

## **Petnica School of Chromatography and Mass Spectrometry – Basic level**

### Who can apply?

Bachelor, Master and PhD students as well as all the other who are interested and have no experience in chromatography and mass spectrometry and would like to get the ground knowledge in the field.

### What does the School have to offer?

Theoretical aspect will cover advanced areas of gas and liquid chromatography, and mass spectrometry. Besides theory, two thirds of the time shall be dedicated to experimental work, involving work on the instruments. Participants will have the opportunity to familiarize themselves with the instruments, their structure and basic parts. They will also learn about possibilities of the software, learn how to setup the methods and analyze the results. Familiarization with results reading will be done through practical examples by reading mass spectra and analysis of dependence between mass spectra and the structure of compounds. Special accent will be put on analysis of real samples by means of mentioned techniques.

### Which subjects will be covered?

Chromatography basics

Mass Spectrometry basics

Mass spectrometer within – ion sources, analyzers

Chromatography techniques and Mass Spectrometry in Forensics

Application of Chromatography and Mass Spectrometry in food analysis

Application of MS in chemical weapon discovery

Mycotoxins in food

Chemical derivatization

Lab: Setup of HPLC/MS method

Setup of GC/MS method

Sample preparation methods

Parabene analysis in cosmetics

Etheric oil analysis

Analysis of mycotoxins in food

Fatty acids analysis in soaps

Analysis of anthocyanin in wine

Analysis of aromatic components in fruit

Analysis of benzodiazepine

Artificial sweeteners analysis

Reading of MS Spectra

Results presentation

*\* Department of Chemistry of Petnica Science Centre reserves the right of change of the list of topics. List presented should be used as a guideline only. Some of the topics can be modified or completely excluded from the program of the School, depending on available time, participants' interests and their capabilities.*

#### How will the School be structured?

Each day will consist of a lecture, practical and theoretical experiments. Lab experiments will be organized in small groups in order to achieve full involvement of every participant in the work. At the beginning of the School each participant will be provided with the material necessary for work during the school. At the end of the school, participants shall receive electronic versions of the materials and photos from the school as well as certificate of attendance in both Serbian and English language.

Maximal number of participants is 15. In case of large number of applications, there is a possibility of organization of additional school.

#### Laboratory equipment

Laboratory for Chemistry at Petnica Science Centre is one of the best-equipped modern laboratories in the region. It is spread over more than 100 square meters and major part of the lab is general laboratory. Instruments are located in separate rooms, and there is also a separate sample preparation room as well as room with scales and separate storage area. Lab is equipped with GC/MS, HPLC/MS, AAS, FTIR, UV/Vis, Karl Fischer titrator, polarimeter, conductometer, refractometer, pH-meter, automatic titrator, melting point analyzer etc.

Petnica Science Centre is fully covered with Wi-Fi signal, has access to scientific network and is also equipped with several IT-rooms. The library equipped with scientific literature is also at participants' disposal.

Time and date

Petnica Science Centre

25<sup>th</sup> of September until 30<sup>th</sup> of September 2015

Price

250 EUR per participant

There is a possibility of financial assistance towards fees with the 50 EUR per participant

Price covers accommodation, three meals per day and transportation Valjevo – Petnica – Valjevo

Application

CV and Cover Letter to be sent to [hem@petnica.rs](mailto:hem@petnica.rs)

Application deadline: 15.06.2015

List of participants will be posted on <http://hem.petnica.rs> no later than 25.06.2015

50 EUR deposit must be paid no later than 15. 07. 2015

The rest of the amount must be paid in before the beginning of the School