

Max-Planck-Institut für Struktur und Dynamik der Materie

Max Planck Institute for the Structure and Dynamics of Matter

IMPRS UFAST Call for PhD applications 2022/2023

JK2- Investigating solvent effects in the dynamics of biologically relevant model systems like nucleobases in the gas phase



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| Title of PhD Project | Investigating solvent effects in the dynamics of biologically relevant model systems like nucleobases in the gas phase |
| Type | Experimental |
| Supervisor(s) | Prof. Dr. Jochen Küpper, Dr. Sebastian Trippel |
| Affiliation(s): | UHH, DESY, CFEL |
| Number of positions: | 1 |
| Abstract: | <p>The dynamics of molecules is strongly dependent on the environment. Hydrogen bonds are of universal importance in chemistry and biochemistry and it is, therefore, of great interest to bridge the gap between single isolated molecules and molecules in solvation.</p> <p>In this project, the influence of single water molecules attached to building blocks of life, e.g., adenine, thymine, or uracil, on the photo induced electronic dynamics will be investigated in isolated microsolvated systems. The molecules will be studied using photoelectron- and ion-coincidence-imaging techniques. Recording and correlating all photo fragments allows for a reconstruction of the complete dynamics potentially even in the molecular frame. Furthermore, the dynamics of the specific hydrogen bond will be investigated by varying the distance between the solvent and the bio molecule while studying the induced photo driven process.</p> |
| Contact person for scientific questions about the project: | Dr. Sebastian Trippel sebastian.trippel@cfel.de Prof. Jochen Küpper jochen.kuepper@cfel.de |

