

ANAT5105 Fluorescence in bioanalytical research (Fluoresenssi bioanalyttisessä tutkimuksessa)

4 ECTS Book: "Introduction to fluorescence sensing", Alexander P. Demchenko, available through Nelli-portal (UTU)
<http://www.springerlink.com/content/u56671/>

Monday 9.11 (Micro)**Tuesday 10.11 (Salus)****Wednesday 11.11 (Cal1)****Thursday 12.11 (Cal1)**

| | Monday 9.11 (Micro) | Tuesday 10.11 (Salus) | Wednesday 11.11 (Cal1) | Thursday 12.11 (Cal1) |
|--------------|---|---|--|---|
| 9-10 | | Alexander P. Demchenko: Quantitative aspects in sensing technologies. | Alexander P. Demchenko: Design and properties of fluorescence reporters. Organic dyes and fluorescent proteins | NN: Specialized instrumentation for fluorescence sensing of multiple analytes. |
| 10-11 | Alexander P. Demchenko: Introduction to fluorescence. | Juhani Soini: Analytical applications of fluorescence | Tero Soukka, Tuomas Näreoja: Properties of fluorescence reporters. Semiconductor nanocrystals and nanoparticle reporters | Pekka Hänninen: Fluorescence microscopy. |
| 11-12 | Alexander P. Demchenko: Fluorescence detection techniques | Alexander P. Demchenko: Recognition units: from small organic molecules to biopolymers and cells. | NN: Reporting based on luminescent metal complexes. | Alexander P. Demchenko: Fluorescence studies of cell membranes. |
| 12-13 | Pekka Hänninen: Fluorescence instrumentation. | Alexander P. Demchenko: Coupling recognition with fluorescence response. | Alexander P. Demchenko: Fluorescence detection of low-molecular targets. | Pekka Hänninen and Alexander P. Demchenko: Future directions in fluorescence sensing. |
| 13-14 | Alexander P. Demchenko: Fluorescence sensing techniques. | Juhani Soini: Sensing multiple analytes. | Alexander P. Demchenko: Fluorescence detection of proteins, nucleic acids and cells. | Closing discussion. Instructions for preparation of projects |
| 14-15 | Practical work: Demonstration of available spectroscopic instrumentation. Center for Biotechnology, BioCity | Practical work: Problem solving in analyte detection. | Practical work: Problem solving and general discussion. Comparison of properties of different fluorescence reporters. | |
| 15-16 | Practical work: Demonstration of available spectroscopic instrumentation. Center for Biotechnology, BioCity | | Practical work: Demonstration of available spectroscopic instrumentation, Arcanum | |