Short-term Training for technical staff and scientists

Wastewater disinfection and removal of organic microcontaminants using low-cost solar open photo-reactors

Location: Spain – UAL

Date: September 6-7, 2022 in person

Target group: The course is designed for engineers, researchers and representatives from European Water industry and companies who want to be trained on wastewater treatment by solar advanced oxidation processes.

Objective: This course focuses on solar advanced oxidation processes in low-cost photoreactors for wastewater reclamation. The training consists of both theoretical and practical modules.

Trainers: Scientists from UAL

The training will include visits, procedures, standards and best practices theoretical and experimental 'hands-on' experience and cover the following topics:

- Fenton and photo-Fenton chemistry
- Wastewater characterization and treatment objectives
- Description and operation of open photoreactors for photo-Fenton (raceway pond reactors)
- Analysis of microcontaminants
- Microbial characterization

Agenda

First day

09:00 - 09:15	**Arrival-Registration and delivery of documentation**		**15 min**
09:15 – 10:00	**Introduction and Goals:** **General introduction to solar advanced oxidation processes in low-cost photoreactors for wastewater reclamation**	**José A. Sánchez**	**45 min**
10:00–11:00	**Visit to the outdoor and indoor facilities of the Solar Energy Research Center, CIESOL, at the University of Almería**	**Natalia Pichel**	**60 min**
11:00- 11:15	**Coffee break**		**15 min**
11:15- 12:15	**Wastewater characterization and treatment objectives**	**Paula Soriano**	**60 min**
12:15- 13:15	**Fenton and photo-Fenton chemistry**	**José A. Sánchez**	**60 min**
13:15 – 14:30	**Lunch**		**75 min**
14:30-16:30	***Laboratory practice*** **Conducting a solar photo-Fenton experiment. Design, experimental, sample analysis, results and discussion**	**Elisabeth Gualda/ Solaima Belachqer/Daniel Rodríguez**	**120 min**
16:30	**End of meeting**		

Agenda

Second day

09:00 - 09:15	**Arrival- welcome coffee**		**15 min**
09:15 – 11:00	**Analysis of microcontaminants**	**Ana Agüera**	**105 min**
11:00- 11:15	**Coffee break**		**15 min**
11:15- 12:15	**Description and operation of open photoreactors for photo-Fenton (raceway pond reactors)**	**Paula Soriano**	**60 min**
12:15- 13:15	**Microbial characterization**	**Natalia Pichel**	**60 min**
13:15 – 14:30	**Lunch**		**75 min**
14:30-16:30	***Laboratory practice*** **Analysis of microcontaminants, target and non-target contaminants.**	**Patricia Plaza**	**120 min**
16:30	**End of meeting**		

MEETING PLACE & ACCOMMODATION

Training place	**Solar Energy Research Center, CIESOL, at the University of Almería**
Address Training Location:	**University of Almería, Ctra. de Sacramento s/n, 04120, Almería, SPAIN**
How to get to the Training place from the airport	**Taxi**
Restaurant place	**Restaurants of the Almería University campus.**
Accommodation	**Hotel in Almeria downtown. Hotel contact and special rates will be provided to participants.**
Contacts for the Training	**Dr. José Antonio Sánchez Pérez (jsanchez@ual.es)**