

Project

Fiber ATR spectroscopy: towards *in vivo* studies

This project of the Baltic-German Liaison Office is supported by the German Academic Exchange Service (DAAD) with funds from the Foreign Office of the Federal Republic Germany. <https://www.ff.vu.lt/en/ichp/research/projects>

The aim of this project is to develop strategies how fiber-based vibrational spectroscopy can be translated into intraoperative application in order to improve the diagnosis and finally the prognosis for the patients. During the project portable fiber optics spectrometer and special algorithms of statistical analysis will be used for obtaining and processing of the spectra.

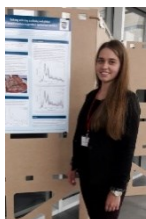
Joint Seminar of Chemical Physics and Project Meeting,

Vilnius, October 01, 2019, 12:30

NFTMC building, Saulėtekio av. 3, Seminar room B336

Program

12:30 - 13:00



Ph.d. student Rimantė Bandzevičiūtė (Vilnius University)

Detection of cancerous kidney tissue by means of ATR- and fiber ATR-FTIR spectroscopy

The presentation will give an overview on recent advances on detection of cancerous areas of biological tissues by means of infrared spectroscopy. Some ideas how to turn from the laboratory spectral measurements to clinical studies will be proposed.

13:00 - 13:30



Prof. Valdas Šablinskas (Vilnius University)

Vibrational spectroscopic studies of biological fluids by means of SERS

The presentation will be mainly based on the experimental results of SERS spectroscopic studies of cancerous tissues and blood. Some new SERS spectral markers will be proposed.

Coffee break (30 min.)

14:00-14:30



Prof. Gerald Steiner (Dresden Technical University)

Searching for FTIR spectral markers of cancerous tissues by means of unsupervised and supervised statistical methods

Analysis of various statistical methods used for searching of spectral markers of cancerous tissue areas will be presented. Comparison of applications of the methods for cancerous kidney tissues will be presented.

14:30 - 16:00

Round table discussions: **“Further perspectives of collaboration between Vilnius University and Dresden Technical University**

Moderator – prof. Gerald Steiner

16:00 **Closing remarks**

Scientists and students interested in Vibrational spectroscopy, Life- and Chemical Physics are very welcome!