

## Characterization of anti-biofouling coatings

Biofouling is an important challenge for both, environmental and medical coatings. Marine biofouling has to cope with the unwanted settlement of different sea creatures once ships and machinery parts are exposed to sea water. The increased friction resistance caused by the settlement of barnacles, shells and algae leads to an increase in fuel consumption, as well as enormous cleaning costs of the ships. Until their ban from the market in 2003, tri-butyltin (TBT) containing paints were used to encounter the fouling problems. Although these were effective antifouling coatings, the release of the metal-organic components had serious consequences on the marine ecosystem. An environmentally benign approach are fouling-releasing coatings. Such anti-adhesive chemistries are frequently bioinspired coatings that can easily be cleaned e.g. by the water flow of a fast moving ship.

In this workshop you will get an insight into the preparation and characterization of different model surfaces like self-assembled monolayers (SAMs) or hydrogels. These coatings you will investigate regarding their protein resistance and in a settlement assay with the model organism *Navicula perminuta*. As analytical techniques we will use mainly spectral ellipsometry, water contact angle goniometry and video microscopy.