

The Leibniz-Institut für Kristallzüchtung (IKZ) is a leading research institution in the area of science & technology as well as service & transfer of crystalline materials. Our goal is to enable solutions for urgent societal challenges (e.g. communication, artificial intelligence, climate protection, health etc.) by modern electronic & photonic technologies. The work covers the full spectrum from basic over applied research up to pre-industrial development and is performed in collaboration with national and international partners from university, academy and industry. The institute is part of the Forschungsverbund Berlin (<https://www.fv-berlin.de/>) and a member of the *Leibniz Association* www.leibniz-gemeinschaft.de. You can find more details on the institute webpage: www.ikz-berlin.de.

We are offering a

PhD Student Position (m/f/d)

for the topic.

“Modeling of the industrial Floating Zone Process for large ultrapure Silicon Single Crystals”

Job description:

Ultrapure Silicon single crystals grown using the Float Zone method are currently in high demand for trending technologies and exciting scientific applications. The crystals are needed for electronic devices (e.g. in the renewable energy value chain and e-mobility), the emerging field of quantum technology as well as in gravitational-wave detectors that strive to expand our knowledge of the universe.

As a member of our simulation team you will contribute to our applied research in Float Zone process development and optimization. Your task is to further develop our numerical models in the Software COMSOL Multiphysics, for future 3D and time-dependent FEM calculations. The validated models should be able to describe all the relevant and interdependent physical phenomena taking place during growth: electromagnetism, heat transport, interfaces and free surfaces, fluid flow and segregation. Your work will give significant input to our growth experiments, carried out in our modern Float Zone Silicon lab using an 8 inch furnace of the latest generation.

Requirements:

- MSc or equivalent degree in physical/chemical/engineering sciences
- profound modelling background in at least one of the fields: electromagnetism, heat transport, CFD, phase change.
- proven experience in numerical modeling using COMSOL Multiphysics
- Programming (e.g. C++, Python, Matlab) and SolidWorks skills are an advantage.
- author scientific publications and present on conferences in English language

What we offer:

- Possibility to contribute to exciting applied science and specialize in a high-tech sector
- Fixed term contract for 3 years with payment according to TVöD Bund (75 %)

For academic questions please contact: Dr. Natascha Dropka at natascha.dropka@ikz-berlin.de.

Among equally qualified applicants, preference will be given to disabled candidates. The IKZ is an equal opportunity employer and actively supports reconciliation of work and family life. There is equality for applicants of all genders. Qualified women are especially encouraged to apply.

Have we aroused your interest?

Then apply with a letter of motivation, curriculum vitae and all relevant certificates by **May 1, 2021**.

To do so, please go to [Job offers/jobs](#) on our homepage and click on this advertisement and then on **"Apply online"**. Please send us your complete application documents this way.

We look forward to receiving your application!