Short Bio

In 2018, I obtained a bachelor's degree in Chemistry at the Federal University of São Carlos (UFSCar, Brazil) with a sandwiching period at University of Eastern Piedmont (Italy), and received two awards: the Regional Council of Chemistry award (highest GPA) and the Mario Tolentino Award (for outstanding research and extracurricular activities).

During the undergraduate course, I participated in the scientific initiation program under the guidance of Prof. Dr. Jean Marcel R. Gallo, working with the design of heterogeneous catalysts for the conversion of biomass. Part of my research project has developed at the University of Eastern Piedmont (Italy), where I spent 3 months as a visiting student. As an outcome of my project, I coauthored 1 scientific paper (DOI: 10.1016/j.cattod.2018.10.032) and 1 book chapter (ISBN: 9786580216284) and participated in 7 national and international conferences.

In 2019, I was admitted as a Ph.D. student in Inorganic Chemistry at UFSCar under the guidance of Prof. Dr. Caue Ribeiro de Oliveira. My current project concerns the controlled synthesis of mesoporous acidic carbons for the conversion of monosaccharides into 5-hydroxymethylfurfural and furfural. So far, I have published 3 scientific paper (DOI: 10.1016/j.jelechem.2021.115158, 10.1016/j.apcata.2021.118099, and 10.1016/j.mcat.2022.112718) and participated in 3 national and international conferences.

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Keywords

✓ Heterogeneous Catalysis
✓ Bifunctional Catalysts
✓ Biomass Conversion
✓ Platform Molecules
✓ Kinetic Studies in Batch Reactor

José Lucas Vieira

Education

Bachelor in Chemistry (03/2015-12/2018) – Federal University of São Carlos (Brazil)

Sandwich Period of Bachelor (08/2018-10/2018) – University of Eastern Piedmont (Italy)

Ph.D. in Inorganic Chemistry (03/2019-Today) – Federal University of São Carlos (Brazil)

Academic Experiences

Scientific Initiation Program (08/2015-07/2016) – "Study of the Catalysts MgO/SiO_2 in the Conversion of Ethanol into 1,3-Butadiene", Federal University of São Carlos (Brazil)

- ✓ Synthesis of MgO/SiO_2 bifunctional catalysts

Scientific Initiation Program (09/2016-11/2018) – "Synthesis of Niobium Oxides and Niobium Phosphates for the Conversion of Monosaccharides into Platform Molecules", Federal University of São Carlos (Brazil)

- ✓ Synthesis of catalysts
- ✓ Characterization of catalysts (XRD, XRF, FTIR and RAMAN)
- ✓ Development of liquid catalytic reactions in batch reactors
- ✓ Development of High Pressure Liquid Chromatographic (HPLC) methods

Visiting Student (08/2018-10/2018) – "Characterization of the Surface Acidity in Niobium Phosphates by FTIR Using Probe Molecules", University of Eastern Piedmont (Italy)

- ✓ Characterization of surface acidity of the catalysts by FTIR using ammonia, pyridine, acetonitrile and carbon monoxide as probe molecules

Ph.D. Candidate (03/2019-Today) – "Controlled Synthesis of Mesoporous Acidic Carbons for the Conversion of Monosaccharides into Platform Molecules", Federal University of São Carlos (Brazil)

- ✓ Controlled synthesis of catalysts
- ✓ Characterization of catalysts (potentiometric titration, TGA-DTA, XPS and SEM)
- ✓ Analysis of liquid catalytic reactions by ^1H NMR
- ✓ Expertise of High Pressure Liquid Chromatographic (HPLC) methods
- ✓ Development of kinetic studies in batch reactor
- ✓ Laboratory management and organization

Scientific Publications

VIEIRA, JOSÉ LUCAS; DESTRO, PRISCILA; LAIER, LETICIA O.; MARQUES, CLELIA M.P.; GALLO, JEAN MARCEL R.; BUENO, JOSÉ MARIA C. MgO/SiO_2 prepared by wet-kneading as a catalyst for ethanol conversion to 1,3-butadiene: Prins condensation as the predominant mechanism. *Molecular Catalysis (IF: 5.089)*, 2022.

VIEIRA, JOSÉ LUCAS; PAUL, GEO; IGA, GUSTAVO D.; CABRAL, NATALIA M.; BUENO, JOSÉ MARIA C.; BISIO, CHIARA; GALLO, JEAN MARCEL R. Niobium phosphates as bifunctional catalysts for the conversion of biomass-derived monosaccharides. *Applied Catalysis A-General (IF: 5.723)*, 2021.

DE ANDRADE, RENATO N.; PERINI, NICKSON; **VIEIRA, JOSÉ LUCAS**; GALLO, JEAN MARCEL R.; SITTA, ELTON. Glycerol electrooxidation catalyzed by Pt-Sb supported in periodic mesoporous carbon CMK-3 and CMK-5. *Journal of Electroanalytical Chemistry (IF: 4.598)*, 2021.

FINGER, PEDRO H.; **VIEIRA, JOSÉ LUCAS**; LORENTI, JULIANA P.; CABRAL, NATALIA M.; GALLO, JEAN MARCEL R. Uso de etanol como intermediário para a produção de produtos químicos de interesse industrial. In: Arlene G. Corrêa; Jean Marcel R. Gallo. (Org.). Biomassa: estrutura, propriedades e aplicações. 1ed. São Carlos: *EdUFSCar*, 2020.

VIEIRA, JOSÉ LUCAS; ALMEIDA-TRAPP, MARILIA; MITHÖFER, AXEL; PLASS, WINFRIED; GALLO, JEAN MARCEL R. Rationalizing the conversion of glucose and xylose catalyzed by a combination of Lewis and Brønsted acids. *Catalysis Today (IF: 6.562)*, 2018.