

Project Number	1
Name/title of the PhD course	PhD in Earth Science
Name/Title of the PhD project	<i>Quantitative assessment of offshore hydrogen storage: a screening workflow to assess depleted reservoir offshore dataset</i>
Recruiting organisation and Department/Faculty of reference	<i>Dipartimento di Scienze della Terra dell Ambiente e delle Risorse (DiSTAR): a department with more than 70 research and lecturer staff members which is characterized by wide spectrum research structure spanning from Solid earth, Applied geophysics, geoengineering. Subsurface geology, Volcanology, to Structural and Sedimentology groups.</i>
Scientific context and Objectives	Using subsurface data from industry, public data, and existing literature the project aims to produce a quantitative assessment of the depleted reservoir storage efficiency for Hydrogen storage. The aim is to propose a workflow approach to define a best practice for for categorizing different groups, or “classes,” of depositional environments as having potential for Hydrogen storage. Geographically the project will focus to explore, quantify and select hydrogen storage capacity in porous rocks across Italy and north Sea.
Expected Results	Site screening and selection Characterization for Geologic hydrogen Storage Projects Provides guidelines for locating and developing a geologic storage project from the initial stages of regional exploration at the basin scale.
Secondment opportunities	ENI (Reservoir Units, up to 5 months) to collect data; REP (Subsurface Unit, 2 month to collect subsurface data; CSCI, J.Alcade (5 months, M21-26,); R1 will also join the EU H2020 HyUsPRe team at UEDIN to contribute to their site characterisation and screening task and develop and tests their screening workflow.
Brief CV of main Supervisor	David Iacopini is currently associate professor of marine and subsurface geology at the University of Naples after a long experience as researcher lecturer and associate professor in Aberdeen University. He is currently responsible of two funded research projects on the theme of hydrogen storage , coordinator of the SHINE and in his career managed to further rise more than 3M Euro on topics spanning from deep water structure , imaging of subsurface structure, pre salt exploration (BG,Shell) , basin analysis including IODP projects. After a PhD and initial career focused on shear zones structure analysis and basement tectonic in area including Sardinia and the Himalayan belts his expertise shifted and spanned from deep water structure geology, interpretation of seismic data, image processing of seismic data and marine geology. He has currently project on the equatorial margin of Brazil, characterization of the Messinian deposits on the offshore Lebanon and reconstruction of the basin tectonic using data from offshore Tanzania. He did supervise more than 7 PhD students and ten’s of Master student and actually coordinate both the undergraduate and post graduate studies at the DiSTAR department in Naples.
Publications	<p>1-Cunningham, J, Weibull, W., Cardozo, N, Iacopini,David (2021). Investigating the PS seismic imaging of faults using seismic modelling and data from the Snøhvit field, Barents Sea-. PETROLEUM GEOSCIENCE, ISSN: 1354-0793, doi: 10.1144/petgeo2020-044</p> <p>2-Cunningham J., Cardozo N., Townsend C., IACOPINI, David, Waerum G. O. (2019). Fault deformation, seismic amplitude and unsupervised fault facies analysis: Snøhvit Field, Barents Sea. JOURNAL OF STRUCTURAL GEOLOGY, vol. 118, p. 165-180, ISSN: 0191-8141, doi: 10.1016/j.jsg.2018.10.010</p> <p>3- Maestrelli D., Iacopini D., Jihad A. A., Bond C. E., Bonini M. (2017). Seismic and structural characterization of fluid escape pipes using 3D and partial stack seismic from the Loyal Field (Scotland, UK): A multiphase and repeated intrusive mechanism. MARINE AND PETROLEUM GEOLOGY, vol. 88, p. 489-510, ISSN</p>
Projects participation	<p>1- Exploration of salt cavern for subsurface storage -PON.ENI project. PI D.Iacopini</p> <p>2- Hyenergy; Industry Funded project.2022-2023 ENI (PI Giovannelli)</p> <p>3- PNNR-NEST-Storage spoke. David Iacopini 2023-2025</p>