

SURFACE PLASMON RESONANCE IN LIFE SCIENCES

WHEN: 29th May – 2nd June 2017
WHERE: University of Tampere, Finland
CREDITS: 3 ECTS with a written report / 2 ECTS without report
AUDIENCE: MSc and PhD students as well as industrial participants

PRE-REQUISITES: Basic laboratory skills, background in pharmaceutics, chemistry, physical chemistry or biomaterials.

WHAT WILL YOU LEARN: Master SPR for life sciences – from affinity and kinetic constants to conformation changes, hands-on training on a pre-selected set of molecules, SPR experiment planning, assay development, understanding of the underlying physico-chemical phenomena to resolve challenges, new applications of SPR from science and industry. You will become an independent expert in SPR.

HANDS-ON TRAINING

- Antibody-antigen interactions
- And one of the following tracks based on your interests:
 - 1. small drug molecules,
 - 2. interaction of drugs with lipids,
 - 3. interaction of drugs with living cells,
 - 4. interaction on biomaterial interfaces, or
 - 5. biomolecular quantification

From experiment planning, sensor surface selection, buffers, regeneration, through assay development, sample preparation and characterization to SPR measurements, data analysis and validation.



SUPPORTING LECTURES

- SPR history and theory introduced by one of the fathers of the technology
- SPR instrument configurations
- Sensor surfaces and immobilization strategies

• Measurement disturbances and artefacts (how does it show in measurements, theoretical reasoning for the effect, strategies to mitigate the effect)

- From sensogram to affinity and kinetic constants
- From measurement to conformation change
- Validation of results (ITC, AFM, TOF-SIMS,..)
- Application highlights from research and industry

LECTURERS:

Prof. Richard O'Kennedy (Dublin City University/Biotechnology), Prof. Vesa Hytönen (University of Tampere/Protein Dynamics), Dr. Tapani Viitala (University of Helsinki/Biopharmaceuticals), Dr. Arnoud Marquart (Sanquin Blood Supply Foundation, Founder of sprpages.nl), Prof. Jouko Peltonen (Åbo akademi/Physical chemistry), Prof. Peter Mattjus (Åbo akademi/Biochemistry), As.prof. Karl Andersson (Uppsala university/Immunology, Ridgeview Instruments)

PARTICIPATION FEE:

- Academia 600 EUR (including accommodation in shared double room)
- Industry 1200 EUR (including accommodation single occupancy room)
 The fee covers: accommodation, course materials, breakfast, lunches, refreshments during the day and social program in two evenings.

SCHOLARSHIPS: BioNavis Ltd and selected graduate schools provide a limited number of scholarships to cover the participation fee.

PRE-REGISTER at http://www.biomeditech.fi/SPR_Summer_School_2017/











