i seminari del dottorato

dottorato di ricerca in ambiente, design e innovazione
dottorato di ricerca in scienze e ingegneria per l'ambiente e la sostenibilità

Modern technologies for hydrogen production and wastewater treatment

Sebastian Borowski

Associate Professor
Department of Environmental Biotechnology
Lodz University of Technology

17.01.2023 | 14:00-18:00

19.01.2023 | 14:00-18:00

Piattaforma Microsoft Teams

14.00 **Presentazione**
Antonio Panico
Dipartimento di Ingegneria
Università degli Studi della Campania "Luigi Vanvitelli"

14.10 **Modern technologies for hydrogen production and wastewater treatment**
Sebastian Borowski
Department of Environmental Biotechnology
Lodz University of Technology

17.30 **Discussione e conclusioni**

The seminar is composed of two parts.
The first part is focused on hydrogen, its properties, "colors" classification and methods of generation. The production of hydrogen from waste and wastewater will be described and discussed, including the processes of biophotolysis, photofermentation, dark fermentation and anaerobic digestion. This latter will be studied for the combined biohydrogen and biomethane production.
The second part is focused on the application of microalgae and cyanobacteria for the treatment of wastewater and the liquid effluents derived from anaerobic digesters treating organic waste. The problem referred to disposal and/or valorization of liquid digestate will be addressed. Finally, modern technologies of nitrogen removal from wastewaters and liquid wastes will be discussed with the following biological processes: Sharon-Anammox, Canon, Oland and Deaox.

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Dipartimento di Ingegneria

Dipartimento di Scienze e Tecnologie Ambientali Biologiche e Farmaceutiche