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| Organisation name and website: Agencia Estatal Consejo Superior de Investigaciones Científicas (CSIC), https://www.csic.es/es | |
| General Description | CSIC is Spain's largest public research institution and ranks third among Europe's largest research organizations. CSIC has more than 10.000 employees, including nearly 4.000 staff researchers, and 120 Institutes. CSIC is a major player in the development of the European research area and therefore a significant contributor to the European integration process. CSIC has participated in 266 Marie Curie projects, in 7FP and in more than 200 Marie Curie projects in H2020. The host institute is the Mediterranean Institute for Advanced Studies (IMEDEA-CSIC-UIB), a Research Centre of Excellence María de Maeztu, which is a Spanish distinction that recognises its scientific leadership and impact at a global level. |
| Scientific group of reference | Dr. Victor Vilarrasa: expert in process understanding of induced seismicity and caprock integrity assessment in CO ₂ storage. He is grantee of an ERC Starting Grant on reducing the risks of geo-energies and PI of the MSCA-IF ARMISTICE on combining CO ₂ storage with geothermal energy. He is currently supervising 5 postdocs, 7 PhD students and 1 MSc student, whose research focuses on induced seismicity, subsurface characterization techniques and coupled processes in geo-energy. Dr. Juan Alcalde: Geophysicist, Ramón y Cajal tenure fellow. Expertise in site selection, characterisation and risk assessment of geological sites for CO ₂ and underground hydrogen storage. Currently supervising 1 postdoc, 1 PhD student and 1 MSc student, whose research focus on site characterisation and analogue modelling of geological storage sites and mineral exploration for the Energy Transition. |
| Key Research Facilities, Infrastructure and Equipment | CSIC counts with high-performance computers (a cluster with 8 nodes with 16 processors per node; and two servers with 16 processors each) for performing numerical simulations and laboratory equipment for hydrochemical testing under high pressure and temperature and laboratories to analyse the geochemical composition of water samples. |
| Involvement in Research and Training Programmes | 1. GEoREST, ERC-2018-StG from the European Research Council under grant agreement no.: 801809 2. ARMISTICE, MSCA-IF under grant agreement no.: 882733 3. MAGIG WP, EJP-EURAD, under grant agreement no.: 847593 4. MUSTANG, FP7, under grant agreement no.: 227286 5. PANACEA, FP7, under grant agreement no.: 282900 |
| Publications/datasets/softwares/ Innovation Products/ other achievements | 1. Vilarrasa, V. and Carrera, J. (2015). Geologic carbon storage is unlikely to trigger large earthquakes and reactivate faults through which CO ₂ could leak. Proceedings of the National Academy of Sciences, 112(19): 5938-5943. 2. Vilarrasa, V. and Rutqvist, J. (2017). Thermal effects on geologic carbon storage. Earth Science Reviews, 165: 245-256. 3. Vilarrasa, V., Carrera, J. and Olivella, S. (2013). Hydromechanical characterization of CO ₂ injection sites. International Journal of Greenhouse Gas Control, 19: 665-677. 4. Parisio, F., Vilarrasa, V., Wang, W., Kolditz, O. and Nagel, T., 2019. The risks of long-term re-injection in supercritical geothermal systems. Nature Communications, 10(1), 4391. 5. Vilarrasa, V., De Simone, S., Carrera, J. and Villaseñor, A., 2021. Unravelling the causes of the seismicity induced by underground gas storage at Castor, Spain. Geophysical Research Letters, 48, e2020GL092038. |