



UNIVERSITÄT  
BAYREUTH

Junior Research Group  
„Electronic excitations in light converting systems“

## Vibronic properties of Bacteriochlorophyll molecules from first principles

The junior research group “Electronic excitations in light converting systems” at the Institute of Physics of the University of Bayreuth is inviting applications for a **PhD position**. Our research focuses on developing and applying state-of-the-art electronic structure methods to challenging inorganic, organic-inorganic and biological light-harvesting systems, such as hybrid halide perovskites and the natural **light-harvesting systems of photosynthetic bacteria**.

Bacteriochlorophyll (BChl) molecules, that naturally occur in the light harvesting apparatuses of photosynthetic purple bacteria, are among the key pigments at the heart of the energy and charge transfer processes of photosynthesis. However, their interaction with the surrounding protein matrix in different parts of the photosynthetic unit is not understood yet. The successful candidate will use density functional theory and **many-body perturbation theory methods** to investigate the vibronic coupling of BChl molecules among each other and to their protein environment. Candidates should have an M.Sc. degree (or equivalent) and a strong background in physics, physical chemistry or biophysics and be enthusiastic about working on questions arising at the intersection of these disciplines. Programming skills (Fortran90, Python) are a plus.

We offer the exciting opportunity to work in an enthusiastic research group and an interdisciplinary and collaborative research environment. Bayreuth is a vibrant and green campus university; the city prides itself on a high standard of living at low cost, ample opportunities for exploring the beautiful scenery of “Oberfranken”, and good connections to national and international travel.

Applications from handicapped persons will be favored when all other qualifications are equal. The University of Bayreuth is an equal opportunity employer and we therefore especially encourage women to apply.

Please send inquiries and meaningful applications (CV, letter of reference, transcript of M.Sc. degree and motivation letter) to **Dr. Linn Leppert** until **October 31<sup>st</sup> 2018**. Applications in **German** and **English** are welcome.

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