

Postdoctoral Scientist

The Electron Spin Resonance (ESR) Spectroscopy Research Group of Prof. Dr. Benesh Joseph located in the Physics Department of Freie Universität Berlin is looking for a Postdoctoral Scientist.

Our group employs ESR spectroscopy techniques to investigate the biophysical and mechanistic basis for the function of membrane transport protein complexes. Methodological developments for studying such heterooligomeric complexes in their native environments is another major focus of the group. Our spectrometers can operate over a wide range of frequencies (S, X, Q, and W band) and are equipped for determining both dipolar and hyperfine interactions, laser excitation and transient ESR spectroscopy. The sample preparation laboratories house modern instruments for membrane protein expression and purification. With a cosmopolitan outlook and a highly vibrant and collaborative research environment, Berlin is an exciting place to live and work.

The project aims to unravel the molecular principles underlying the energy barrier(s) for interdomain and intermolecular communication during large-scale conformational coupling in a trans-envelope membrane protein complex and how potential drug candidate(s) modulate their behavior. The tasks include further development and optimization of time-resolved sample preparation, application of multiple (orthogonal) spin labels, time-resolved dipolar/hyperfine spectroscopy, data analysis/simulation, and kinetic/structural modeling using the experimental data.

Application is also welcome from candidates having knowledge and keen interest to further develop new methodologies combining spectroscopic and biochemical approaches for in-cell/in-situ observation of membrane protein complexes.

Requirements:

- a PhD in (Bio)Physics or (Bio)Physical Chemistry
- deep knowledge and experience in pulsed ESR spectroscopy techniques
- experience with time resolved ESR spectroscopy and a willingness to learn (membrane) protein expression and purification is desired, but not mandatory
- scientific curiosity, good communication skills, proficiency in English, and an ability to work in an international environment

The position is immediately available for a duration of two years with an option of further renewal for 1-2 years. The salary is based on the Collective Agreement for the German Public Service (E13, TV-L FU). The University advocates gender equality and therefore encourages women to apply. People with disabilities are given preference if equally qualified. The Freie Universität Berlin cannot cover the costs for the interviews.

Interested candidates may send an electronic application (including motivation letter, CV, names of referees, and copies certificates in one PDF file) to Prof. Dr. Benesh Joseph, Freie Universität Berlin, Fachbereich Physik, Raum 0.4.39, Arnimallee 14, 14195 Berlin, Germany. Tel: +49 69 798 46430, Email: joseph@biophysik.uni-frankfurt.de