



Student (w/m) for bachelor or master thesis

Division 1.2 Biophotonics is currently seeking a student (w/m) for a bachelor or master thesis

Description:

The detection of ionic and neutral analytes that present a threat to the environment, play a role in biologically relevant processes or in material corrosion like certain metal ions or (bio)molecules can be achieved with optical methods like fluorescence. Fluorescence detection is rapid, provides a high sensitivity, and is suitable for in situ measurements and on-line monitoring. This requires typically the design of optical probes, that consist of a fluorescent reporter and a target binding site. The probe signals the interaction of the analyte with the recognition moiety by specific changes in absorption/excitation and emission, i.e., a specific spectroscopic signature.

This project involves the synthesis and spectroscopic characterization of optical probes for different analytes like pH (acidic pH range), metal ions, and thiols. The fluorescent probes will be prepared utilizing different fluorophores with emission in the visible and red spectral region, that will be synthesized, purified, and characterized with the help of different spectroscopic techniques. The probes will be then used for analyte detection in different samples / matrices.

Qualifications:

- Studies of chemistry or related subjects
- Experiences in organic synthesis are advantageous
- Experiences in the characterization of organic compounds are advantageous
- Experiences in optical spectroscopy are advantageous

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Bachelor or Master theses are not compensated.