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UNIVERSITY OF NOVI SAD
FACULTY OF
TECHNOLOGY
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NewsLetter no. 1

The 1st year of TwINSol-CECs

Dear Reader,

On behalf of the TwINSol-CECs consortium, we are delighted to announce this first TwINSol-CECs Newsletter intended to spread the word about our latest activities and achievements. With this Newsletter our consortium is celebrating the first project year and the successful implementation of the first milestones! It was a very dynamic and inspiring year of collaboration with our eminent colleagues from CSIC and UNL, led by Dr. Mari-nella Farre and Prof. Joao Crespo. Since the project started, in August 2022, we have acquired new skills and knowledge important for boosting the TFNS capacities for research on various aspects of problems related to the occurrence of contaminants of emerging concern (CECs) in the environment.



Contaminants of emerging concern in the environment: analysis, occurrence, effects and risks
Dr Jelena Živančević



The upgrade of the material resources has broadened the scope of analysis

we can perform, so we now have a unique laboratory in the Western Balkans capable of doing the so-called suspect screening analysis. Additionally, a new dead-end system for membrane separation was installed, enabling improvement of the TFNS technical abilities to conduct high-pressure driven processes such as reverse osmosis or nanofiltration of water samples. First research results have been obtained and presented jointly with colleagues from the partner institutions at several national and international events.

We have taken the opportunity on numerous occasions to promote the Horizon Europe twinning calls as a way to boost research capacities of the so-called "excellence pockets" within Europe such as TFNS in Serbia, and to advertise the TwINSol-CECs resources and TFNS as a modern center for research on the latest challenges induced by constant emission and accumulation of numerous CECs in the environment. Contacts with stakeholders have been intensified by initiating the "Club of TwINSol-CECs interest" and Advisory Board with representatives of different sectors.

Newsletter no.1 brings just a hint on diverse project activities we have conducted so far. For more details, we are inviting all the interested parties to follow us and give support to the project through social media channels and the public events we are organizing, and to contact us if there is an opportunity to collaborate and exchange research ideas!

Prof. Nataša Đurišić-Mladenović, *Project Coordinator*

Prof. Biljana Pajin, *Project Manager and Leader of the Work Package on Dissemination*

Prof. Zita Šereš, *Project Manager*

Dr. Nikola Maravić, *Project Communication Coordinator*



TwINSol-CECs Summer School on Analytical Microtechniques for Determination of CECs in the Environment





is the three-year Horizon Europe project coordinated by the University of Novi Sad, Faculty Technology Novi Sad (TFNS), with two EU top-class research institutions as partners, Institute of Environmental Assessment and Water Research of the Spanish National Research Council (CSIC), Barcelona, Spain, and the Nova University of Lisbon, NOVA School of Science and Technology (UNL), Lisbon, Portugal. As the Western Balkan Twinning project, the general goal of TwINSol-CECs is to raise the TFNS scientific and innovation excellence in various aspects of research on Contaminants of Emerging Concern (CECs) integrated into broader EU networks of excellence, contributing to national and regional scientific and economic growth and well-being and to the harmonization of advanced research and innovation efforts important for the overall faster and sustainable transition of whole Europe foreseen by European Green Deal (EGD) towards zero-pollution, toxic free environment.



The gathering of the TwINSol-CECs team members for the Kick-off meeting, TFNS, Novi Sad, Serbia, Oct 19, 2022

At the beginning of the project, the 1st TwINSol-CECs workshop entitled “Advance multicomponent analyses and novel solutions for protection of environmental resources with contaminants of emerging concern in focus” was organized (October 20-21, 2022). Workshop gathered 58 participants from 19 institutions from 7 countries (Hungary, Spain, Portugal, UK, Croatia, Bosnia and Herzegovina, and Serbia). Its opening ceremony was jointly organized with the 2nd ICAPP Conference of TFNS, with more than 200 attendees, who heard about TwINSol-CECs and its importance for TFNS as the largest project in the last ten years in the welcome speeches of Prof. Biljana Pajin, TFNS Dean, and Prof. Zita Šereš, TFNS Vice-Dean for Science, which was followed by the plenary lectures of our eminent colleagues from the TwINSol-CECs partner institutions, Dr. Marinella Farre and Prof. Joao Crespo.

Two PhD students at TFNS, Jelena Šurlan and Dušan Rakić, are included in the project research, dealing with different aspects of problems of environmental occurrence of CECs. They presented some of their work at the 10th Memorial Scientific Meeting on Environmental Protection „Doc. Dr. Milena Dalmacija“, Mar 30-31, 2023, and Jelena won the award for the best oral presentation.



Jelena Šurlan with the award for best oral presentation, Novi Sad, Serbia, March 2023



New equipment was purchased and successfully installed at TFNS, including METCell device for dead-end filtration and Pyrola 2000 pyrolyzer, an upgrade for GC/MS. Additionally, “Thermo Scientific™ Compound Discoverer™” software was procured for the needs of broadening the range of UHPLC-HRMS towards the wide-range screening of CECs.

A joint meeting of different stakeholders entitled "Club of TwiNSol-CECs of Interest" was held at TFNS with the aim of transferring information on the project results and the latest knowledge gained with the partner institutions to potential direct and indirect beneficiaries, such as representatives of water management bodies, public utility companies, industry, secondary schools, citizens, media. The 'Club' is created as a sustainable platform for academia, industry, and citizens, that goes beyond TwiNSol-CECs, strengthening the connection of TFNS to business actors and society for transforming research results into social and economic value.



Meeting of the TwiNSol-CECs team with stakeholders for initialization of the "Club of TwiNSol-CECs interest" platform, at TFNS, Apr 27, 2023

Presentation of the project research to the scientific community in the first 15 months of the project was achieved through scientific papers, posters and oral presentations at well-established international and regional conferences:

- 9th Symposium „Chemistry and Environmental Protection“, Kladovo, Serbia, 4-7 June 2023
- International Conference on Chemistry and the Environment – ICCE 2023, Venice, Italy, 11-15 June 2023
- Short Symposium "Indoor contaminants", Zagreb, Croatia, 8 September 2023
- 26th Congress of SCTM (Society of Chemists and Technologists of Macedonia), Ohrid, North Macedonia, 20-23 September 2023

Within the project, the 1st TwiNSol-CECs Summer School on the topic "Analytical Methodologies for Determination of CECs in the Environment" was organized at the TFNS for 14 participants from West Balkan region.



Participants of the 1st TwiNSol-CECs Summer School with project coordinator, Prof. Nataša Đurišić-Mladenović, after the certificates award ceremony

On several occasions the TwiNSol-CEC project and steps to prepare the project proposal in line with the Horizon Europe call on twinning projects were presented by the Project Coordinator in order to share the knowledge and experience to researchers interested to take a part in the HE and other competitive programme for research funding. For instance, there were two trainings organized by European Training Academy, EUTA, from Belgrade, where path to the TwiNSol-CECs success was presented online to the trainees from different Serbian research institutions interested in twinning call.



Training on research data management and Open Science, TFNS, 17 and 21 February 2023

A series of lectures on researchers' soft skills has been started, including on data management, Open Science, communication skills, etc.

Among several project publications, TwiNSol-CECs researchers have published one review article in a full Open Access journal:

Vasić V, Kukić D, Šćiban M, Đurišić-Mladenović N, Velić N, Pajin B, Crespo J, Farre M, Šerež Z. Lignocellulose-Based Biosorbents for the Removal of Contaminants of Emerging Concern (CECs) from Water: A Review. *Water*. 2023; 15(10):1853. <https://doi.org/10.3390/w15101853>

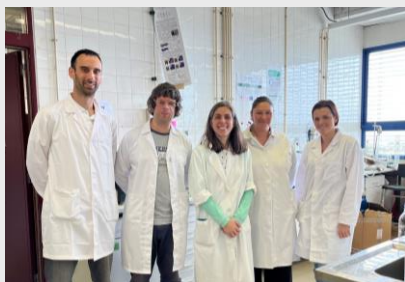
The full project bibliography is available at the project website: <https://twinsol-cecs.com/index.php/9-twinsol/48-bibliography>

The 1st year of TwINSol-CECs

Since the beginning of the TwINSol-CECs project, five onsite trainings were organized, including three at TFNS, one at UNL, Lisbon, and one at CSIC, Barcelona. Two researchers from TFNS visited NOVA University in Lisbon for 1-month long study visit, so-called Short-Term Scientific Exchanges (STSEs); more STSEs are agreed and soon will be conducted.

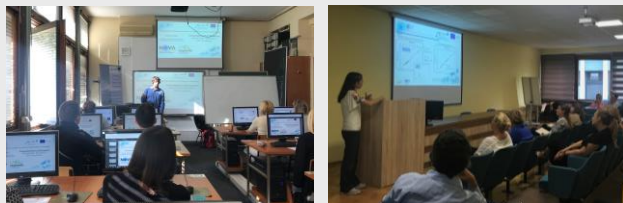


Dr. Jelena Živančev and Dr. Igor Antić with colleagues from partner institution IDAEA-CSIC during the onsite training, Barcelona, Spain, November 2022



Dr. Nikola Maravić and Jelena Šurlan, PhD student, with colleagues from partner institution UNL during STSEs, Lisbon, Portugal, June 2023

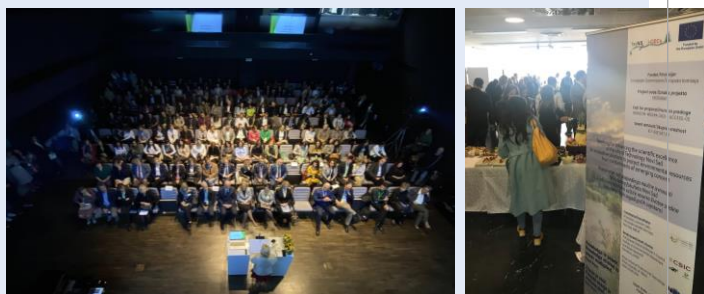
Senior and early-stage researchers from UNL and CSIC, have visited TFNS and participated in working meetings and training sessions, sharing knowledge and experience gained in the prestigious international projects and collaboration. In this way, international networking of TFNS has been intensified, being closer to main EU research streams.



5th TwINSol-CECs Training "Computational methods as a support for membrane-based separation technologies", TFNS, September 2023

At several occasions, TwINSol-CECs has been presented to students, pointing out the problems and challenges that need to be identified and solved within the framework of environmental protection and raising awareness of the presence of various pollutants.

Additionally, the project was presented to consortia of other twinning projects in order to explore synergies and possible future collaboration within the EU funds. Special session of the 1st TwINSol-CECs Workshop promoted the ongoing twinning projects coordinated by the Serbian institutions, dealing with the various latest environmental challenges.



Details from the 1st TwINSol-CECs Workshop, TFNS, Novi Sad, 20-21 October 2022

During this session 6 twinning projects were presented: TwINSol-CECs and Horizon Europe call for Twinning Western Balkans were presented by Prof. Nataša Đurišić-Mladenović, followed by invited lectures of coordinators of ExtremeClimTwin (GA 952384), Prof. Biljana Basarin, TwinSubDyn (GA 101059546), Prof. Snežana Maletić, PFASTwin (GA 101059534), Prof. Vladimir Beškoski, SmartWaterTwin (GA 101060110), Prof. Đurđa Kerkez, and CROPPINO (GA 101079772), Dr. Dragana Miladinović. This session was a perfect opportunity to detect complementarities and possible synergies among the research interests, capacities, and achievements of the presented twinning teams.

Following this initial introduction of the twinning projects, TwINSol-CECs representatives have been invited to present the project at the events organized within PFASTwin, CROPPINO, and GREENELIT (GA 951747). Moreover, possible research actions with TwinSubDyn have been discussed, as well as the joint presentation to public with TwinSubDyn and SmartWaterTwin, which was agreed and scheduled for December 2023.



www.twinsol-cecs.com
twinsol-cecs@uns.ac.rs

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