

**Lead institution: Instituto de Pesquisas Energéticas e Nucleares**

Work Address of the position: Avenida Lineu Prestes, 2242

Cidade Universitária

São Paulo - SP

---

**Supervisor: Thiago Lopes**

**Department: CCCH**

Phone: +55 (11) 3133-9373

e-mail: tlopeschem@gmail.com

**Application deadline: 14/6/2019**

**Co-supervisor: Almir Oliveira Neto**

**Department: CCCH**

Phone: +55 (11) 3133 9284

e-mail: aolivei@ipen.br

---

**Recipient:** opportunities.m2pcine@gmail.com

**Type:** Master (MSc)

**Period:** Fixed, 24 months

**Number of months:** 24

**Project title: (Portuguese and English) – FAPESP 2017/11937-4**

“Conversão Seletiva de Metano a Produtos por uma Rota Eletroquímica/Química”

“Selective Conversion of Methane to Products through an Electrochemical/Chemical Route”

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

Sistemas Eletroquímicos de Interconversão entre Energias; síntese de nanocatalisadores; métodos eletroquímicos.

Electrochemical Systems for Energy Interconversion; synthesis of nanocatalysts, electrochemical methods.

---

**Abstract (Portuguese and English)**

“O presente projeto de mestrado terá como foco a síntese de nanocatalisadores baseados em estruturas tridimensionais de carbono, em elucidar os sítios ativos destes nanomateriais, bem como os mecanismos da(s) reação(ões) eletroquímicas de conversão de metano a produtos sobre os eletrocatalisadores sintetizados.”“The proposed Master project will focus on the synthesis of nanocatalysts based on three- dimensional carbon structures, on the understanding of the type(s) of active site(s) present on these nanomaterials, as well as, on elucidating the electrochemical reaction mechanisms for the conversion of methane to products on the synthesized carbon-based electrocatalysts.”

“The proposed Master project will focus on the synthesis of nanocatalysts based on three-dimensional carbon structures, on the understanding of the type(s) of active site(s) present on these nanomaterials, as well as, on elucidating the electrochemical reaction mechanisms for the conversion of methane to products on the synthesized carbon-based electrocatalysts.”

---

### Description

The present Master position is suited for a highly skilled individual willing to develop research and innovation in the area of energy. Specifically, the workplan of the present position is devoted to advancing electrochemical systems for energy interconversion by an emerging cutting-edge field in electrocatalysis, based on carbon nanostructures. 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 student to suitably reach the next step in the professional career, independently if in industry or academia.

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

Motivated prospective candidates with a First Class or Upper Second in Chemistry, Materials Science, Chemical Engineering or in related disciplines are invited to apply. Prior experience in the synthesis and characterization of nanopolymers, carbon nanostructures and in electrochemistry are highly valued, albeit not required. Applicants should also be able to demonstrate excellent written and oral communication skills, which will be essential for collaborations within CINE, disseminating the results via journal publications and attendance at international conferences. Candidates completing undergrad studies by July/2019 are also highly welcome to apply for this position.

### Funding Notes

This Master studentship is funded by Shell, through the foundation FUNDEP. The studentship will cover a standard maintenance stipend of R\$26,934.24 per annum (R\$2,244.52 per month).

---

### Documents/Information to be Sent:

- Updated CV (with a link to the Lattes Curriculum, if applicable);
- H index;
- Arithmetic mean of the Impact Factor of all published papers;
- Number of years since the undergraduate course was concluded;
- A copy of the academic record/academic transcript of both graduate and undergraduate courses (as applicable);
- A motivation letter highlighting your background and research interests (preferably in English, or in Portuguese).