ALUMNI-PORTRAIT: MICHAEL THORWART

Michael Thorwart worked as a Junior Research Fellow at the FRIAS School of Soft Matter Research from August 2008 to March 2010. During this time, together with his staff and students, he investigated the quantum dynamics of nanoscale systems as they occur, for example, in the form of complex biomolecules in photosynthesis. Here, light is captured as an electron-hole pair excitation in light-harvesting complexes. This trapped energy must then be transported to a molecular reaction centre by the system. It is the quantum mechanical transport processes that occur in this non-balancing quantum system that were the subject of Thorwart's investigations.

In April 2010, Thorwart accepted a professorship at the Universität Hamburg Institute of Theoretical Physics I and since that time has continued to work on this topic, even extending the problem to other systems. He currently supervises five PhD students working in this field, and many distinguished publications have already emerged from their research. For Thorwart, moving to Universität Hamburg not only meant an opportunity to work at a prestigious university. Thanks to its high concentration of university-based and external research institutions, Hamburg also provides a unique environment for his current research interests. It is home, for example, to the collaborative research centre "Light-induced dynamics and control of correlated quantum systems" and the DESY research centre (Deutsches Elektronen-Synchrotron, A Research Centre of the Helmholtz Association), which is heavily involved in developing and constructing the European XFEL due to start operation in 2015. The Hamburg Cluster of Excellence CUI (Hamburg Centre for Ultrafast Imaging) is also collaborating closely on this. As an associated member, Thorwart is currently involved in a project group researching how to control chemical processes through ultrafast terahertz and infrared pulses. They, in turn, can be examined using the particle accelerator developed at DESY.

Throughout everything, Michael Thorwart still benefits enormously from the collaborations and academic contacts that resulted from his time at FRIAS. "The extensive opportunities to make contact with top international academics were crucial to my work in this field," states Thorwart. The scientist also sees the intellectually open atmosphere at FRIAS in the same light. In his opinion, it is vital for extremely diverse disciplines to come together and interact within one institute. "Of course talking to linguists about their work is not directly beneficial to writing your next paper, but it is enormously helpful in developing a sustainable, individual academic identity in the long term, and that is all that counts," says Thorwart. He believes "this is the only way that we will get back to having independent, broadly-educated and intellectually-free academics that are not the servants of accreditation agencies, external funding organisations and Bologna Strategies." Summer 2014 saw Michael Thorwart return to FRIAS in the context of a research semester, where he relished the chance to focus on his latest project. The scientist hopes that more long-term thinking will eventually prevail and that, even in its new guise, FRIAS will be blessed with an excellent future.

Michael Thorwart (Junior Fellow, School of Soft Matter Research, 2008 – 2010)