

## **EINLADUNG**

zum Vortrag  
von

**Prof. Dr. Karsten Horn**

Fritz Haber Institute of the Max Planck Society, Berlin, Germany

### **Graphene - why all the excitement about a single layer of graphite?**

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**Dienstag, 7. Juni 2011, um 17:30 Uhr**

Ort: Lise-Meitner-Hörsaal, Fakultät für Physik, Universität Wien,  
1090 Wien, Strudlhofgasse 4 / Boltzmannngasse 5, 1. Stock

*Barrierefreier Zugang: Boltzmannngasse 5, Lift, 1. Stock rechts über den Gang zum Hintereingang des Hörsaals*

**Abstract:**

Within the short time span of five years, graphene, a single layer of carbon atoms arranged in a honeycomb lattice, has risen from obscurity to worldwide attention and fame, not least as a consequence of the 2010 Nobel Prize in Physics awarded to Geim and Novoselov. This intense interest is due to graphene's unique physical properties, many of which are a consequence of its unusual electronic structure (massless "Dirac Fermion" charge carriers), requiring a description in terms of quantum electrodynamics.

Graphene ("the thinnest material conceivable") is a model system for 2-dimensional solids, and it is also interesting from a materials application perspective, since it has the potential to play an important role in technology (although this is sometimes exaggerated, at least in the popular press). It is also a boon for surface scientists, since here at last is a material that is all surface and no bulk! In the talk I will deal with the analysis of graphene's properties on the basis of experimental data from a range of surface-related techniques. Beyond a characterization of the material itself, issues such as preparation and modification of graphene films and emerging laboratory-type applications will be briefly discussed.

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**CHEMISCH-PHYSIKALISCHE GESELLSCHAFT**

c/o Universität Wien, Fakultät für Physik, 1090 Wien, Strudlhofgasse 4/Boltzmannngasse 5, Austria  
Tel.: +43-(0)1-4277/51108 - Fax: ++43-(0)1-4277 9511 - E-Mail: [Christl.Langstadlinger@univie.ac.at](mailto:Christl.Langstadlinger@univie.ac.at)  
<http://www.cpg.univie.ac.at>

Konto: Bank Austria Nr. 08644408000 - BLZ 12000 - IBAN: AT22 1100 0086 4440 8000 - BIC: BKAUATWW  
Vorsitzender 2010/11: Ao.Univ.Prof. Dr. Peter Mohn, Institut für Angewandte Physik, TU Wien