



Invitation to the Webinar:

### **Future scenarios of biorefinery and waste treatment, from energy production to bioproduct synthesis: life cycle assessment as a decision-making tool**

held by

***Isabella Pecorini, PhD***

*Assistant professor in Sanitary Environmental engineering at the Department of Energy, Systems, Territory and Constructions Engineering at University of Pisa. She is an environmental engineer with a doctoral thesis entitled "Landfill gas emissions monitoring systems for optimization of energy recovery" discussed in 2010. Her main research topics concern the valorisation of organic fraction of municipal solid waste according to the bioeconomy approach as well as the reduction of impacts due to gaseous emissions from landfills. Currently she is project manager of several projects regarding Microbial Oxidation Systems to reduce GHGs and Biohydrogen production from biowaste. She is a member of International Waste Working Group (Waste Biorefinery and Landfill Gas Emission and Mitigation task). She teaches "Waste Management and Remediation of Contaminated Sites" at the Master of Science in Civil Infrastructure and Environmental Engineering of Pisa.*

**Monday 14th April and Wednesday 16th April from 10:30 am to 12:30 pm**

at DESTEC – <https://teams.microsoft.com/l/team/19%3AnxXjL4lacQfNhWHafY0001Dp6k6CqvnsTaiXK9dMAo1%40thread.tacv2/conversations?groupId=2bcd2df0-4393-4030-8f35-d94dc9c56d6f&tenantId=c7456b31-a220-47f5-be52-473828670aa1>

*The transition from a linear economy to a circular economy is currently one of the biggest challenges in the field of organic municipal solid waste management.*

*In this seminar, the management of organic municipal solid waste is studied from the perspective of the circular economy in order "to close the loop" and minimise greenhouse gases. A central issue concerns the study of Anaerobic digestion process and biorefinery technologies.*

#### **Agenda**

##### DAY 1 Background information

- Background information on life cycle assessment
- Waste types, quantity and composition
- Comparison of possible treatment options: bioenergy and bioproducts

##### DAY 2 LCA case study

- Mass flow and Energy budget analysis
- Wet, semi dry and dry anaerobic digestion technology
- Discussion of the estimates
- LCA case study