

March 31, 2025

Report on Exchange Period

I hereby report my visit to Professor Lance Manuel laboratory as a visiting scholar in the Fariborz Maseeh Department of Civil, Architectural and Environmental Engineering at The University of Texas at Austin, United States, from 11/11/2024 to 12/11/2024. My visit was supported by the UT | Portugal Program and the research involved a collaboration between research group of Professor Lance Manuel and research group of Professor José Correia. The research conducted during this exchange period focused on the SuRe3-OW-GH2 project (Sustainable Repair, Remanufacture and Reuse of Oil & Gas Platforms as Offshore Wind Green Hydrogen Hubs). The UT | Portugal Program arranged and paid for my housing at AVE Austin North Lamar located at 7400 N Lamar Blvd, Austin, TX and for the round-trip economy airfare between Portugal and Austin, Texas.

My experience at UT Austin was enriching in both science and cultural point of view. It was a very good experience to work closely with Professor Lance Manuel and his team in MUSE Lab (Mechanics, Uncertainty and Simulation in Engineering), specially Kyungjung Cha and Chi-Wei Niu. Research activities developed during my visit to UT Austin were based on tasks of the SuRe3-OW-GH2 project which include metocean climate modelling, feasibility assessment of offshore structures and retrofitting strategies.

An investigation was conducted on offshore hydrogen production projects ongoing in different locations (The Netherlands, Belgium, among others). Scientific research on seawater electrolysis using floating platforms was also investigated. Furthermore, the challenges and opportunities for repurposing offshore oil and gas infrastructures for clean energy in the Gulf of Mexico were summarized. Working closely with Professor Lance Manuel and his team was fruitful for the progress of the project and it also gave me several contributes for my research career, namely changing expertise on metocean climate modelling and structural feasibility assessment. It also contributed significantly to improve my soft skills as for example by practicing English speaking and by interacting with people with different cultures

Sincerely,
Bruno Alexandre Silva Pedrosa
Postdoctoral Researcher at FEUP

In the next page I present a set of me while in Austin.

