TECHNISCHE UNIVERSITÄT CHEMNITZ

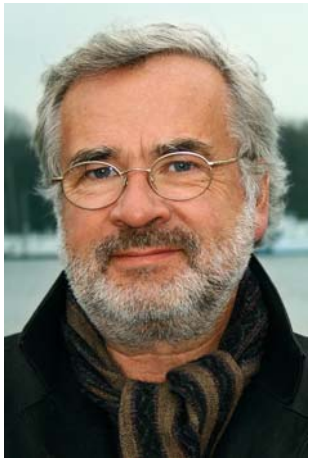
PHYSIKALISCHES KOLLOQUIUM

Mittwoch, den 13.01.2010, um **15:30 Uhr**

Ort: Reichenhainer Str. 90; Neues Hörsaalgebäude, Raum: 2/N013

Prof. Dr. Michael Grunze

Angewandte Physikalische Chemie,
Universität Heidelberg, INF 253



Chemical and Physical Cues in Marine Fouling

In this talk I will compare common features of non-fouling surfaces used in marine environments and biomedical applications. Marine fouling is a serious problem in energy conservation for shipping, water purification, and marine aquaculture. Present approaches involve toxic chemicals, and there is an urgent need to develop environmentally benign strategies for non-fouling surfaces. We find, that chemistry is highly specific to different organisms, whereas molecular conformation, surface charge and surface topography can be indiscriminate.

I discuss how chemical composition and surface topographic features in the nano-and micrometer length scale influence settlement behavior measured by *in-line* optical holography and how different design concepts for non-fouling surfaces can be combined. For Ulva Spores (common green macro algae) a minimum of settlement is observed on hydrophilic topographic structures with specific dimensions. We will discuss these results in the context of the life cycle of Ulva and a “maximum footprint hypothesis“ for cellular adhesion.

Alle Zuhörer sind ab 15:15 Uhr zum Kaffee vor dem Hörsaal eingeladen.

Informationen zum Vortrag erteilt Prof. Dr. Christian von Borczyskowski, Tel. 0371/531-33035