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“Study the future!” - it's possible at the Technische Fachhochschule (TFH) Berlin, the location in central Berlin for practice-oriented teaching and applied research. There are more than 70 Bachelor and Masters courses at the University of Applied Sciences. Courses range from the classical engineering disciplines Mechanical Engineering, Industrial Engineering, to Information Technology, Pharmaceutical and Chemical Engineering, Biotechnology, Medical Technology, Food Science and Technology, Geoinformation, and much more.

The nanotechnology is applied in many different scientific fields. The University of Applied Sciences (TFH) Berlin, Department of Pharmaceutical Technology focuses on characterizations of pharmaceutical systems. Different drug delivery systems e.g. liposomes, lipid emulsions and nanoparticles were studied and their structures up to nanoscale demonstrated. The techniques e.g. small and wide angle x-ray scattering (SAXS, WAXS) and grazing incidence x-ray scattering (GISAXS) from the synchrotron source are suitable for this purpose because this source can produce a highly intense and focus x-ray. The structure of drug delivery systems with only small amount of samples can be determined. Very comprehensive information is the result. The further useful technique to determine the nanostructure is the small angle neutron scattering (SANS). Because of the opportunity to vary the contrast, different regions of the sample can be observed. A successful measurement by SANS with nanoparticles containing titanium dioxide are shown. However, these modern techniques can be performed only at the large scale facilities (synchrotron or neutron sources) e.g. Berlin Synchrotron Source (BESSY), Berlin/Germany, German Synchrotron Source (DESY), Hamburg/Germany, Hahn-Meitner-Institute (BENSC) Berlin/Germany, Heinz Maier-Leibnitz (FRM II), Munich/Germany. The experiments can be carried out at these institutes on basis of a particular permission applied for together with a respective proposal. These techniques are until now mostly used in the field of physic, biology and chemistry. The present research work shows, however, that they are also useful as complementary techniques for pharmaceutical systems.

You will find more information about research works in the field of nanotechnology at:
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