Research Centre for Greenhouse Gas Innovation

Lead institution: Chemistry Institute / USP	
Supervisor name: Liane Marcia Rossi / Pedro Vidinha	**Department:** Chemistry
Recipient: https://sites.usp.br/rcgi/opportunities/ **Ref: 24PDR281 - Postdoctoral Fellowship** **Deadline for submission: June 30th, 2024**	**Type: Postdoc Fellowship** **Period: 01/07/2024 to 30/06/2025** **Number of months: 12 (possible renovation)** **Intended beginning date: July, 2024**

Project title: (Portuguese and English)

Conversão catalítica de metanol a aromáticos sob alta pressão

Catalytic conversion of methanol to aromatics under high pressure

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

Catálise, MTA, e cinética química.

Catalysis, MTA and chemical kinetics.

Abstract (Portuguese and English)

O candidato irá colaborar com os pesquisadores do projeto "Conversão catalítica de metanol a aromáticos sob alta pressão" Projeto do programa CCU do FAPESP-Shell Centro de Pesquisa para a Inovação em Gases do Efeito Estufa (RCGI) da Universidade de São Paulo. Resumo do programa e os projetos podem ser encontrados no site da RCGI (https://sites.usp.br/rcgi/).

The candidate will collaborate with researchers from the project "Catalytic conversion of methanol to aromatics under high pressure " of the Project at CCU program of the FAPESP-Shell Research Centre for Gas Innovation (RCGI) at the University of São Paulo. Summary of the program and projects can be found at the RCGI website (https://sites.usp.br/rcgi/).

Description (Portuguese and English)

O pesquisador contribuirá com os principais objetivos do projeto que visa desenvolver a conversão catalítica de metanol em aromáticos (MTA), um dos principais componentes dos combustíveis sustentáveis de aviação (SAFs). O candidato atuará no IQ-USP.

The researcher will contribute in alignment with the main objectives of the project aimed at developing the catalytic conversion of methanol to aromatics (MTA), one of the main components of sustainable aviation fuels (SAFs). The candidate will work at IQ-USP.

This project aims to develop and optimize the catalytic conversion of methanol into aromatics. For this purpose, we conceived a strategy based on three major work-packages. These work packages collectively contribute to the overall goal of developing an integrated approach for the

catalytic conversion of methanol into aromatics, encompassing catalyst design, process development, and theoretical insights. The work plan for the PostDoc candidate will be dedicated to Process Development and Optimization; the activities will focus on conducting catalytic tests and optimizing the reaction conditions based on the experimental results and theoretical insights.

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

O candidato deve possuir doutorado em química ou engenharia química, preferencialmente tendo realizado seus estudos na área de catálise heterogênea, com experiência nas seguintes áreas:

- Preparação de catalisadores

- Principais técnicas de caracterização (MET, DRX, XPS, XAFS e DRIFT-CO)

- Operação de reator em fluxo, estudos cinéticos e mecanísticos

- Técnicas analíticas (CG, CG-EM, HPLC, etc.)

O candidato deve ter obtido o grau de doutor preferencialmente há no máximo cinco anos e é desejável ter experiência trabalhando em centros de pesquisa no exterior.

The candidate must hold a doctorate in chemistry or chemical engineering, preferably having conducted his studies in the area of heterogeneous catalysis, with experience in the following areas:

- Preparation of catalysts

- Characterization techniques (MET, DRX, XPS, XAFS and FTIR)

- Flow reactor operation, Kinetic and mechanistic studies

- Analytical techniques (GC, GC-MS, etc.)

The candidate must have a maximum of five years after concluding the PhD and should have experience outside Brazil working in research centers.

Funding Notes: This Postdoc fellowship is funded by FUSP/Shell. The fellowship will cover a standard maintenance stipend of R$ 9.047,40 (Reais) per month.

Work place: Instituto de Química da Universidade de São Paulo, Av. Prof. Lineu Prestes 748, Butantã, São Paulo, Brazil.

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Documents/Information to be Sent:

Ref: 24PDR281

1) Access the link https://sites.usp.br/rcgi/opportunities/
2) Find the Position **Ref: 24PDR281**
3) Click on Application to apply

Deadline: June 30th, 2024

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