

# **Study of light gases adsorption and separation from strategically designed and tailored nanoporous materials**

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Intense scientific effort have been devoted the past few years for CO<sub>2</sub> capture and separation from its mixtures. The influence of water though, has been underestimated when present as in the case of flue gas mixture.

In this talk recent results will be presented, considering not only the efficiency of some materials to capture CO<sub>2</sub>, but their performance, as well, at the presence of water traces. Specific functional groups have been tested for this, via both structural modification of existing materials and as a high-throughput computational screening of an in home created database.