Call for 2015 DESY-ONACPR Fellowship Applicants

## **Code: DESY/2015/3**

## **Research Laboratory: DESY**

### Division/Group: CFEL-FS2

### Supervising scientist: Franz X. Kärtner Email/Phone: [franz.kaertner@cfel.de/](mailto:franz.kaertner@cfel.de/) 040 8998 6350

### Research Field: Ultrafast Optics and X-ray Sources

**Position:** Postdoctoral Research in Strong Field THz Phenomena

Liquid water is the single most important medium in which chemical and biological processes take place. Recent THz spectroscopy measurements probing collective, low-frequency modes show that water is a key actor in enzymatic reactions and protein folding. In particular, it was recently shown that strong-field THz pulses can be used to put water on a sub-picosecond time scale into a superheated state. P. K. Mishra, O Vendrell, and R. Santra, Angew. Chem. Int. Ed. 2013, 52, 13685 –13687. We will use high-energy THz pump and MID-IR continuum probe spectroscopy to experimentally study superheated water in close collaboration with the Theory Group of O. Vendrell and R. Santra.

**Research Area:**

**Specific Requirements:**

The postdoctoral candidate has a PhD in physics, chemistry or electrical engineering and experience in the use of high-energy femtosecond laser sources such as multi-mJ Ti:Sapphire amplifiers or Yb-pumped lasers, high-energy optical parametric amplifiers and its use in THz and MID-IR generation and characterization. If possible also experience in time-resolved spectroscopy is desired. We are looking for a team-oriented and enthusiastic candidate who can interact well with the other team members working on strong-field THz research in solids and towards compact accelerators.

**Work Place:** Hamburg

**Earliest Start:** December 2015 or later is possible.

**Language Requirement:** excellent spoken and written English

**Further Remarks:**