

Postdoctoral Researcher in Quantum Sensing and Signal Processing

The Institute of Industrial Information Technology (IIIT) at Karlsruhe Institute of Technology KIT invites applications as a

Post-doctoral Researcher (m/f/d) (TV-L, E14, 100 %)

for a limited period of 24 months, starting as soon as possible. It is possible to extend the employment within the legal limits set by the WissZeitVG.

The research at IIIT focuses on signal processing and measurement science. Current focus areas are a) multisensory measurement systems and information fusion using classical methods and methods of machine learning as well as their applications in industrial quality assurance, environmental perception and human-machine interaction, and b) novel signal processing methods for nonlinear systems described by integrable partial differential equations and their demonstration in engineering applications.

The advertised position involves research into **quantum methods for solving real-world sensing and signal processing tasks**. Quantum methods are considered a potential game changer in many engineering disciplines, including sensing and signal processing. The aim of the research work is to identify promising problems in these areas and to analyze and develop possible solutions based on quantum methods.

Personal Qualifications:

- PhD in electrical engineering, computer science, physics, or a related subject
- Strong theoretical foundations and experience with signal processing and/or measurement science
- High motivation, team working skills, and readiness for interdisciplinary work
- Proficiency in the English language (spoken and written)
- Commitment to the publication of research results

Tasks:

- Research on quantum methods for solving sensing and signal processing tasks
- Development, analysis and validation of respective algorithms on basis of simulations and real quantum computers
- Preparation of research proposals (e.g. to the DFG) and implementation of research projects in this field is encouraged
- Guidance of PhD students
- Developing and teaching courses in this subject area

Kindly submit your completed online application (including cover letter, CV, diplomas/transcripts and other relevant material) in electronic form to:

Prof. Dr.-Ing. Michael Heizmann (michael.heizmann@kit.edu) and
Prof. Dr.-Ing. Sander Wahls (sander.wahls@kit.edu)

KIT is pursuing a gender equality policy and encourages women to apply. Furthermore, in case of equal qualification, preference is given to applicants with disabilities.