



IMPRS UFAST Call for PhD applications 2020/2021



Elucidation of molecular structure, reaction dynamics and function by time-resolved X-ray and optical methods

N. Huse

Title of PhD Project	Elucidation of molecular structure, reaction dynamics and function by time-resolved X-ray and optical methods
Type	Experimental
Supervisor(s)	Prof. Nils Huse
Affiliation(s):	UHH
Number of positions:	1
Abstract:	This PhD project focuses on understanding how excited molecular systems evolve in time from the earliest stages of excitation up to biological timescales, spanning many orders of magnitude in time to follow the fate of molecular systems from their initially excited states to new products interacting with their environment, thereby triggering reactions as substrates and ligands in proteins. This project employs light to trigger ultrafast reaction dynamics but also targets reactions triggered by mixing processes. The project is interdisciplinary, employing a wider range of time-resolved X-ray and optical laser methods to study dynamics of molecular systems from small organic molecules to biological macromolecules. The project requires fascination of (bio)chemical processes and physical methods to study molecular dynamics in thermodynamic equilibrium and non-equilibrium states. The project is embedded in the newly established Hamburg Advanced Research Center for Bio-organic/-physical Chemistry HARBOR.
Contact person for scientific questions about the project:	Nils Huse: nils.huse@uni-hamburg.de