

Lead institution: Instituto de Pesquisas Energéticas e Nucleares Work Address of the position: Avenida Lineu Prestes, 2242 Cidade Universitária São Paulo - SP	
Supervisor name: Thiago Lopes	Department: CCCH
Co-supervisor (if any): Fábio Coral Fonseca	Department: CCCH/IPEN
Recipient: www.usp.poli.rcgi.br/opportunities 17MSc015 http://www.rcgi.poli.usp.br/application-form-rcgi/	Type: SMSc Period: 03/2018 to 02/2020 Number of months: 24
Project title: (Portuguese and English) “Luminescência como Ferramenta para Elucidar os Fenômenos de Transporte em Células a Combustível.” “Luminescence as a Tool to Elucidate Transport Phenomena in Fuel Cells.”	
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) “Esta <u>bolsa de mestrado</u> tem como objetivo o desenvolvimento uma nova técnica de imageamento de oxigênio que permitirá estudar de forma aprofundada os processos de transporte de massa em células a combustível dentro de uma importante parceria entre o IPEN e o Núcleo de Dinâmica dos Fluidos da POLI-USP.” “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 development of a unique oxygen imaging technique towards “drilling down” mass transport in fuel cells, within an important collaboration between IPEN and the modelling group NDF of the POLI-USP.”	
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 CO ₂ in a global scale. Specifically, the workplan of the present position is devoted to advancing fuel cell sciences by an emerging cutting edge experimental fuel cell analysis technique based on luminescence. 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, minimum or maximum years after concluding the course) A self-motivated and interested individual will be selected for this scholarship. The present position would suite a student with a suitable physical-chemistry and/or engineering sciences background, who is familiar with luminescence and materials science.	