TECHNISCHE UNIVERSITÄT WIEN

INSTITUT FÜR THEORETISCHE PHYSIK
WIEDNER HAUPTSTRASSE 8-10, 1040 WIEN

Announcement of an Opening at the
Institute for Theoretical Physics, Faculty of Physics
Technische Universität Wien

PhD position in Soft Matter Theory

The Soft Matter Theory group (smt.tuwien.ac.at) at the Institute for Theoretical Physics of the Technische Universität Wien (TU Wien; tuwien.ac.at) announces the opening of a three-years PhD position in Soft Matter Theory and calls for applications.

We are looking for a highly motivated candidate with interest in novel areas of non-equilibrium statistical mechanics, specifically in the theory of non-linear elasticity of complex crystals. Within this project we will investigate the elastic and plastic properties of archetypical hard and soft matter crystals in the non-linear and non-equilibrium regime for large stresses and large deformations: the related effects on the internal elastic and plastic stress fields shall be studied with suitably developed, efficient computer simulation methods. The influence of defect density fields will be investigated in detail due to their relevance for processing and applications in disordered, soft solids (such as gels, liquid crystals, or biological tissues).

The position is part of a joint research initiative, bringing together related groups from the University of Tübingen and the University of Konstanz; this initiative is financially supported by the Austrian and the German Research Foundations (FWF and DFG). The consortium combines expertise in theory (Konstanz and Tübingen) and computer simulations (Vienna), aimed to derive the emergent laws of continuum mechanics from an atomistic starting point, thereby bridging several length- and time-scales. The PhD candidate at the TU Wien is expected to perform computer simulations and to cooperate intensively with the partner groups (each of them represented by a PI and a PhD student), to exchange data and participate in their analysis, and to repeatedly spend periods of time at the partner universities.

The successful candidate is expected to have a Master degree in physics or in a related science. He/She should have (i) a basic knowledge in soft matter science, (ii) an excellent knowledge in statistical physics, and (iii) a good expertise in numerical methods in physics (notably computer simulations).

The TU Wien is committed to increase female employment in leading scientist positions. Qualified female applicants are expressly encouraged to apply and will be given preference when equally qualified. Handicapped persons with appropriate qualifications are expressly encouraged to apply.

The application must include:

(i) curriculum vitae, including a list of publications, conference contributions, and other scientific activities (if applicable);
(ii) transcript of record of the bachelor- and master-studies;
(iii) title and a short summar y of the diploma/master thesis;
(iv) two letters of reference;
(v) in the cover-letter please provide an answer to the equestion: (i) “Why do I apply for this particular position” and (ii) “Where do you expect to see yourself within the five years to come?”

Please send your application via email in a single pdf-file to Prof. Dr. Gehrard Kahl (gerhard.kahl@tuwien.ac.at) by September 15, 2018.