PHD-POSITION AT THE INTERFACE OF COMPUTATIONAL CHEMISTRY AND AUGMENTED-REALITY VISUALIZATION
(m/f/d, E13 TV-L, temporary for the duration of 3 years)

The University of Stuttgart represents outstanding, world-renowned research and first-class teaching in one of Europe's most dynamic industrial regions. As a reliable employer, the university supports and promotes the academic careers of its researchers. It is proud of its employees, who currently come from over 100 different countries. The university is a partner for knowledge and technology transfer and focuses on multidisciplinarity.

The Cluster of Excellence "Data-Integrated Simulation Science" (EXC 2075) is an interdisciplinary research center with more than 200 scientists of different ages, gender identities, nationalities and different subject areas, jointly performing research towards a common goal: We target a new class of modeling and computational methods based on available data from various sources, in order to take the usability, precision and reliability of simulations to a new level.

The project:

This is a cooperative project of the Institute for Theoretical Chemistry and the Institute for Visualization and Interactive Systems of the University of Stuttgart. The aim is to use augmented reality visualization and machine-learned surrogate models to create responsive models of molecular systems and their physical properties.

Your tasks:

- You implement a platform that uses machine learning to build interactive real time models of molecules and molecular properties using data from first-principles computations.
- You explore the potential of augmented reality for visualization of responsive molecular models.
- You cooperate with other groups of the project network to ensure the interoperability of resource-constrained augmented-reality devices with a server infrastructure.
- You self-responsibly work out the details of the research program and ensure close interaction with the other project partners.

Your qualifications:

- Very good Master degree (or equivalent) in Chemistry, Physics, Computer Science or closely related fields
- A strong background in numerical simulation techniques for problems in natural sciences or engineering, for instance machine learning
- Solid knowledge of object-oriented programming, ideally with focus on graphics software.
- Proficient English skills (spoken and written); German skills are an asset.
- Ability to work independently and self-responsibly both on your own and in a team.
- Willingness to participate in the events of the cluster of excellence and qualification measures

We offer:

- An inspirational and supportive research environment at the Cluster of Excellence SimTech with ample networking opportunities and much room for your own research ideas
- An interdisciplinary nationally and internationally well-connected research team
- Fully funded conference visits and a fully funded research stay abroad

Please submit your complete application, including one-page motivation letter, academic CV, one letter of reference, as well as academic certificates and transcript of records, via the application system JoinUS (https://careers.uni-stuttgart.de/) **until September, 15, 2022**. If you have any questions regarding this application, please contact us via andreas.koehn@theochem.uni-stuttgart.de.

We cannot reimburse any costs arising from the performance of job interviews. However, we offer interviews to be held online.

At the University of Stuttgart and the Cluster of Excellence EXC 2075, we actively promote diversity among our employees. We have set ourselves the goal of recruiting more women scientists and employing more people with an international background, as well as people with disabilities. We are therefore particularly pleased to receive applications from such people. Regardless, we welcome any good application.

Women who apply will be given preferential consideration in areas in which they are underrepresented, provided they have the same aptitude, qualifications and professional performance. Severely disabled applicants with equal qualifications will be given priority.

As a certified family-friendly university, we support the compatibility of work and family, and of professional and private life in general, through various flexible modules. We have an employee health management system that has won several awards and offers our employees a wide range of continuing education programs. We are consistently improving our accessibility. Our Welcome Center helps international scientists get started in Stuttgart.

Information in accordance with Article 13 DS-GVO on the processing of applicant data can be found at https://careers.uni-stuttgart.de/content/privacy-policy/?locale=en_US