



# newsletter no.4

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Faculty of Technology, University of Novi Sad, Novi Sad, Serbia

[www.tf.uns.ac.rs/CEFSERweb/CEFSERindex.html](http://www.tf.uns.ac.rs/CEFSERweb/CEFSERindex.html)

## CEFSER research

***Reinforcement of the material and human resources of the Laboratory for Chemical Contaminants in Food and the Environment at the Faculty of Technology, Novi Sad, through the FP7-REGPOT-2008-1 project CEFSEK (GA 229629) is almost fully completed and the Lab capacities have been directed towards gathering of new knowledge on the chemical pollutants in various food and environmental samples. The research agenda of the Lab is broaden and some of the latest challenges in food safety and environmental protection have been tackled, covering the topics of several national and international projects running and coordinated by the CEFSEK Project Coordinator. Through these projects new collaborations with research institutions from EU have been established, proving the attractiveness of the CEFSEK Lab. Description of the Lab material resources and the list of recent projects, developed methods and those under development are presented hereafter, and all this could be regarded as a direct indicator of successful project implementation and, in fact, a domino effect caused by CEFSEK.***

### MATERIAL RESOURCES OF CEFSEK LAB

- Ultra high performance liquid chromatography (UHPLC) with triple quadrupole mass spectrometer (MS/MS) *Thermo Scientific Accela - TSQ Vantage*,
- UHPLC with high resolution mass spectrometer with Orbitrap technology *Thermo Scientific Accela - Exactive*,
- Atomic absorption spectrometer with a graphite tube *Varian AAS240/GTA120*,
- Gas chromatograph equipped with electron capture detector *Agilent 7890*
- Gas chromatograph equipped with flame-ionization detector *DANI1000*
- Various sample prep equipment: centrifuge..., MilliQ system for ultrapure water, vacuum rotary evaporator, sample concentrator, shaker, ultrasonic bath, ...

### METHODS (developed/under development in CEFSEK Lab)

- Multicompound analysis of principal mycotoxins in crude extracts of different food commodities (flours, cereal grains, spices, green coffee) by UHPLC-MS/MS
- Multicompound analysis of selected pesticides in soil and water extracts by UHPLC-MS/MS
- Multicompound screening of food and environmental extracts by UHPLC-HRMS
- Multicompound analysis of organochlorine pesticides and pyrethroids in food and environmental matrices by GC/ECD
- Multicompound analysis of priority (EPA and 15+1 EU) polycyclic aromatic hydrocarbons in food and environmental matrices by UHPLC-APPI-MS/MS
- Analysis of perfluorinated compounds in food and environmental matrices by UHPLC-MS/MS
- Analysis of mineral oil in food and environmental matrices by GC/FID
- Analysis of heavy elements in food and environmental matrices by AAS



### RUNNING PROJECTS IN CEFSEK LAB

- *Development and application of the advanced chromatographic and spectrometric methods in the analysis of xenobiotics and their degradation pathways in biotic and abiotic matrices*, Serbian Ministry of Education and Science, No. 172050, 2011-2014.
- *Estimation of chemical safety of market basket and population dietary exposure*, Secretariat of the Vojvodina Province for Science and Technological Development, 2011-2014.
- *Inorganic and organic pollutants in urban areas*, bilateral project within Serbian-Croatian intergovernmental S&T programme, 2011-2012.
- *Polycyclic aromatic hydrocarbons and biogenic amines in smoked dry traditionally manufactured meat products from Serbia and Portugal*, Serbian-Portugal intergovernmental S&T programme, 2011-2012.
- *Development of xenobiotic-degrading bioaugmentation products (BIOXEN)*, Hungary-Serbia IPA Cross-border Co-operation programme implemented within the 2007 – 2013 European Union financial framework under the Instrument for Pre-accession Assistance (IPA), 2010-2011.
- *Comparison of various analytical and chemometric methods*, bilateral project within Serbian-Hungarian intergovernmental S&T programme, 2010-2011.
- *Heavy metals in the environment as a consequence of the anthropogenic activities*, bilateral project within Serbian-Slovenian intergovernmental S&T programme, 2010-2011.



## ANNOUNCEMENTS

### 4th CEFSEr Training Course *"Persistent organic pollutants in food and environment: Risk assessment"*, November 14-15, 2011:

It is a great pleasure for all CEFSEr team members to announce the upcoming 4th CEFSEr Training Course that will be held at the Faculty of Technology. The attendees will have a chance to learn more about the persistent organic pollutants (POPs) from the prestigious lecturer Prof. Dr. Ivan Holoubek, RECETOX - *Research Centre for Toxic Compounds in the Environment, National POPs Centre, Central and Eastern European Regional POPs Centre*, Masaryk University, Brno Czech Republic.

Prof. I. Holoubek has significant background in environmental chemistry, chemical ecotoxicology, risk analysis and environmental impact assessment, with remarkable publication records with 16 books or book chapters, 7 textbooks, over 630 scientific papers, conference contributions, research and technical reports.

He is a member of several international associations and institutions and a member of editorial boards of known international journals like *Chemosphere*, *Environmental Science and Pollution Research*, and *Fresenius Environmental Bulletin*.

In two days of course, Prof. Holoubek will give lectures on "Sources of POPs and food contamination" and "POPs levels and risks".

Additionally, the participants will be introduced with methods developed and results obtained in the Laboratory for Chemical Contaminants in Food and the Environment at the Faculty of Technology.

Similarly to previous CEFSEr courses, limited numbers of grants covering the accommodation and travel of participants from Western Balkan Countries will be available.

Program of the Course, registration forms and instruction for grant application will be available at the project web site during September 2011.



*Details from the previous CEFSEr Training Courses (from left to right): certificate award ceremony at the 3<sup>rd</sup> CEFSEr Training Course; CEFSEr team members with the 3<sup>rd</sup> CEFSEr Training Course grant holders; lecture of prof. Jana Hajslova, Institute of Chemical Technology, Prague, Czech Republic, on the 1<sup>st</sup> CEFSEr Training Course*

### CEFSER Database on chemical contaminants in food:

CEFSER Database on chemical contaminants in food (ChemContDATABASE) is planned to be formed and published at the CEFSEr web site in order to provide a survey on existing WBC and EU legislations on food chemical safety, relevant WBC and EU institutions and the list of WBC experts. The main idea behind ChemContDATABASE is to stimulate the establishment of the regional and international links in research on food safety and emerging pollutants and thus to enhance greater and active involvement of WBCs in ERA as a contribution to the ERA harmonization.

### CEFSER Reports:

Report on the 2<sup>nd</sup> CEFSEr Workshop *"Persistent organic pollutants in food and environment"*, 8-10 September 2011, will be published on the CEFSEr web site during September. To see the final program, number of attendees and contributions made in a form of oral and poster presentation, photos on the Workshop sections and social events, please visit the CEFSEr web page "NEWS" where the publication of the report will be announced.

Reports on all of the CEFSEr activities, deliverables, milestones have been available on the project web site, on the page "Work Packages" [www.tf.uns.ac.rs/CEFSERweb/packages.html](http://www.tf.uns.ac.rs/CEFSERweb/packages.html)



Recently, the questionnaire for relevant data acquisition has been published and distributed throughout the WBCs region, directly to the colleagues we have had opportunity to meet or even work jointly and also through the network of FP7 National Contact Points (NCP) in the region. If you have not been contacted by us or your national NCP regarding this Database still now, and if your field of research interest is food (chemical) safety and/or emerging pollutants and risks and you are willing to publish data on your research achievements, do not hesitate to send the completed CEFSEr questionnaire available at the CEFSEr site ([www.tf.uns.ac.rs/CEFSERweb/questionnaire.html](http://www.tf.uns.ac.rs/CEFSERweb/questionnaire.html)) with your CV to [biljana@tf.uns.ac.rs](mailto:biljana@tf.uns.ac.rs).

### FOOD CLUSTER INITIATIVE activities:

After the last-year conference in Ghent, FOOD CLUSTER Initiative of the European Commission, which member is also CEFSEr, continues activities and announces two workshops that will be held during the 9<sup>th</sup> European Week of Regions and Cities Open Days, in Brussels on October 13-14, 2011, on the following themes:

- Food Research and Food Production in the Innovation Union and Smart Specialization in the Clusters – including the Impact Analyze of the Food Cluster Initiative;

- The KBBE-Programme in the 7th Framework Programme: Experiences and Best Practise; Brainstorming

A more developed agenda will be available soon at the web site of FCI: [www.foodclusterinitiative.eu/](http://www.foodclusterinitiative.eu/).