The Chair for Applied Physics is a leading research facility in quantum optics, polaritonics, and nanostructured opto-electronic devices. We operate the Gottfried Landwehr Laboratory for Nanotechnologies, a 550 m² clean room facility equipped with a complete semiconductor technology line, including epitaxial growth as well as nanostructure fabrication and characterization. Our research is conducted within numerous national and international projects throughout collaborations with other universities, research centers and the industry.

We are looking for

PhD Candidates in Semiconductor Growth of Quantum Materials

Requirements

- Master's degree in physics, nanotechnology or similar.
- Basic knowledge of quantum physics and solid-state physics.
- Experience with semiconductor quantum dots or AMO physics, preferred.
- Originality and productivity in research.
- Excellent written and spoken English language skills (working language is English).

Research project

The fast development of quantum technologies increases the need for commercial single photon sources. State of the art sources based on self-assembled quantum dots need a pre-characterization and selection process which is limiting the up-scaling possibilities. Therefore, prepositioning of the quantum dots and precise control of the wavelength are required. Successful candidates will join our multidisciplinary team of researchers and be working on:

- Development of site-controlled quantum dots on III-V semiconductor.
- Nanophotonic and electronic bandgap engineering of broadband optical III-V quantum (QD).
- MBE growth process development and optoelectronic material characterization thereof in our cleanroom facilities at the Gottfried Landwehr Laboratory for Nanotechnologies.
- Contributions to project meetings and conferences.
- Publications in peer-reviewed scientific journals.

We have several position openings and the designation to a sub-task will be after a personal interview. Earliest starting date is 16th October 2023.

What we offer

- A position for a duration of 3 years with a possible extension of 1 year.
- Payment based on the German TV-L scale.
- A unique opportunity to join a strong interdisciplinary multi-national team of researchers with a shared interest in quantum physics and semiconductors.
- Working with a state-of-the-art technological infrastructure.
- Mentoring and career development opportunities.
- Possibility to contribute to high-impact scientific publications.

How to apply

Please send your application including your cover letter, CV, transcript of records and certificates, list of publications and recommendation letters in one single pdf file (no more than 10 MB) to secretary's office (l-tep@uni-wuerzburg.de). The application deadline is 31st October 2023.

The University of Würzburg is an equal opportunity employer. All qualified applicants will be considered for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, or age.