LCP4 -; High Voltage Dynamic Power Cables for Floating Energy Systems
Universidade de São Paulo

Job Title	LCP4 -; High Voltage Dynamic Power Cables for Floating Energy Systems
Department	Departamento de Engenharia Naval https://ppgen.poli.usp.br/
Institution	Universidade de São Paulo São Paulo, , Brazil
Date Posted	Apr. 16, 2025
Application Deadline	May 9, 2025
Position Start Date	Jun. 1, 2025
Job Categories	Post-Doc
Academic Field(s)	Mechanical Engineering
Job Website	https://www.linkedin.com/company/otic-offshore-technology-innovation-center/
Apply By Email	otic.jobs@usp.br

Job Description

Mechanical behavior of dielectric materials used in high voltage submarine cables under dynamic loading.

High voltage dynamic cables used for power transmission in offshore environments are currently limited to 66kV. This project will conduct a systematic study on dielectric materials used in the construction of submarine cables, with the aim of evaluating their use in the design of dynamic cables with nominal capacity above 66kV.

In this first phase, lasting 24 months, emphasis will be given on studying the mechanical properties of three dielectric materials, assessing their sensitivity to temperature, aging and, especially, to the cyclic

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loads that are imposed by floating units under the action of waves and sea currents.

Experimental and theoretical approaches will be used. A simplified structural model for a dynamic high-voltage cable will be developed, capable of evaluating the fatigue life of these materials in representative oceanic scenarios.

Requirements for the candidate

Solid background in Engineering, with a PhD or DSc in Mechanical / Materials Engineering or related areas.

Expected skills and background:

- ability to collect and critically analyze the state of the art related to the project needs;
- organizational, planning and communication skills - oral and written, in Portuguese and English;
- adaptability to the project needs, with a strong appreciation for teamwork;
- background on physical and chemical properties of polymeric materials and their applications to structures s
- knowledge of experimental characterization of mechanical properties of dielectric materials, with understand
- skills in modeling structures and knowledge of structural mechanics, preferably applied to offshore structure
- background on finite element computational tools;
- background on programming languages, preferably Python; knowledge of object orientation is desirable.

REQUIRED DOCUMENTS FOR APPLICATION

- Single-page presentation letter. Introduce yourself and share your motivations for applying for this position.
- Brief curriculum vitae with academic and professional experience, highlighting the skills that will contribute to this position.

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- Recommendation letters (optional). One or two recommendation letters will help support your application.

Contact Information

Please reference Academickeys in your cover letter when applying for or inquiring about this job announcement.

Contact	Offshore Technology Innovation Centre - OTIC Departamento De Engenharia Naval Universidade De São Paulo Av. Professor Mello Moraes, 2231 São Paulo 05508-030 Brazil
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