



SPLIT SUMMER SCHOOL STSS2017

**COURSE: Mass Spectrometry (MS) – the Swiss Knife in Bioanalysis**

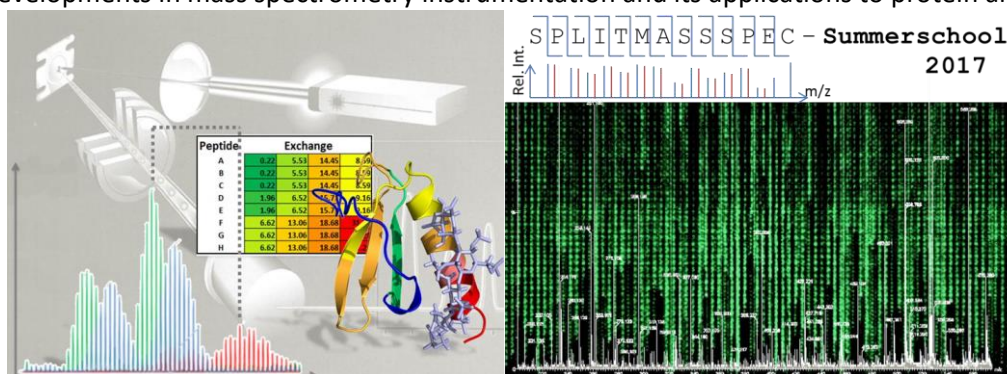
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Web page: <http://www.unist.hr/split-summer-school-2017>

Main topics:

- Basics of mass spectrometry instrumentation, ionization and fragmentation principles
- Protocols and pitfalls in experimental design, sample preparation, data acquisition analysis and quality control
- Practical Training in spectra analysis and data interpretation
- Recent developments in mass spectrometry instrumentation and its applications to protein analysis



Programme structure:

- 5-day course
- Sample data will be provided for practical work and for final presentation
- Every student gets lecture notes bound into a booklet, as well as a CD containing a digital version of the booklet

**Important dates:**

Course dates: 04/09/2017 – 08/09/2017

Deadline for application: 01/08/2017

Payment due by: 20/08/2017

Confirmation of the course: 10/08/2017

Price of the course (**bed & breakfast included**): 300 € (tax included)

**Programme plan:**

Day 1

-Ionisation techniques and mass analysers – instrumentations, advantages and drawbacks (L, 2h)

-Tandem MS and Fragmentation Reactions (L, 2h)

-Hands-on training in spectra analysis of small molecules (S, 2h)

Day 2

-Soft ionisation techniques MALDI and ESI and its application to proteins and peptides by mass spectrometry (L, 3h)

-Hands-on training in manual and database assisted peptide/protein identification and FDR estimation (S, 2h)

Day 3

-Excursion (P, 4h)

Day 4

-Recent technical improvements (Hybrid mass spectrometers, ion mobility implementation, new fragmentation techniques and its application to proteomics (L, 3h)

- How to deal with quantitative proteomics data (S, 2h)

Day 5

-Selected Applications beyond the identification and quantification of analytes (L, 2h), Students' final projects presentations (2h)

Programme lecturers:

Prof. dr. sc. Stefan Kalkhof, Ph. D.

Professor at the University of Applied Science, Coburg, Germany & Head of the Fraunhofer Unit "Protein Biomarker" Fraunhofer Institute for Cell Therapy and Immunology IZI, Leipzig, Germany

Doc. dr. sc. Stjepan Orhanovic, Ph. D.

Professor at the University of Split, Faculty of Science, Department of Chemistry, Split, Croatia.

Doc. dr. sc. Ivica Ljubenkov, Ph.D.

Professor at the University of Split, Faculty of Science, Department of Chemistry, Split, Croatia



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