2023 Master internship at University of Malta

Renewable energy & sustainability

LAB & PEOPLE

- Name of the hosting lab: Institute for Sustainable Energy
- General activities of the lab: analysis studies on the use of energy, determination of feasible measures to conserve energy, applications of renewable sources of energy, originating and participating in teaching and research projects, collaborating with other universities, industries, and international bodies
- Website: https://www.um.edu.mt/ise/
- Number of staff / PhD: ~15
- Supervisor name and contact: Luciano Mule'Stagno, luciano.mule-stagno@um.edu.mt

TOPIC OF THE INTERNSHIP

- Scientific context of the internship (max 20 lines)

  Keywords: Offshore solar, photovoltaic

  Bibliography:

  Full list of publications - here.

1. R. Bugeja, L. Mule' Stagno, L. Dexarcis, "An Offshore Solar Irradiance Calculator (OSIC) Applied to Photovoltaic Tracking Systems", Energies 2023, https://doi.org/10.3390/en16093735

2. A. Bernardini et al., "Ground Source Heat Pump Systems Applied To Historical Buildings To Improve Their Energy Efficiency", Proceedings of the World Geothermal Congress, Beijing, China, April 2023

5. R. Bugeja, L. Mule'Stagno, N. Branche, "The effect of wave response motion on the insolation oon offshore photovoltaic installations", Solar Energy Advances, 1 (2021)100008

6. Book Chapter - Renewable Energy from the Oceans, Ch6, Marine Solar Energy, Luciano Mule'Stagno, The Institute of Engineering and Technology (IET), 2019.

10. Grech M., Mule Stagno L., Aquilina M., Cadamuro M., Witzke U., "Floating PV installation in Maltese sea waters" , 32nd European Solar and Photovoltaic Conference, Munich, 2016, pp.1964-1968

11. M. Aquilina, Prof. L. Mule` Stagno, Ing. M. Grech and Prof. Ing. T.Sant, “Determining the Optimum Shape and Size for an Offshore Floating Photovoltaic System” OSES 2016, Malta 2016

- Tasks and duties entrusted to the student:
  Possibilities:
  a. materials research related to floating structures
  b. fouling studies related to floating issues
  c. wave, wind and sea depth studies to determine best potential locations for Solaqua
  d. Ansys Aqwa modeling - further modeling - for example testing impact of different size waves on larger (8m side) rafts.

- Skills to be acquired or developed:
  depending on field above - thorough understanding of area of research

  We are open to proposals - students who have an interest in the area of floating solar could propose some work/study/research related to it - which we have not thought of.

PROFILE OF THE DESIRED STUDENT

- Minimum level of study required: BSc/MSc/PhD

- Field(s) of study: Engineering/Marine Engineering/Architecture/Science

- Scientific skills:
some of the above require specific knowledge of software packages - others a background in a specific area (eg. fouling at sea)

- Language skills required: Fluency in written and spoken English

THE INTERNSHIP ASSIGNMENT:

Desired duration of the internship (in months): minimum 3 months - but open to longer terms (6m, 1 year)

Desired Starting date of the mission: March 2024 - flexible

Indicative weekly schedule: 35h / week

Remuneration*:* Not included

Erasmus grant accepted, application should be made by student at local sending institution.
Internship agreement: *an internship agreement will be signed.*

To SEA-EU students:

If you're interested please send your CV and letter of motivation to the scientist in charge, prof. Luciano Mule'Stagno luciano.mule-stagno@um.edu.mt, before the date 31/ 12/ 2023.