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Wissenschaftlicher Abendvortrag
(in englischer Sprache)

Dienstag, 24. Mai 2016, 18:30 Uhr

Magnus-Haus Berlin, Am Kupfergraben 7, 10117 Berlin

Prof. Emeritus Franz Himpel

Physics Dept., University of Wisconsin, Madison WI, U.S.A.

Designing New Materials for Solar Energy Conversion

Diskussionsleitung: Prof. Dr. Wolfgang Eberhardt, Wiss. Leiter Magnus-Haus Berlin

Anschließend kleine Bewirtung. Die Veranstaltung wird gefördert durch die WE-Heraeus-Stiftung.

Anmeldung:

http://www.dpg-physik.de/dpg/magnus/formulare/formular_2016-05-24/anmeldung-2016-05-24.html

Zur Person:

Prof. Franz Himpel received his PhD at the University of Munich in 1977. Subsequently he went to the US to spend the first half of his scientific career at the IBM T. J. Watson Research Center exploring semiconductor surfaces and interfaces with synchrotron radiation. In 1995 he moved to Academia at the Physics Department of the UW-Madison as full professor, where he also served as the Scientific Director of the Synchrotron Radiation Center. His scientific interests have focused on building nanostructures with atomic precision all the way down to the atomic limit. Most recently he has applied these methods to the design of new materials for solar energy conversion. Details can be found at: <http://www.physics.wisc.edu/~himpel/>

Zum Inhalt des Vortrags:

The first part of the talk will introduce the economics and technology of solar energy conversion, emphasizing photovoltaics. The second half will illustrate how spectroscopy with soft X-rays helps developing new materials and new designs for solar cells. Starting with the most general layout of a solar cell, an example will be given where its three components are combined with atomic precision into one molecular complex. Future directions will be discussed, including an experiment where the movement of photo-generated electrons through a solar cell is tracked in real time using an X-ray laser.