KOLLOQUIUM PHYSIK

Prof. Dr. Gabriele Sadowski
Technische Universität Dortmund

Thema: Stability and Bioavailability of Pharmaceutical Drugs

Ort: Hörsaalgebäude II
      Hörsaal 2

Zeit: Dienstag, den 17. April 2018
      16:30 Uhr

Im Auftrag der Dozenten
der Fakultät Physik
Der Dekan

Einladender: Prof. Dr. Frithjof Anders

Kolloquiums-Kaffee ab 16:00 Uhr
im Raum P2-E0-414
(Alle sind herzlich eingeladen)
Approximately 80% of high-impact pharmaceutical drugs with the potential to treat severe diseases never reach the market. Many of these drugs have very low water solubility and because they tend to precipitate or destabilize during storage or after administration, they cannot be used for the development of future-generation pharmaceuticals. Several approaches exist to increase the bioavailability of drugs. Most of them aim at formulating the drug in a less-stable but better-soluble modification. As pharmaceutical formulations, however, usually have to be stored between manufacturing and use, it is critical that their properties do not change during this period.

The presentation will address the thermodynamic stability of drug formulations. Particular emphasis will be placed on oral formulations, i.e. tablets. It will be shown how thermodynamic modelling today allows for reliable correlations and even predictions of conditions leading to high stability/bioavailability and thus drastically reduce the experimental effort to develop the optimal drug formulations as well as their processing.