Lead institution:
University of São Paulo - Escola Politécnica
Dept. of Mechanical Engineering
Av. Professor Mello Moraes, 2231
Cidade Universitária, São Paulo – SP

Supervisor name: Prof. Thiago Lopes	**Department:** Mechanical Engineering
Recipient: https://sites.usp.br/rcgi/opportunities/ **Ref: 24PhD295 – Direct PhD Scholarship** **Deadline for submission: August 19th, 2024**	**Type:** Full time, Direct PhD **Number of months:** 24 months **Intended beginning date:** Between August/September, 2024

Project title: (Portuguese and English)

Doutoramento em Células a Combustível SOFC a Etanol Direto

Doctoral Fellow in Direct Ethanol Solid Oxide Fuel Cell

Research theme area: **(Portuguese and English)**

Células a Combustível de óxido sólido; Novas células a combustível.

Solid Oxide Fuel Cells; Novel Structures; Novel fuel cells.

Abstract (Portuguese and English)

O candidato irá trabalhar com professores da USP e do Imperial College no projeto SPEC-FAPESP sob título "Da ciência fundamental a aplicada: novas fronteiras em tecnologias de células a combustível" do FAPESP-Shell Centro de Pesquisa para a Inovação de Gases de Efeito Estufa da POLI-USP na Universidade de São Paulo. Resumo do programa e os projetos podem ser encontrados no site da RCGI (https://sites.usp.br/rcgi/).
O candidato terá a oportunidade de concorrer a desenvolver um período de até um ano de estudos sanduíche no Imperial College com o Prof. Nigel Brandon.

Coupling the experimental development of novel Fuel Cell devices with advanced CFD computational modeling is a powerful approach for innovation and scientific development, paving the way for practical Fuel Cell devices and a deeper understanding of the physical and chemical phenomena underlying them. This opportunity falls within a SPEC-FAPESP project research framework by the development of novel SOFCs with a focus on vehicle applications.
The candidate will collaborate with researchers from projects of the FAPESP-Shell Research Centre for Gas Innovation of POLI-USP at the University of São Paulo. A summary of the program and projects can be found at the RCGI website (https://sites.usp.br/rcgi/).

Description (Portuguese and English)

O estudante irá trabalhar no desenvolvimento de técnicas experimentais para caracterização de células a combustível, tanto associadas ao transporte de massa como ao transporte de carga e de calor. O estudante também trabalhará com a validação experimental de modelos numéricos de células a combustível com pesquisadores responsáveis pela frente de modelagem numérica do

projeto.
O candidato terá a oportunidade de concorrer a desenvolver um período de até um ano de estudos sanduíche no Imperial College com o Prof. Nigel Brandon.

The student will work on the development of experimental techniques for the characterization of fuel cells, both associated with mass transport as well as charge and heat transport. The student will also work with the experimental validation of fuel cell numerical models with researchers responsible for the project's numerical modeling front.
The candidate will have the opportunity to apply for a period of up to one year of sandwich studies at Imperial College with Prof. Nigel Brandon.

Requirements to fill the position. (Ex: specific experience, minimum or maximum years after concluding the course) (Portuguese and English)

Este projeto é adequado para um candidato altamente motivado e requer habilidades experimentais de caracterização de reatores eletroquímicos, e conhecimento sobre células a combustível.
- O candidato deve ser graduado em Engenharias ou áreas afins e ter experiência com reatores eletroquímicos.

This project is suitable for a highly individual and requires knowledge of experimental techniques for the characterization of electrochemical reactors and knowledge of fuel cells.

- The candidate should hold a bachelor's degree in Engineering, or related areas and experience with electrochemical reactors.

Funding Notes: This Direct PhD scholarship is funded by FAPESP. The scholarship will cover a standard maintenance stipend per month of for PhD**:** (DD I - R$ 5.520,00), (DD II - R$ 5.520,00), (DD III - R$ 6.810,00), (DD IV - R$ 6.810,00).

Work place: Escola Politécnica-Poli USP (PME-PNV-PMR deptos)

Documents/Information to be Sent:
Ref: 24PhD295

1) Access the link https://sites.usp.br/rcgi/opportunities/
2) Find the Position **Ref: 24PhD295**
3) Click on Application to apply

Deadline: August 19th, 2024

In case you have any question, please write to rcgi.opportunities@usp.br