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LIFE16ENV/IT/000488 - LIFE PHOENIX

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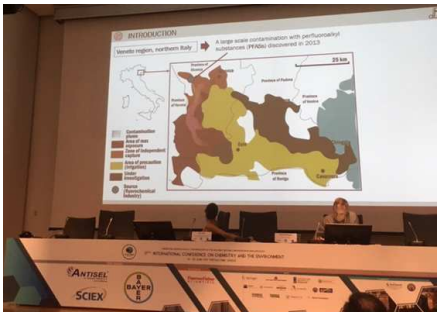

The LIFE PHOENIX Project receives attention at the 17th International Conference on Chemistry and the Environment (ICCE)

The LIFE PHOENIX Project was presented at the 17th International Conference on Chemistry and the Environment (ICCE 2019), important biennal event hosted this year in Thessaloniki (Greece) from June 16 to 20, that attracts scientists and environmental chemistry experts coming from the world of academia, industry sector, research institutes and public institutions.

Introduced in two different moments during the sessions dedicated to the "*Risk Assessment of emerging pollutants: experimental and modeling approaches to fill the data gaps*", the project details (including the preliminary results of the specific work presented) were illustrated by Roberto Lava from ARPAV and by Andrea Gredelj, PhD student at the University of Padua (DiBio Biology Department, DII Industrial Engineering Department), both LIFE PHOENIX partner institutions.

Two, in particular, the proposed contributions: a poster entitled "*A novel holistic approach to the governance of environmental pollution events from PMOC*", aimed at illustrating the generic objectives and operational actions of the project, and a conference speech titled "*Uptake and translocation of perfluoroalkyl acids (PFAAs) in red chicory grown under varying contamination conditions: a greenhouse study*", which highlighted the first results of the tests of perfluoro-alkyl substances in red chicory plants grown in greenhouses under controlled conditions.

Organised by the Divisions of Chemistry and the Environment of the European Chemical Society, with the local contribution of the Association of Greek Chemists, the 2019 edition of ICCE have seen the presence of almost 600 participants from 70 different countries around the world. The event was also an important moment of networking and discussion, in particular with other ongoing projects involving emerging contaminants and environmental & health risk assessment issues.

Full convergence between the LIFE PHOENIX Project and the new European approach to drinking-water safety

The project data warehouse played a prominent role at the presentation event of the Veneto Region's first Water Safety Plan (WSP), on June 21st

The first Veneto Water Safety Plan was presented on June 21 at the prestigious Palazzo Franchetti in Venice, full of attendants. The Water Safety Plans (WSPs) are an innovative tool to proactively guarantee the salubrity of the water supplied by the aqueduct complex to the consumers, through a structured approach of evaluation and preventive management of all the current risks along the entire drinking-water supply system (from water supply sources, to the treatment facility, up to the distribution system).

This is an epochal cultural change for the guarantee system of drinking-water safety, which requires a strong presence of institutions in order to be supported and directed. The LIFE PHOENIX project acts synergistically with this process, as highlighted in its presentation by Francesca Russo, Director of the Regional Prevention, Food Safety & Veterinary Department of the Veneto Region. As part of this project, a data warehouse is being developed that will contain, among other things, information on potential polluting sources, drinking-water supply chain (and its catchment area) and water quality data.

Conceived as a sort of "virtual container", the data warehouse of the LIFE PHOENIX Project will make effectively interact with each other the data already available (even if currently in a fragmented way) coming from the various institutions involved, and will be integrated by a forecasting model able to estimate the movement of contaminants inside the groundwater. This tool is extremely useful for the Managing Authorities and the Control Units in order to enable a complete risk assessment of the entire drinking-water supply chain.

The event of June 21, an important moment of sharing, was organized by Viveracqua (Managing Authorities consortium of the Integrated Water Services of the Veneto region) in collaboration with the Veneto Region and with the participation of the Italy's Higher Institute of Health, the ULSS Units involved, ARPAV and the Brenta Basin Council. All the participating institutions (primarily the Managing Authorities, but also ARPAV and ULSS units) will be involved from now on in the preparation of the WSPs of all the other aqueduct networks of the regional territory.

LIFE PHOENIX Project brochures have been distributed to over one hundred participants at the event.

Recommended by the World Health Organization, the WSP tool has been introduced into European legislation with Directive (EU) 2015/1787, implemented in Italy by Decree of the Minister of Health of 14 June 2017. The adoption of WSPs is mandatory by 2025 in the whole national territory. The Veneto Region, struck by the PFAS emergency in 2013, was one of the first Italian regions to have started, in collaboration with the Italy's Higher Institute of Health, the test of this new approach, through the preparation of the WSP for the Lonigo aqueduct complex, which serves over 100,000 inhabitants in 26 municipalities inside the provinces of Vicenza, Verona and Padua.

A summary of the project results presented at the 29th SETAC Europe Annual Meeting

Several foreign universities and research facilities interested in the LIFE PHOENIX Project

The *Messukeskus Expo and Convention Centre* in Helsinki (Finland) hosted the SETAC (*Society of Environmental Toxicology and Chemistry*) Europe 29th Annual Meeting, held on May 26-30. At the event, entitled "*One Environment. One Health. Sustainable Societies*", attended Sara Valsecchi (IRSA-CNR), Claudia Ferrario, research fellow at IRSA-CNR, and Andrea Gredelj, PhD student at the University of Padua (DiBio Biology Department, DII Industrial Engineering Department), all as LIFE PHOENIX project partners.

Many conference contributions discussed the topic of fluorotelomeric precursors and, in addition, several informative materials have been disseminated, including a LIFE PHOENIX poster aimed at illustrating some of the emerged results within the project. In particular, the experiment conducted on radicchio plants was showed, which attracted the interest of some researchers affiliated to foreign institutes (notably the universities of Antwerp and Amsterdam). Therefore, informative project material was distributed, giving the opportunity for interested parties to subscribe to the mailing list in order to receive related updates.

The working program was also a fruitful occasion for a discussion between the project representatives and prof. Fang Wang of the *Chinese Academy of Sciences in Beijing* (China), who proposed to establish a collaboration between her research group and IRSA-CNR within the CNR-CAS bilateral project framework. The proposal's goal, that will be evaluated, is the application of PFAS emergency management methodologies in China.

Regarding the conference speeches, a mention goes to the presentation of Theresa Lopez, environmental consultant at *Tetra Tech Inc. - Center for Ecological Sciences* (USA), which presented the advantages of an integrated assessment based on the "One Health" approach, citing as an example the application of this methodology to the management of environmental problems arising from PFAS spreading. These compounds were also the main topic discussed in a dedicated session called *"State of the Science on Emerging and Novel Poly- and Perfluoroalkyl Substances (PFASs)"*.

For more information about the content of all the contributions presented at the conference, see the *abstract book* available on the website helsinki.setac.org

Article concerning the bioaccumulation of pollutants on duckweed proposed for publication in the *Science of the Total Environment* journal

The study "*Evaluation of morpho-physiological traits and plant accumulation ability in Lemna minor L. treated with different perfluorooctanoic acid (PFOA) concentrations*" has been submitted for publication in one of the next issues of the journal *Science of the Total Environment*.

The paper presents the results of the experimental test dedicated to the study of bioaccumulation and phytosanitary effects induced on the duckweed by the compound PFOA. The research is the result of the collaboration between IRSA-CNR and the Research Institute for Terrestrial Ecosystems (IRET), activity described in the LIFE PHOENIX Project Progress Report (section 5.4) of February 2019.

Science of the Total Environment is an international multi-disciplinary journal for publication of original research on the total environment, which includes the atmosphere, hydrosphere, biosphere, lithosphere, and anthroposphere.



Sampling of environmental matrices: the second year of activity at the project sites started in April

The second year of the sampling activity within the LIFE PHOENIX Project has begun on April 2019. This process, which includes the gathering of samples of different matrices (water matrix, earth matrix, plant matrix, animal matrix) at the ten sampling points identified within the project area, will end in March 2020. 1 sample of water, 4 samples of soil, 4 samples of vegetable spices (corn, radicchio, onion and natural cane reeds) and 1 sample of terrestrial animal species will be taken at each sampling point.

The sample analysis, designed by IRSA-CNR and ARPAV, are aimed at quantifying the concentrations of PFAS found in the environment. In addition, for the animal matrix (earthworms are used as bio-indicators), the stress levels produced by PFAS concentrations on the internal organs are observed. The sampling frequencies vary according to the matrix: the range goes from a higher sampling frequency, for water (monthly or bi-monthly, depending on whether it is irrigation or non-irrigation season), to a four-monthly frequency,for both earth and animal matrices, up to a variable survey on vegetables, which are sampled according to the seasons and the cultivation processes.

The LIFE PHOENIX Project presentation brochure has been published!

On the occasion of the LIFE PHOENIX presentation at the 21 June event dedicated to the Veneto Region's first Water Safety Plan (WSP), the institutional brochure of the project was published, describing in a direct and effective way the guiding principles, the innovative aspects, the expected results and the work methods that will accompany the project actions during the various implementation phases. Created in a bi-fold half-A4 format, the publication has been printed in numerous copies in order to be accurately disseminated, in particular on public occasions (meetings, events, meetings, conferences, seminars, etc.) where the LIFE PHOENIX activities , partner institutions and project representatives will be involved. The brochure digital pdf version, together with the additional information materials developed, the project activities updates, the presentations and the technical reference documentation, will be available soon on the dedicated website - lifephoenix.eu - online from the month of August.