

The Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy (MBI) is a nonprofit research institution, organized in the legal form of a registered association ([Forschungsverbund Berlin e.V.](#)). The MBI is scientifically independent but without legal personality. It is at the same time member of the [Leibniz Gemeinschaft](#).

The MBI conducts basic research in the field of nonlinear optics and ultrafast dynamics of the interaction of light with matter and pursues applications that emerge from this research. It develops and uses ultrafast and ultra-intense lasers and laser-driven short-pulse light sources in a broad spectral range in combination with methods of nonlinear spectroscopy.

In Division C: Ultrafast Infrared and Soft-X-Ray Spectroscopy of Elementary Charge Transfer Reactions we are seeking a highly motivated

PhD student

Job profile:

We offer at the earliest possible date a PhD position in ultrafast spectroscopy of elementary charge transfer processes in solution. These include electron transfer, proton transfer and proton-coupled-electron transfer of prototypical molecular donor-acceptor complexes, which function as model systems for processes as diverse as electronic charge flow, aqueous proton transport or energy conversion. We have previously investigated to much effect the microscopic details of elementary steps in these charge transfer dynamics with transient IR spectroscopy (see <http://www.mbi-berlin.de/de/research/projects/3.1/topics/Topic3/index-topic3.html>). A recent activity involves the development of condensed phase transient soft-x-ray spectroscopy using novel liquid jet technologies (see <http://www.mbi-berlin.de/de/research/projects/3.1/topics/Topic2/index-topic2.html>). The main objective of the PhD study will be the elucidation of the structural dynamics of reactive donor-acceptor complexes using these state-of-the-art techniques.

The candidate will work on the development and application of novel transient infrared and soft-x-ray spectroscopic techniques with high time resolution. The research will take place at the Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy (MBI, see <http://www.mbi-berlin.de/index.html>). Well-established collaborations with research teams at BESSY II of the Helmholtz-Zentrum Berlin, Yale University New Haven CT, Ben Gurion University, Beersheva Israel, and Martin-Luther-Universität Halle-Wittenberg will support the research efforts.

Requirements:

The candidate is expected to have acquired a Master of Science or diploma degree in physics or chemistry with above average marks. He/she has experience in at least one of the following fields: optical spectroscopy, ultrafast optics and spectroscopy.

Offer:

The position is available at the earliest possible date and limited to 3 years. Payment is according to the German TVöD (75%).

In order to reach an enhanced share of women in successful scientific careers, applications of qualified female candidates are particularly welcome. Severely disabled persons and persons treated as such with equal qualification and aptitude are given preferential consideration. Indicate a possible disability already in the application. The MBI is certified for being a family-oriented company ("Audit berufundfamilie").

Complete applications, including covering letter, curriculum vitae, certificates and description of previous professional activities are to be sent to Dr. Erik T. J. Nibbering (nibberin@mbi-berlin.de), or Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie, Max-Born-Straße 2A, 12489 Berlin, Germany, as soon as possible, but no later than **19.08.2017**.