

REPORT:

1st TwiNSol-CECs Training

"Sample preparation and targeted analysis of main group of contaminants of emerging concern in complex samples"

First TwiNSol-CECs Training was organized within TwiNSol-CECs project (101059867) as a two-day event on October 17-18, 2022 at the Faculty of Technology Novi Sad, University of Novi Sad, Serbia. The Course is organized through theoretical sessions with the aim of transferring the knowledge of researchers from the top leading research partner institution - CSIC dedicated to various aspects of CECs analysis to the TFNS team members. CSIC team members led by Dr. Marinella Farre, CSIC Project Manager, with prestigious knowledge and expertise in the field of CECs analysis, presented the latest trends related to sampling, sample preparation techniques and sample preservation, extraction of CECs from different types (liquid and solid) samples and targeted analysis of CECs belonging to different chemical classes.



Trainers from CSIC at 1st TwiNSol-CECs Training (from left to right): Dr. Marta Llorca, Dr. Marinella Farre, CSIC Project Manager, Dr. Sandra Pérez, Olga Gómez, Dr. Nicola Montemurro

The Course started with the presentation of Dr. Nicola Montemurro, entitled "Sampling protocols and measurement parameters for chemical analysis", which brought a lot of information and important details related to environmental sampling and monitoring, the reasons and importance of sample collection, environmental sampling design settings, applied environmental sampling techniques as well as sampling protocols intended for the collection of various environmental samples. The following presentation of Dr. Marta Llorca on "Introduction to sample preparation techniques, QA/QC during sampling, sample preservation" introduced the attendees to Quality Assurance (QA)/Quality Control (QC) protocols during sampling, sample preservation, and sample preparation techniques.

Next presenter, Olga Gómez gave the presentation entitled "Extraction of CEC from liquid samples" which provided an introduction to CECs, the latest knowledge about extraction techniques such as Liquid-liquid Extraction (LLE), Solid Phase Extraction (SPE), micro extraction techniques, QuEChERS, on field extraction techniques as well as validation procedure for the applied extraction method.

This theoretical session ended with a presentation entitled "Extraction of CEC from solid samples" given by Dr. Nicola Montemurro. Dr. Montemurro gave a valuable presentation on environmental analysis, analytical issues, sample pre-treatment/preparation, the purpose of sample preparation, environmental solid sample extraction, QuEChERS, and an Automated Solvent Extraction system.

On the second day, the Course started with the presentation of Dr. Sandra Pérez, entitled "Target analysis of Pharmaceutical compounds, polar compounds and transformation products". This presentation was dedicated to the occurrence of environmental pollutants such as pharmaceuticals, polar compounds and their transformation products, multiclass/multi-residue methods based on LC-MS and HRMS, their advantages and disadvantages, confirmation of positive samples by LC-MS, micro-LC analysis.

Introduction to the occurrence and characteristics of per- and poly-fluoroalkyl substances (PFASs), their global distribution, transport, ecotoxicity, relevant legislation, target analysis for legacy PFASs, problems related to the analysis of PFASs, the latest knowledge about the new generation of PFASs, as well as instrumental analysis for detection of new PFASs was delivered by Dr. Llorca, presenting "Target analysis of PFAS and emerging PFAS and other PMOCS".

In this session, Dr. Marinella Farré gave two very interesting presentations titled: 1) "Target analysis of Anthropogenic particles: Nanomaterials and microplastics" and 2) "Natural toxins". The first presentation of Dr. Farré referred to the occurrence of nanomaterials and microplastics in the environment, their types and sources, environmental risk assessment of these pollutants, analysis of nanomaterials and microplastics in different environmental

matrices, analytical methods based on advanced techniques. The second presentation of Dr. Farré disseminated knowledge about the occurrence of natural toxins (phytotoxins, mycotoxins, bacterial toxins) in surface waters, their common characteristics, sample prep techniques, instrumental analysis toxins based on LC-MS/MS or LC-HRMS.

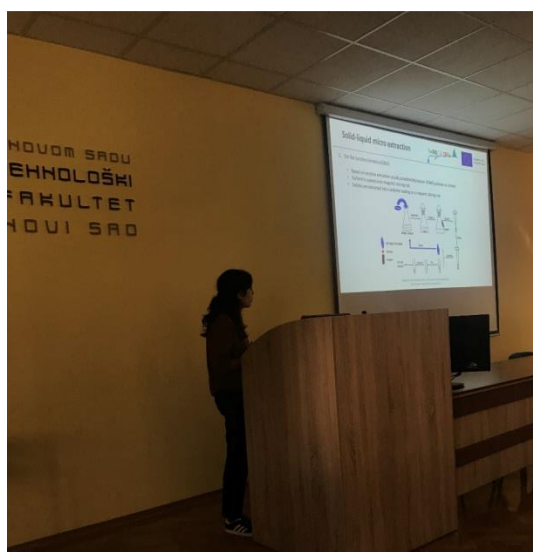
After the conclusions presented by the course participants and lecturers, the 1st TwiNSol-CECs Training was closed with a ceremony of the awards of certificates.

Apart from theoretical sessions, participants had the opportunity to get to know each other better during coffee breaks and lunches organized during this two-day event.

Twelve trainees from TFNS project team participated in the Training, verifying the participation with signatures in the Attendance list for each day of Training. All of them, as well as the trainers, were awarded certificates of participation. Training presentations were distributed to the trainees in electronic version.



Presentation of trainers by Dr. Nataša Đurišić-Mladenović



Presentation of Olga Gómez



Presentation of Dr. Sandra Pérez



Presentations of Dr. Marta Llorca



Presentation of Dr. Marinella Farré



Lunch break at the Meeting Hall at the Deanery

PROGRAM

1st TwiNSol-CECs Training

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organized within the TwiNSol-CECs project (101059867) coordinated by the Faculty of Technology, University of Novi Sad, Republic of Serbia

17-18 October 2022

17 Oct 2022		18 Oct 2022	
10.00-11:00	Sampling <i>Nicola Montemurro</i>	9.00-10:00	Target analysis of Pharmaceutical compounds polar compounds and transformation products <i>Sandra Pérez</i>
11:00-11:30	<i>Coffee break</i>	10:00-10:30	<i>Coffee break</i>
11:30-13:00	Introduction to sample preparation techniques, QA/QC during sampling, sample preservation <i>Marta Llorca</i>	10:30-12:00	Target analysis of PFAS and emerging PFAS and other PMOCS <i>Marta Llorca</i>
13:30-14:30	<i>Lunch</i>	12:00-12:30	<i>Lunch</i>
14:30-15:30	Extraction of CEC from liquid samples <i>Olga Gómez</i>	13:30-14:30	Target analysis of Anthropogenic particles: Nanomaterials and microplastics <i>Marinella Farré</i>
15:30-16:30	Extraction of CEC from solid samples <i>Nicola Montemurro</i>	14:30-15:30	Natural toxins <i>Marinella Farré</i>

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