit of the Hans Fischer Senior Fellowship of Professor Andreas Winter (Universitat Autònoma de Barcelona, Spain, and IAS TUM), the Institute for Communications Engineering and the Chair of Theoretical Information Engineering are offering a doctoral position under the topic "Secret and Quantum Communication Beyond the Shannon Approach" (TV-L E13) (f/m/x). The gross monthly remuneration in pay group TV-E 13 is in the range €4,074 - €5,873, depending on work experience and length of service.
In this project, we are planning to branch out beyond the standard assumptions in communication by considering security criteria in wiretap channels that are both weaker and more realistic than the standard ones. Likewise, we will develop a focus on identification via quantum channels, going beyond the Shannon paradigm, which offers many exciting open questions to work on. Thirdly, the project aims at investigating non-Shannon-type inequalities for the quantum entropy, which in the classical case are known to govern network communication problems and multi-user secret sharing.
The position is initially limited to three years with a possible extension. It will start on 1 December 2022 or as soon as possible afterwards.

Your qualifications

- Excellent university degree in electrical engineering, communications engineering, mathematics, physics (or similar), ideally with prior knowledge in quantum information and communication theory, as well as in quantum coding theory
- Interest in theoretical work with high practical relevance
- Motivation to demonstrate research results on a hardware platform
- Experience working with Matlab, C++, Python or similar
- Goal-oriented, independent and structured work style

Our offer

- Research on current topics in an inspiring international working environment
- Full-time position (TV-L E13) with the aim of earning a doctoral degree
- Several research visits to Barcelona in the group of Prof. Andreas Winter

How to apply

Please send us your application by e-mail (jobs@lnt.ei.tum.de) with the following documents:

- Curriculum vitae, copies of relevant certificates and diplomas, contact information for two references
- Short description of your research interests and your motivation for the application
- Master thesis and (if available) up to 3 publications

Application deadline is 30 November 2022

General information

The Technical University of Munich (TUM) is aiming to increase the number of women employees, and applications from women are expressly welcomed. Applicants with disabilities, with essentially the same suitability and qualification, will be preferred. As you apply for a position at TUM, you will provide personal data; please note our data protection information according to Art. 13 Data Protection Basic Regulation (DSGVO) on the collection and processing of personal data in connection with your application, http://go.tum.de/554159. By submitting your application, you confirm that you have taken note of the data protection information of the TUM.

Contact

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