

Protein Immobilization on germanium investigated by ATR-FTIR

Date: 25.11 till 13.12.2013

Duration: 2-3 days

Number of participants: 2-3

Attenuated total reflection fourier transform infrared spectroscopy (ATR-FTIR) allows a detailed analysis of surface attached molecules, including their secondary structure, reaction mechanism, orientation and interaction with small molecules or proteins. Proteins with his-tag can be attached onto a chemically modified surface and analyzed by stimulus induced difference-spectroscopy.

On the first day we will get in touch with ATR-FTIR in general and with the FTIR-spectrometer. Furthermore, we will start preparing our germanium surface. One of the participants can bring a histidine tagged protein sample (His 8-10, if available, otherwise we can measure N-Ras). On the second day we will attach the protein on the surface and study the secondary structure, interaction, activity or/and stability. The third day is used as a backup, if something does not work properly and for the data analysis.

Day 1: theoretical background of ATR-FTIR, surface preparation

Day 2: Measurement of a His-tagged protein

Day 3: Data analysis

Contact: Jonas.Schartner@bph.rub.de