



## PhD position at the Helmholtz-Lund International Graduate School

### Attosecond charge dynamics in molecules and more complex systems

The emergence of attosecond light sources ( $1 \text{ as} = 10^{-18} \text{ s}$ ) has opened up an exciting area of physics giving access to the electron dynamics in matter and allowing ultrafast electronic and structural processes to be monitored in real-time. This has considerably evolved the understanding of fundamental energy transfer and conversion mechanisms as well as radiation damage effects in (bio)molecules at the atomic scale. However, the very details of the temporal and structural evolution in more realistic systems, such as solvated molecules, remains essentially unexplored.

In this project, a high-repetition rate XUV attosecond source will be combined with coincidence/covariance detection techniques to investigate purely electronic mechanisms occurring in bio-chemically relevant molecules *embedded in water clusters*. These studies open new important perspectives in the possibility to control the molecular reactivity at the electron time scale.

**Deadline 28<sup>th</sup> February 2021**

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