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02-04 October 2019 in Montpellier, France

International REUSE MUSE Workshop: Agricultural Water Reuse - how to address health and environmental challenges?

Water-reuse context

According to the International Water Management Institute (IWMI), by 2025, 1.8 billion people will live in countries or regions with "absolute water scarcity", meaning a water availability of less than 100 m³/capita/year. Preserving water resources becomes a priority as stated by the United Nations Development Programme (UNDP) in SDG6, in the sense of saving volumes and reducing pollution loads in surface and ground water. The population growth will put more and more pressure on the food production, which a large part is irrigated. Urbanization and the growth of urban demand for water and food will also increase these pressures.



In this context, the use of reclaimed water for irrigation purposes appears to be a relevant solution to (1) reduce pollution and preserve sensitive environments, (2) facilitate farmers' access to a water resource of predictable volume for irrigation and (3) enhance the value of wastewater through nutrient recycling for agriculture, in a circular economy approach. However, such practices can raise sanitary issues with the possible introduction into the agro-ecosystems of chemical and biological contaminants (pathogens, micro-pollutants, antibiotic resistant bacteria and genes, etc.) that must be controlled.

Objectives

The MUSE workshop on "Agricultural Water Reuse» will be an opportunity to bring together a wide range of interdisciplinary experts and stakeholders involved in Water reuse to address the actual scientific and technological challenges.

One objective is the setting up of an international scientific network on REUSE issues in collaboration between public organizations and private companies.

For this 1st edition, the program will focus on:

- Environmental and health risk research results and experiences.
- The future of water reuse in Europe given the new European regulations.
- The organization of a research school dedicated to PhD students.

Organizing Committee

- Nassim Ait-Mouheb (IRSTEA-GEAU) : nassim.ait-mouheb@irstea.fr
- Serge Chiron (IRD HSM) : serge.chiron@umontpellier.fr
- Jérôme Harmand (INRA -LBE): jerome.harmand@inra.fr
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- Nathalie Wery (INRA -LBE): nathalie.wery@inra.fr

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Water Reuse MUSE Seminar Program (preliminary)

Wednesday 02-October 2019

I . PhD training (9:00-12:00)

Location: Agropolis International Montpellier

Researcher speakers: Akiça BAHRI, Miquel SALGOT, Ed TOPP, Giuseppe CIRELLI

- PhD student exchanges with 4 experts for 25 minutes with 6 doctoral students.
- 10 min presentation of the subject / 15 min exchanges
- Short brief of thesis topic and list of questions will be sent to the committees before

Or

II . PRESTI laboratory visit (9:30-11:30) - registration required

Location: IRSTEA Montpellier

11:45-12:00: Welcome and inscription

12:00-13:30: Lunch in Agropolis

III. Public Seminar (13:30-18:00)

Location: Agropolis International Montpellier

13:30-13:40 : Presentation and introduction of Muse Water Reuse Workshop

13:40-15:40 : Treatments technologies and applications

(30 min per speaker: 20 min presentation of activities and issues related to water reuse, impact issues and Reuse regulations + 10 min questions)

- Miquel SALGOT (Univ. Barcelona, Spain)
- Eva THORIN (MDH, Sweden)
- Valentina LAZAROVA (Water Globe Consultants, France)
- Harald HORN (KIT, Germany), Water reuse and fouling

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15:40-16:00 : Coffee break

16:00-16:30 : **Treatments technologies and applications**

- Alfieri POLLICE (IRSA, Italy)

16:30-18:00 : **Agriculture Water Reuse issues**

- Akiça BAHRI (INAT, Tunisia)
- Francisco Pedredo SALCEDO (CSIC, Spain), Integrated Water Management in Agriculture: Reclamation and Reuse
- Giuseppe CIRELLI (UNICT, Italy)

Thursday 03-October 2019

I. Public Seminar (9:00-16:20)

Location: Agropolis International Montpellier

8:45-9:00: Welcome and inscription

9:00-10:30 : **Transfer of contaminants to agrosystems**

(30 min per speaker: 20 min presentation of activities and issues related to Water reuse and impact issues + 10 min questions)

- Amit GROSS (Ben-Gurion University of the Negev, Israel)
- Eran FRIEDLER (Technion, Israel)
- Rosina GIRONES (Univ of Barcelona, Spain)

10:30-10:45: Coffee break and Business company poster

10:45-12:15: Transfer of contaminants to agrosystems

- Sandra Perez SOLSONA (IDAEA – CSIC, Spain)
- Peter SCHRÖDER (COMI, Germany)
- Ed TOPP (Agriculture and Agri-Food, Canada)

12:15-13:30: Lunch in Agropolis



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13:30-14:30: Business company Points

Poster Format + Short presentations 10 min

14:30-15:30: Social & Economic Perspectives

- Pierre Louis MAYAUX (GEAU, France)
- Francesc HERNÁNDEZ (University of Valencia, Spain)

15:30-16:00: Muse Water Reuse community activities

16:00-16:20: Coffee break and Business company poster

**II. 16:20-18:00 : Visit to REUSE Murviel Lès MONTPELLIER platform-
Registration required**

Friday 04-October 2019

9:00-16:00: Restricted attendance meeting (Invited experts and organizing committee)

Location: Hôtel Mercure Montpellier Centre Antigone

The day program will focus on:

I. “Reflexion on the future of the Reuse in Europe? Response to the new European directive”

- Presentation by Bernd Manfred GAWLIK (EU Joint Research Centre (JRC), Italy)
- Round tables about:
 - Health issue and risk assessment arguments
 - Agriculture practices and technological solutions
 - Regulation and economical aspects

13:00-14:00: Lunch in Hôtel Mercure Montpellier

- Discussions about the idea of writing an opinion paper

II. Construction of the workshop continuation (summer school, COST action network)



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