



Physics Department seminar
DIPARTIMENTO DI FISICA, VIA CELORIA 16, MILANO

Aula Consiglio in presence and streaming

<https://fisica-unimi.zoom.us/j/93954990772?pwd=RFhzRTh1STJYTXZyanVldWYweVkwZz09>

10 Febbraio 2022– 11:00

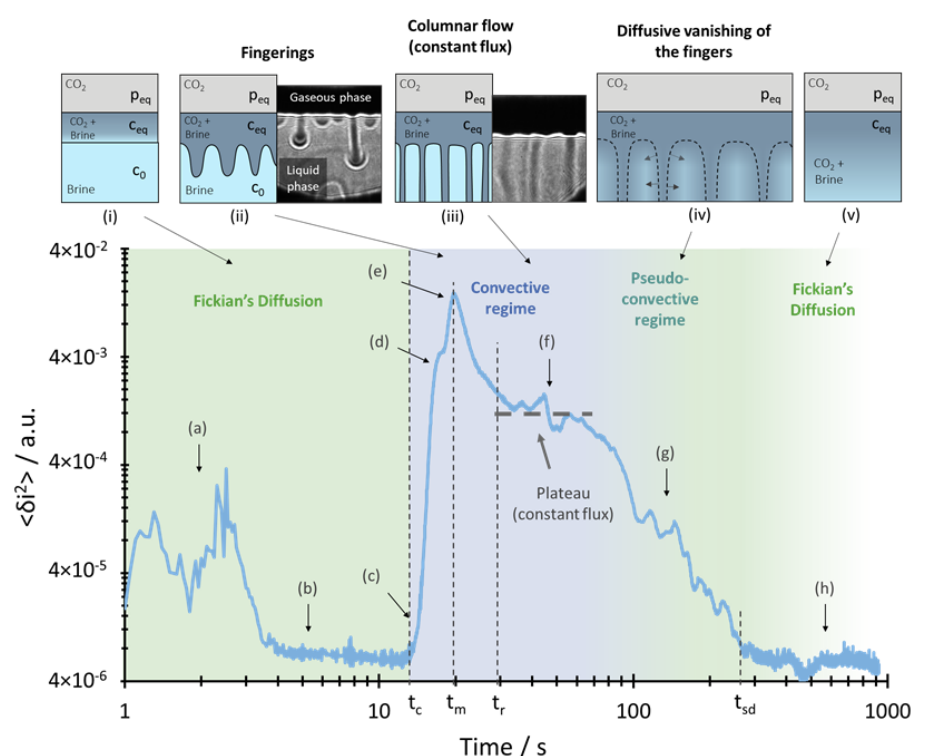
FABRIZIO CROCCOLO

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CO₂ Enhanced Storage – CO₂ES An industrial Chair about CO₂ Storage

The average temperature of the Earth is raising, as detected by global temperature monitoring and increasing catastrophic weather phenomena worldwide. As the 2021 Nobel prize Manabe demonstrated back in 1967, that is mainly due to the increasing concentration of carbon dioxide in the atmosphere, therefore reducing CO₂ concentration is one of the main tasks of humankind to keep the temperature rise below a reasonable level. The main scenarios suggested for limiting the emissions of CO₂, include capturing the latter at the major production sites, transporting, utilizing and sequestering it in different forms. The CO₂ES Industrial Chair is devoted to the investigation of the chemo-physical processes that happen when the CO₂ is injected in deep saline aquifers, with the aim of increasing the efficiency and security of future large projects of CO₂ storage.

CO₂ES involves experimental activities by optical methods to study the convective dissolution of CO₂ over brine. This has been tested in the free medium, where scaling laws have been tested in 3D and process relevant conditions. In the future, experiments will be performed in model transparent porous medium by shadowgraphy and in real rock systems by means of X-ray tomography. In parallel, different numerical approaches are used to model the laboratory experiments with the aim of predicting the behaviour of CO₂ at the basin scale.



Students are cordially invited – Contact silvia.leoni@mi.infn.it