



Universität Hamburg

DER FORSCHUNG | DER LEHRE | DER BILDUNG

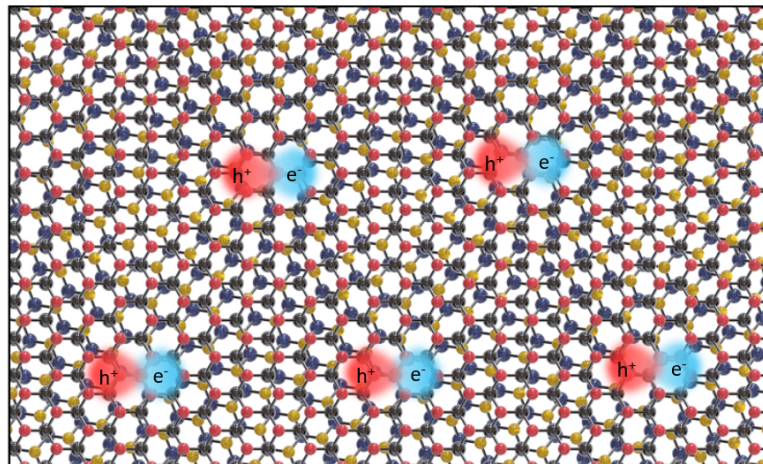


UHH · MIN-Fakultät · FB Chemie
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Prof. Dr. Gabriel Bester
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PhD position at University of Hamburg in the group “Theory of nanoscopic systems”

The PhD degree will be obtained either in the physics or chemistry department, depending on the candidate’s background. The successful applicant will join the group of [Prof. Bester](#) and work on a research project concerned with excitonic effects in 2D materials. The candidate will use our recently developed ab-initio approach [1] to calculate the exciton (X), charged excitons (X^- , X^+), biexciton (XX) properties and their mutual interaction. Depending on the candidate’s background, she/he will be part of the development of atomic effective pseudopotentials combined with configuration interaction to calculate the exciton localization in bilayers with moiré patterns for structures with up to 50,000 atoms (see Fig.).



We expect a Master’s degree or equivalent in physics, chemistry or related disciplines, preferably in the fields of theoretical condensed matter research or quantum chemistry. A candidate experienced with one or more of the following topics will be given priority:

- DFT
- Theoretical Quantum Chemistry
- Optical Properties, spectroscopy, semiconductors.

Applications including a CV, a documentation of academic record, a brief description of the Master thesis project, a motivation letter should be sent in a single pdf file to: e-mail: gabriel.bester@uni-hamburg.de with subject: 2D Moire PhD application

The position is available now.

[1] *First-principles many-body theory for charged and neutral excitations: Trion fine structure splitting in transition metal dichalcogenides*

Abderrezak Torche, Gabriel Bester

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The University of Hamburg seeks to increase the number of women in those areas, where they are underrepresented and therefore explicitly encourages women to apply.