Carbon capture and re-use: technological and other challenges

In the current environmental context, it is urgent to reduce the CO2 emissions associated to our human activities. To meet the commitments of the Paris Agreements, technologies for capturing, storing and using CO2 are present in all energy scenarios and are becoming more and more essential. During this conference, a state of the art regarding CO2 capture and re-use technologies will be presented and the distinction between CCS and CCU will be highlighted. Technological choices will be discussed based on quantitative terms, also covering some insight in Direct Air Capture of CO2 (DAC). The technical, economic and further challenges that these technologies set to our societies will be addressed. In particular, the use of CO2 in an energy system ensuring the circularity of carbon will be presented, in line with the research conducted at the University of Liège in the framework of the FRITCO2T Platform focusing on innovative technologies for CO2 transformation.