INM – Leibniz Institute for New Materials

Saarbrücken, Germany

PhD position in biophysics: liquid phase electron microscopy of breast cancer cells

Description

We are looking for a PhD candidate in biophysics for a cancer research project funded by the Else Kröner-Fresenius Stiftung. The objective of the PhD thesis is to study the influence of drugs on breast cancer cells using the new analytical capabilities of liquid-phase scanning transmission electron microscopy (STEM). HER2 positive breast cancer is an aggressive form of cancer, diagnosed in about 20% of breast cancer patients. Although it can be treated with the HER2-targeted antibody drug trastuzumab, primary or acquired drug resistance is often inevitable, presumably also as a consequence of cancer cell heterogeneity. We plan studying the influence of drug at the single cell level while taking cancer cell heterogeneity into account. We may possibly discover a molecular signature serving as predictor for drug resistance. The proposed research presents a groundbreaking new approach to examine the effect of HER2 targeting drugs on different subpopulations of cancer cells that was not possible before with any other method. The PhD program will be hosted in the Physics Department of Saarland University Saarbrucken, Germany.

Requirements

- Master degree in physics or biophysics.
- Excellent knowledge of microscopy methods and data analysis.
- Hands-on experience would be beneficial with electron microscopy, light microscopy, mammalian cell culture, and/or developing data analysis algorithms.
- Strong motivation for science.
- Team player.
- Proficient written and oral communication skills in English is a must.
- Proficient in German is a plus.

More information

http://www.dejonge.physik.uni-saarland.de/jobs.html

Contact

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