Lead institution: Instituto de Pesquisas Energéticas e Nucleares **Work Address of the position: Avenida Lineu Prestes, 2242** **Cidade Universitária** **São Paulo - SP**	
Supervisor name: Ivan Korkischko	**Department: CCCH**
Co-supervisor (if any): Fábio Coral Fonseca	**Department: CCCH/IPEN**
Recipient: www.rcgi.poli.usp.br/opportunities **Reference 17MSc014** http://www.rcgi.poli.usp.br/application-form-rcgi/	**Type: MSc** **Period: 03/2018 to 02/2020** **Number of months: 24**

Project title: (Portuguese and English)

Modelagem computacional de uma célula a combustível tipo PEM

Computational modelling of a PEM fuel cell

Research theme area: (Portuguese and English)

Células a Combustível / Otimização de Canais de Fluxo / Imageamento de Oxigênio;

Fuel Cells / Flow Field Optimization / Oxygen Imaging

Abstract (Portuguese and English)

O objetivo da presente posição de mestrado é treinar um indivíduo altamente qualificado na área de fenômenos de transporte em células a combustível através de modelagem e simulação de fenômenos físico-químicos que ocorrem em células a combustivel, provendo dados de entrada para a construção e operação de células a combustível otimizadas.

The aim of the present master position is to train a highly skilled individual in the area of transport phenomena in fuel cells by the modelling and simulation of physical/chemical phenomena occurring in fuel cells providing inputs for the construction and operation of optimized fuel cells.

Description

The present master position is for a highly skilled individual willing to develop research and innovation for the sustainable use of hydrogen, natural gas and biogas towards the abatement of CO2 in a global scale. Specifically, the workplan of the present position is devoted to advancing fuel cell sciences by cutting edge numerical simulation techniques based on computational fluid dynamics. A self-motivated and interested individual will be selected for this scholarship. The present position would suite a student with a suitable engineering and/or physical-chemistry sciences background, who is familiar with computational methods and numerical simulations. The present position aims to create the conditions for the selected candidate to obtain a high-level master dissertation, and to lead the individual to be highly skilled in research and scientific writing. Being successful, these outcomes would lead the master student to suitably reach the next step in the professional career, independently if in industry of academia.

Requirements to fill the position. (Ex: specific experience, etc)

A self-motivated and interested individual will be selected for this scholarship. The present position would suit a student with physical-chemistry and/or engineering sciences and/or Physics and/or Mathematics background, who is familiar with computational fluid dynamics and numerical methods. Programming skills will be beneficial alongside excellent communication.