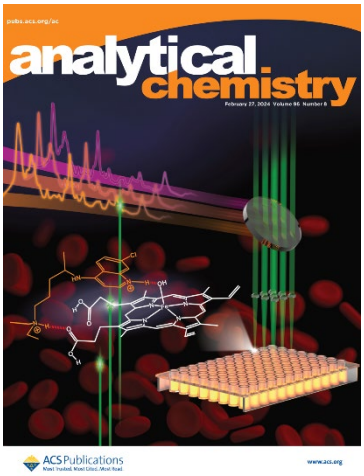
PhD Topic Molecular Spectroscopy and Biomedical Imaging

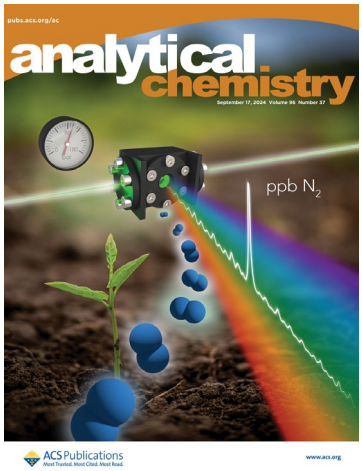
TECHNISCHE UNIVERSITÄT DARMSTADT

The Research Group Biophotonics offers a PhD Topic on Molecular Spectroscopy and Biomedical Imaging. The offered PhD project focuses on innovative Raman-spectroscopic techniques for rapid and label-free monitoring of biomolecules, such as disease biomarkers, drugs, and biogenic gases.

Biophotonics

We work at the interface between physics, chemistry, engineering and life sciences. We research novel optical spectroscopic techniques for highly relevant biomedical and life science applications. One focus is on research into signal amplification techniques for highly selective and sensitive Raman-spectroscopy. Our goals involve the monitoring of drugs in body fluids, the analysis of biomarkers in exhaled gas, and biomedical imaging to provide insights into molecular mechanisms of disease.





Your knowledge and interests:

- Knowledge in optics and analytical spectroscopy
- Experimental skills and interest in the development of novel optical setups
- Interest in Raman spectroscopy, fiber sensing, and data analysis
- Interest in interdisciplinary research
- Highly motivated
- Very good English written and spoken communication skills

We offer an attractive research environment with a very friendly and active team, excellent instrumentation, and diverse interdisciplinary cooperation opportunities.

The application is open **until February 28th, 2025**.
Further details are available here:
Or please contact Prof. Torsten Frosch,
E-Mail: application@biophotonics.tu-darmstadt.de