



UNIVERSITÄT LEIPZIG

PhD Position

Topic: Investigation of the structure and dynamics of the ghrelin/GHS receptor complex

beginning: at the earliest possible date, payment according to TVL13 (65%)

working group: Prof. Dr. Daniel Huster, Institute of Medical Physics and Biophysics,
Härtelstr. 16-18, 04107 Leipzig

The peptide hormone ghrelin plays a key role in food intake and body weight regulation. Ghrelin binds and activates the GHS receptor (GHSR) representing an important pharmacological target. In the project, structural details of the dynamic interaction of ghrelin with GHSR and its conformational dynamics in different states of activation will be studied. We use a combination of experimental methods of nuclear magnetic resonance (NMR) spectroscopy and molecular dynamics (MD) simulation tools in collaboration with projects of the CRC 1423 "Structural Dynamics of GPCR Activation and Signaling". Alterations of GHSR structure and dynamics, which occur upon binding of the agonist ghrelin, will be studied to address the mechanism of receptor activation and signal transduction to downstream transducer proteins. To understand the high basal activity of GHSR, we will plan to study the loss-of-constitutive-activity Ala204Glu GHSR mutant as downregulation of this basal activity represents a pharmacological goal.

The AG Huster at the Institute of Medical Physics and Biophysics is an international group of ~15 people from different backgrounds. Our values are gender equality, mutual appreciation and support of each other to create a constructive and positive working atmosphere. A video of our group can be found here:

The candidate should hold a master's degree in biochemistry, chemistry, biophysics or a relevant field.



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Applications with a cover letter, a CV, all relevant university certificates and contact information of potential references should be sent as a single PDF file per email to Daniel Huster, daniel.huster@medizin.uni-leipzig.de.