

Home > News List > 70 participants from 26 EU countries attended the NEREUS COST Action Meeting in Luxembourg

70 PARTICIPANTS FROM 26 EU COUNTRIES ATTENDED THE NEREUS COST ACTION MEETING IN LUXEMBOURG

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On October 29-30, 2015, LIST organised a workshop related to wastewater treatment in partnership with Cyprus university.

Current treatment technologies employed in water reuse projects are limited in completely removing micropollutants, pathogens and antibiotic-resistant bacteria and their genes (ARB&Gs). The risk from these emerging issues in water reuse is not completely understood. For countries where water is scarce, these are important issues often limiting the implementation of water reuse projects. For Luxembourg, the removal of micropollutants and ARB&Gs are also important issues, both for the country itself, because of the future impact on the water price due to the need of installing advanced water treatment processes, and externally, because we want to be a good steward to other EU countries, who receive our river water. Furthermore, public reactions about perceived or real risks associated with the import and export within Europe of produce irrigated with reclaimed water should also be considered.

On the 29th and 30th of October, 70 representatives of the NEREUS COST Action (ES1403), from 26 EU countries plus Ukraine, Australia and Hong Kong came to the Luxembourg Institute for Science and Technology (LIST) to discuss these issues. This is one of the biggest COST Actions ever, including 30 participating COST countries and representatives from the United States (through US EPA and universities), Australia, Singapore, South Korea, Ukraine, Georgia, Jordan, and Tunisia.

Among the scientists coming to Luxembourg, is the NEREUS COST Action leader from Cyprus, Assoc. Prof. Dr. D. Fatta-Kassinos, a highly respected researcher on the subject. According to her, closing the urban water cycle is nowadays of significant importance and urban wastewater should be seen as a resource and not as a waste stream. Reuse of urban wastewater is a practice already taking place in various arid and semi-arid regions around the world and also in Europe, for example for agricultural irrigation or urban landscape irrigation. In addition, there is also indirect water reuse (in most cases unplanned), a term that refers to the production of potable water from rivers that act as receivers of treated wastewater; a widespread practice taking place in Europe and many other countries. Hence, it is time to look into the knowledge gaps, which relate to emerging issues such as the release of micropollutants and antimicrobial resistant bacteria and genes in the environment through discharges and reuse practices.

Dr. Jaroslav Slobodnik, Chairman of the NORMAN Association, pointed out that "it is vitally important to develop risk assessment methods across Europe so that the risks associated with emerging pollutants and antibiotic resistance can be properly assessed and mitigated".

Prof. Dr. Tong Zhang, an invited expert at the event from the University of Hong Kong illustrated that the next generation gene sequencing in environmental samples is a powerful tool to explore antibiotic resistance in bacteria in the environment and find smart solutions to solve this problem.

To illustrate one of the issues, in his presentation entitled: "Is it safe to irrigate with recycled wastewater?" Prof. Dr. Benny Chefetz from the Hebrew University has presented his work showing that under certain conditions active pharmaceutical compounds originated from reused water have the potential to accumulate in irrigated products.

Finally, Dr. Carlo Duprel from the Fonds National de la Recherche (FNR) who, sponsored the meeting, states that: "We feel it is important to welcome researchers of this caliber to Luxembourg so that our own research community can develop the links and knowledge they need to perform high level research".

One of the major outcomes of the meeting was the decision to focus the activities of the COST Action on the reuse of water for agriculture and groundwater recharge, in line with the current efforts of the EU to come to a unified approach for member states.