**2018 Helmholtz – OCPC – Program**

**for the involvement of postdocs in bilateral collaboration projects**

**DESY\_OCPC\_2018-01**

**PART A**

**Title of the project: Folding dynamics of conformer-selected peptides in the gas-phase**

**Helmholtz Centre and Research Group: DESY / CFEL Controlled Molecule Imaging**

**Project leader: Prof. Dr. Jochen Küpper**

**Web-address:** https://www.controlled-molecule-imaging.org

**Description of the project** (max. 1 page)**:**

A recently developed laser-desorption molecular-beam source coupled to an electrostatic deflector allowed the separation of structural isomers of large biological systems such as peptides in the gas-phase. You will further develop this experimental approach towards larger biologically relevant systems, as well as improve control schemes for the created conformer-pure samples, such as strong-field alignment and orientation approaches.

These novel highly controlled gas-phase samples of complex molecules will be employed in novel experiments at free-electron laser sources, for example conformer-resolved fragmentation studies and diffractive imaging of isolated systems.

**Description of existing or sought Chinese collaboration partner institute:**

**Required qualification of the post-doc:**

* PhD in Experimental Physics, Physical Chemistry, or related field
* Extensive background in molecular physics and quantum mechanics is required.
* Experience with molecular beams, high-vacuum equipment, and short-pulse lasers is envisioned; experience with large-scale/x-ray facilities would be a plus.
* Fluent in written and spoken English

**PART B**

**Documents to be provided by the post-doc, necessary for an application to OCPC via a postdoc-station:**

* + Detailed description of the interest in joining the project (motivation letter)
  + Curriculum vitae, copies of degrees
  + List of publications
  + 2 letters of recommendation
  + Proof of command of English language

**PART C**

**Additional requirements to be fulfilled by the post-doc:**

* Max. age of 35 years
* PhD degree not older than 5 years
* Very good command of the English language
* Strong ability to work independently and in a team