

ICB PhD public presentations

LIFE CYCLE ASSESSMENT AND OPTIMIZATION OF CARBON DIOXIDE MITIGATION AND REMOVAL TECHNOLOGIES

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ETH Hönggerberg, HCI D 2 and on Zoom:

<https://ethz.zoom.us/j/67606421469>

Project Summary: The Paris Agreement represents a critical milestone in global efforts to combat climate change. However, the level of greenhouse gas emissions still remains at a record high, even after the unprecedented decline in emissions in recent years due to the COVID-19 pandemic. This underlines the urgent need to accelerate emissions mitigation efforts and, at the same time, emphasizes the importance of emissions removal. In this framework, carbon capture and storage has emerged as an effective solution for tackling anthropogenic emissions.

In this talk, I will first motivate the need for the deployment of carbon capture technologies and their combination with other practices to achieve net negative emissions. I will then focus on relevant applications of these technologies, highlighting potential obstacles to their large-scale deployment via economic and life cycle assessment analyses. I will finally present regionalized optimization frameworks of negative emissions technologies.

CV. Valentina holds a BSc in Chemical and Materials Engineering from the University of Padova (2017) and an MSc in Process Engineering from ETH Zürich (2019). She then joined the group of Prof. Dr. Guillén-Gosálbez at the Institute of Chemical and Bioengineering at ETH Zürich in 2019 as a PhD student.