Call for 2015 DESY-ONACPR Fellowship Applicants

## **Code: DESY/2015/12**

## **Research Laboratory: DESY**

### Division/Group: FS-CFEL-1

### Supervising scientist: Henry Chapman Email/Phone: henry.chapman@desy.de

### Research Field: Coherent X-ray imaging

**Position:** Postdoctoral Research in X-ray FEL coherent diffraction

X-ray free-electron lasers offer new opportunities to determine the 3D structures of macromolecules and other biological objects. Coherent diffraction from weakly-scattering objects can be obtained and combined if orientational information can be extracted from the patterns. The use of small objects gives the possibility to apply novel phasing schemes to reconstruct images. The ideas can be applied to non-periodic objects, objects aligned along an axis (e.g. fibres), or nanocrystals or two or three dimensions. This project will develop algorithms to carry out data assembly and phasing of such objects, and to design and run X-ray FEL imaging experiments.

**Research Area:**

**Specific Requirements:**

The candidate should have a solid background in Fourier optics and have a keen appreciation for the phase problem in crystallography and methods to overcome it. Ideally she or he will have experience in coherent X-ray scattering experiments using either synchrotron radiation or X-ray FEL pulses, or have a very deep understanding of imaging, phase retrieval, crystallography, or microscopy. The candidate should have a PhD in physics or related field, be very inventive and creative, and be eager to communicate their findings with their peers.

**Work Place:** Hamburg

**Earliest Start:** December 2015

**Language Requirement:** (please note that we require for all candidates proven records of English, e.g. CAE certificate)

**Further Remarks:**