Dr. Jean Marcel R. Gallo

Personal information

Birth: 29/april/1981 in Brazil
Citizenship: Brazilian and Italian
Marital status: Married

Contact

Federal University of São Carlos
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Fluent in

English
Portuguese
Italian

Links

Research group
www.greencat.ufscar.br
Google Scholar
https://scholar.google.com/citations?hl=&user=Qr8LGcEAAAAJ
Research ID
www.researcherid.com/rid/C-9985-2013

Google Scholar Metrics

Publications: 35
Citations: 2389
H index: 21

Research ID Metrics

Publications: 35
Citations: 1828
H index: 18

Education

11/2005 – 03/2010: PhD in Science in cotutelle:
University of Eastern Piedmont • Italy
State University of Campinas • Brazil
"Synthesis of Mesoporous Carbon Ceramics for application as Electrodes for Direct Methanol Fuel Cell"
Advisors: Leonardo Marchese (Italy) and Heloise O. Pastore (Brazil)
Fellowship: Italian Ministry of Education, University and Research

03/2004 – 08/2005: Master's in Chemistry
State University of Campinas • Brazil

03/2000 – 11/2003: Bachelor's in Chemistry
State University of Campinas • Brazil

Professional Experience

07/2014 – current: Professor of Inorganic Chemistry
Federal University of São Carlos • Brazil

01/2020 – 12/2121: Visiting Professor
University of Eastern Piedmont • Italy

08/2017 – 07/2018: Guest Professor
Friedrich Schiller University Jena • Germany

11/2013 – 06/2014: Research Associate
Federal University of São Carlos • Brazil
Advisor: José Maria C. Bueno
Fellowship: São Paulo Research Foundation

09/2010 – 09/2013: Research Associate
University of Wisconsin-Madison • USA
Advisor: James A. Dumesic
Fellowship: US Department of Energy

Elected positions

09/2017 – current (reelected in 09/2019 for a second term)
Coordinator of Regional 3 of the Brazilian Society of Catalysis

09/2018 – current:
Vice-Coordinator of the catalysis division at the Brazilian Society of Catalysis

09/2015 – 09/2017
Vice-Coordinator of regional 3 of the Brazilian Society of Catalysis

Awards

02/2020 – Productivity fellowship Award
Brazilian National Council for Scientific and Technological Development (CNPq)

09/2017 – Researcher in Catalysis Award
Brazilian Society of Catalysis

09/2016 – Young Researcher Award
São Paulo Research Foundation

09/2017 – Experienced researcher award (offered salary for 1-year of research in a German University)
Alexander von Humboldt Foundation

03/2019 – Return fellowship (offered a fellowship after completion of the Experienced researcher award)
Alexander von Humboldt Foundation

Projects

11/2018 – 10/2023 – Thematic project
"Novel chemical catalytic and photocatalytic processes for the direct conversion of methane and CO_2 to products"
Funding agency: São Paulo Research Foundation

09/2016 – 08/2020 - Young Researcher Award
"Design of new heterogeneous catalytic systems for biomass conversion"
Funding agency: São Paulo Research Foundation

07/2017 – 05/2020 – CNPq Universal Call
Funding agency: Brazilian National Council for Scientific and Technological Development (CNPq)

Guest Editor in Journal

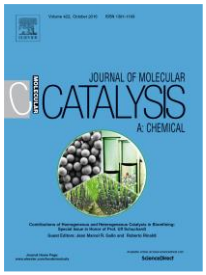
Journal of Molecular Catalysis A: General

Issue Entitled: "Contributions of Homogeneous and Heterogeneous Catalysis in Biorefining: Special Issue in Honor of Prof. Ulf Schuchardt"
Publication date: October 2016

Catalysis Today

Issue Entitled: "Frontiers in Catalysis"
Publication date: estimated second semester of 2020

Highlights



Journal articles

[36] J.L. Vieira, M.A. Trapp, A. Mithöfer, W. Plass, Rationalizing the conversion of glucose and xylose catalyzed by a combination of Lewis and Brønsted acids, Catalysis Today, *no prelo*, DOI:10.1016/j.cattod.2018.10.032

[35] P.H. Finger, T.A. Osmari, M.S. Costa, J.M.C. Bueno, J.M.R. Gallo, The role of the interface between Cu and metal oxides in the ethanol dehydrogenation, Applied Catalysis a-General, 589 (2020).

[34] J.P. Lorenti, E. Scolari, E.M. Albuquerque, M.A. Fraga, J.M.R. Gallo, Tailoring Sn-SBA-15 properties for catalytic isomerization of glucose, Applied Catalysis a-General, 581 (2019) 37-42.

[33] L.R. Borges, A. Lopez-Castillo, D.M. Meira, J.M.R. Gallo, D. Zanchet, J.M.C. Bueno, Effect of the Pt Precursor and Loading on the Structural Parameters and Catalytic Properties of Pt/Al2O3, Chemcatchem, 11 (2019) 3064-3074.

[32] J.M.R. Gallo, M.A. Trapp, The Chemical Conversion of Biomass-Derived Saccharides: an Overview, Journal of the Brazilian Chemical Society, 28 (2017) 1586-1607.

[31] P.C.P. Caldas, J.M.R. Gallo, A. Lopez-Castillo, D. Zanchet, J.M.C. Bueno, The Structure of the Cu-CuO Sites Determines the Catalytic Activity of Cu Nanoparticles, ACS Catalysis, 7 (2017) 2419-2424.

[30] J.M.R. Gallo, R. Rinaldi, Contributions of Homogeneous and Heterogeneous Catalysis in Biorefining: Special Issue in Honor of Prof. Ulf Schuchardt, J. Mol. Catal. A-Chem., 422 (2016) 1-2.

[29] J.M.R. Gallo, R. Alamillo, J.A. Dumesic, Acid-functionalized mesoporous carbons for the continuous production of 5-hydroxymethylfurfural, J. Mol. Catal. A-Chem., 422 (2016) 13-17.

[28] I.C. Freitas, J.M.R. Gallo, J.M.C. Bueno, C.M.P. Marques, The Effect of Ag in the Cu/ZrO2 Performance for the Ethanol Conversion, Topics in Catalysis, 59 (2016) 357-365.

[27] D. Zanchet, J.B.O. Santos, S. Damyanova, J.M.R. Gallo, J.M.C. Bueno, Toward Understanding Metal-Catalyzed Ethanol Reforming, ACS Catalysis, 5 (2015) 3841-3863.

[**26**] M.A. Mellmer, J.M.R. Gallo, D.M. Alonso, J.A. Dumesic, Selective Production of Levulinic Acid from Furfuryl Alcohol in THF Solvent Systems over H-ZSM-5, ACS Catalysis, 5 (2015) 3354-3359.

[25] M.A. Mellmer, C. Sener, J.M.R. Gallo, J.S. Luterbacher, D.M. Alonso, J.A. Dumesic, Solvent Effects in Acid-Catalyzed Biomass Conversion Reactions, Angewandte Chemie-International Edition, 53 (2014) 11872-11875.

[24] M.A. Mellmer, D.M. Alonso, J.S. Luterbacher, J.M.R. Gallo, J.A. Dumesic, Effects of gamma-valerolactone in hydrolysis of lignocellulosic biomass to monosaccharides, Green Chemistry, 16 (2014) 4659-4662.

[23] J.M.R. Gallo, J.M.C. Bueno, U. Schuchardt, Catalytic Transformations of Ethanol for Biorefineries, Journal of the Brazilian Chemical Society, 25 (2014) 2229-2243.

[22] D.H.K. Jackson, D. Wang, J.M.R. Gallo, A.J. Crisci, S.L. Scott, J.A. Dumesic, T.F. Kuech, Amine Catalyzed Atomic Layer Deposition of (3-Mercaptopropyl)trimethoxysilane for the Production of Heterogeneous Sulfonic Acid Catalysts, Chem. Mat., 25 (2013) 3844-3851.

[21] E.I. Gurbuz, J.M.R. Gallo, D.M. Alonso, S.G. Wettstein, W.Y. Lim, J.A. Dumesic, Conversion of Hemicellulose into Furfural Using Solid Acid

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JBCS
Top 10 most downloaded paper published in 2014-2019

WEB OF SCIENCE
Highly Cited Paper

Catalysts in gamma-Valerolactone, Angewandte Chemie-International Edition, 52 (2013) 1270-1274.

[20] J.M.R. Gallo, D.M. Alonso, M.A. Mellmer, J.H. Yeap, H.C. Wong, J.A. Dumesic, Production of Furfural from Lignocellulosic Biomass Using Beta Zeolite and Biomass-Derived Solvent, Topics in Catalysis, 56 (2013) 1775-1781.

[19] J.M.R. Gallo, D.M. Alonso, M.A. Mellmer, J.A. Dumesic, Production and upgrading of 5-hydroxymethylfurfural using heterogeneous catalysts and biomass-derived solvents, Green Chemistry, 15 (2013) 85-90.

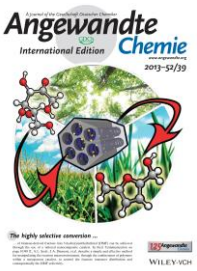
WEB OF SCIENCE
Highly Cited Paper

[18] M.O. de Souza, R.F. de Souza, L.R. Rodrigues, H.O. Pastore, R.M. Gauvin, J.M.R. Gallo, C. Favero, Heterogenized nickel catalysts for propene dimerization: Support effects on activity and selectivity, Catal. Commun., 32 (2013) 32-35.

[17] A.J. Crisci, R. Alamillo, J.M.R. Gallo, J.A. Dumesic, S.L. Scott, Design of leach-resistant supported acid catalysts for continuous carbohydrate dehydration, Abstracts of Papers of the American Chemical Society, 245 (2013).

[16] R. Carrasquillo-Flores, J. M.R. Gallo, K. Hahn, J.A. Dumesic, M. Mavrikakis, Density Functional Theory and Reaction Kinetics Studies of the Water-Gas Shift Reaction on Pt-Re Catalysts, Chemcatchem, 5 (2013) 3690-3699.

[15] R. Alamillo, A.J. Crisci, J.M.R. Gallo, S.L. Scott, J.A. Dumesic, A Tailored Microenvironment for Catalytic Biomass Conversion in Inorganic-Organic Nanoreactors, Angewandte Chemie-International Edition, 52 (2013) 10349-10351.



[14] D.M. Alonso, J.M.R. Gallo, M.A. Mellmer, S.G. Wettstein, J.A. Dumesic, Direct conversion of cellulose to levulinic acid and gamma-valerolactone using solid acid catalysts, Catalysis Science & Technology, 3 (2013) 927-931.

[13] Y.J. Pagan-Torres, T.F. Wang, J.M.R. Gallo, B.H. Shanks, J.A. Dumesic, Production of 5-Hydroxymethylfurfural from Glucose Using a Combination of Lewis and Bronsted Acid Catalysts in Water in a Biphasic Reactor with an Alkylphenol Solvent, ACS Catalysis, 2 (2012) 930-934.

ACS Catalysis
Most important paper 2012-2013

WEB OF SCIENCE
Highly Cited Paper

[12] Y.J. Pagan-Torres, J.M.R. Gallo, D. Wang, H.N. Pham, J.A. Libera, C.L. Marshall, J.W. Elam, A.K. Datye, J.A. Dumesic, Synthesis of Highly Ordered Hydrothermally Stable Mesoporous Niobia Catalysts by Atomic Layer Deposition, ACS Catalysis, 1 (2011) 1234-1245.

[11] J.M.R. Gallo, U.A. Icardi, V. Baglio, A. Coralli, A. Graizzaro, Implementation and optimization of the HySyLab DMFC single cell test station, International Journal of Hydrogen Energy, 36 (2011) 8082-8087.

[10] J.M.R. Gallo, G. Gatti, A. Graizzaro, L. Marchese, H.O. Pastore, Novel mesoporous carbon ceramics composites as electrodes for direct methanol fuel cell, Journal of Power Sources, 196 (2011) 8188-8196.

[9] J.M.R. Gallo, C. Bisio, L. Marchese, H.O. Pastore, One-pot synthesis of mesoporous Al -SBA-16 and acidity characterization by CO adsorption, Microporous Mesoporous Mat., 145 (2011) 124-130.

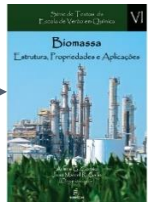
[8] J.M.R. Gallo, C. Bisio, G. Gatti, L. Marchese, H.O. Pastore, Physicochemical Characterization and Surface Acid Properties of Mesoporous Al -SBA-15 Obtained by Direct Synthesis, Langmuir, 26 (2010) 5791-5800.

[7] M.O. de Souza, L.R. Rodrigues, R.M. Gauvin, R.F. de Souza, H.O. Pastore, L. Gengembre, J.A.C. Ruiz, J.M.R. Gallo, T.S. Milanesi, M.A. Milani, Support effect in ethylene oligomerization mediated by heterogenized nickel catalysts, Catal. Commun., 11 (2010) 597-600.

[6] J.M.R. Gallo, H.O. Pastore, U. Schuchardt, Study of the effect of the base, the silica and the niobium sources on the Nb-MCM-41 synthesized at room temperature, Journal of Non-Crystalline Solids, 354 (2008) 1648-1653.
[5] J.M.R. Gallo, C. Bislo, L. Marchese, H.O. Pastore, Surface acidity of novel mesostructured silicas with framework aluminum obtained by SBA-16 related synthesis, Microporous Mesoporous Mat., 111 (2008) 632-635.
[4] J.M.R. Gallo, S. Teixeira, U. Schuchardt, Synthesis and characterization of niobium modified montmorillonite and its use in the acid-catalyzed synthesis of beta-hydroxyethers, Applied Catalysis a-General, 311 (2006) 199-203.
[3] J.M.R. Gallo, H.O. Pastore, U. Schuchardt, Silylation of Nb -MCM-41 as an efficient tool to improve epoxidation activity and selectivity, J. Catal., 243 (2006) 57-63.
[2] J.M.R. Gallo, I.S. Paulino, U. Schuchardt, Cyclooctene epoxidation using Nb-MCM-41 synthesized at room temperature, in: E. VanSteen, M. Claeys, L.H. Callanan (Eds.) Recent Advances in the Science and Technology of Zeolites and Related Materials, C2004,2945-2950.
[1] J.M.R. Gallo, I.S. Paulino, U. Schuchardt, Cyclooctene epoxidation using Nb-MCM-41 and Ti-MCM-41 synthesized at room temperature, Applied Catalysis a-General, 266 (2004) 223-227.

Book

[1] "Biomassa: Estrutura, Propriedades e Aplicações", Arlene Correa, Jean Marcel Ribeiro Gallo (Eds), 2020, Edufscar, São Carlos, Brazil.



Book Chapter

[3] U. Schuchardt, J.M.R.Gallo, CHAPTER 11. Hydrogenolysis of Lignocellulosic Biomass with Carbon Monoxide or Formate in Pressurized Hot Water. RSC Energy and Environment Series. 1ed.: Royal Society of Chemistry, 2014, v. , p. 242-252.

[2] M.J.D.M. Jannini, J.M.R. Gallo; U. Schuchardt, Vanadium, Diaquaoxoperoxy(2-pyridinecarboxylate). In: L.A. Paquette, D. Crich, P.I. Fuchs and G. Molander. (Org.). e-EROS Encyclopedia of Reagents for Organic Synthesis. 1ed.: Wiley & Sons, 2005.

[3] J.M.R. Gallo; M.J.D.M. Jannini, U. Schuchardt,. Vanadium Dioxobis(pyrazine-2-carboxylate) Tetrabutylammonium. In: L.A. Paquette, D. Crich, P.I. Fuchs and G. Molander. (Org.). e-EROS Encyclopedia of Reagents for Organic Synthesis. 1ed.: Wiley & Sons, 2005

Patent

[1] J.A. Dumesic, J.M.R. Gallo, D.M.Alonso, Method to Convert Biomass to 5-(Hydroxymethyl)furfural (HMF) AND furfural Using Lactones, Furans and Pyrans as Solvents. 2012, US08772515B2, USA.

Invited talks

[19] "Solid acid catalysts for the conversion of biomass", 1 h lecture, 06/12/2019, Federal University of Bahia, Salvador, Brazil;

[18] “Solid acid catalysts for the conversion of biomass”, Keynote at the 20° Brazilian Conference of Catalysis, September 1-5 2019, São Paulo, Brazil;
[17] “Design of heterogeneous catalyst for biomass conversion” Webnar for the Center of Excellence of Research in Sustainable Chemistry, 24/04/2019, Brazil;
[16] “Design de catalisadores heterogêneos para conversão de biomassa”, 8h lecture, Federal University of Viçosa,November 12-13, 2018, Viçosa, Brazi;
[15] “Heterogeneous catalysis for the chemical conversion of biomass”, invited talk at the Fraunhofer-Institut für Grenzflächen- und Bioverfahrenstechnik IGB, 08/06/2018, Straubing, Germany;
[14] “Heterogeneous catalysis for the chemical conversion of biomass”, 1h lecture, University of Eastern Piedmont, 30/10/2017, Alessandria, Italy;
[13] “Catálise heterogênea aplicada à conversão de biomassa”, Keynote at the 19° Brazilian Conference of Catalysis, September 17-21, Ouro Preto, Brazil;
[12] “Zeolites as catalysts in biorefinery: beyond the Brønsted acidity”, 1.5 h lecture, School Pre 18th International Zeolite Conference, 18/06/2016, Campinas, Brazil;
[11] “Chemical Catalysis”, 16 h course, 36^{o} Summer School in Chemistry at the Federal University of São Carlos, 25-29/01/2016, São Carlos, Brazil;
[10] “Molecular sieves as catalysts for biorefineries” 1 h lecture, 3rd Cycle of Seminars in Molecular Sieves, 12/11/2015, Campinas, Brazil;
[9] “Biomass as feedstock for chemicals”, 2 h lecture, Chemistry Department at the State University of Campinas, 06/10/2015, Campinas, Brazil;
[8] “Design of heterogeneous catalysts for biomass conversion” 1 h lecture, VIII Academic Symposium in Chemistry, 27/09/2015, Viçosa, Brazil;
[7] “Catalysis and Sustainability”, 6 h lecture, XII Week of Chemistry at the Federal University of São Carlos, 06/08/2015, São Carlos, Brazil;
[6] “Use of inorganic solids as heterogeneous catalysts in biorefineries”, Keynote, 38^{o} Annual Conference of the Brazilian Society of Chemistry, 26/05/2015, Aguas de Lindoia, Brazil;
[5] “Biomass conversion into chemicals: a growing field for chemical engineers”, 2 h lecture, International Chemical Engineering Meeting – RNX, 06/03/2015, Monterrey, Mexico;
[4] “Design and application of heterogeneous catalysts for the conversion of biomass”, 1 h lecture., 35^{o} Summer School in Chemistry at the Federal University of São Carlos, 05/02/2015, São Carlos, Brazil;
[3] “Design of heterogeneous catalysts for biomass conversion”, 1 h lecture, XIII Brazilian Materials Society Meeting, 29/09/2014, João Pessoa, Brazil;
[2] “Production of 5-Hydroxymethylfurfural from Glucose Using Biomass-Derived Solvents”, 1 h lecture, 27/11/2012, University of Toledo, Toledo, USA;
[1] “Al containing SBA-15 and SBA-16: Synthesis and acid sites characterization”, 1 h lecture, 05/16/2011, Max-Planck-Institut, Mülheim an der Ruhr, Germany;

Completed supervisions

*In Brazil, Master’s degree is part of the Graduate School and typically students obtain their Master’s degree before enrolling in the doctorate.

Master’s degree

Eduardo Scolari

2018 – Master’s degree, “Study of the effect of the synthesis parameters of Sn-MCM-41 in its structural, textural and catalytic properties for the glucose isomerization”
Fellowship: Coordination of Improvement of Higher Education Personnel (CAPES)

Pedro H. Finger

2017 – Master’s degree, “Effect of metal oxides in the catalytic activity of Cu/SiO_2 towards the dehydration of ethanol”.

Fellowship: Coordination of Improvement of Higher Education Personnel (CAPES)

André Machado Ribeiro de Souza.

2016 - Master's degree, "Effect of MgO morphology in the catalytic acivity of SiO2/MgO for the conversion of ethanol into 1,3-butadiene.
Fellowship: Coordination of Improvement of Higher Education Personnel (CAPES)

Ongoing supervisions

PhD

Pedro H. Finger

From 08/2017
"Novel chemical catalytic and photocatalytic processes for the direct conversion of methane and CO_2 to products"
Funding agency: São Paulo Research Foundation

Michelle Dos Santos Cordeiro Perna

From 08/2017
"Building a cDNA library for Meyerozyma Guilliermondii in stress conditions for understanding the effect of inhibition of acetic acid and furfural production"
Funding agency: SENAI

José Lucas Vieira

From 03/2019
"Mesoporousbifunctional catalysts for the direct conversion of glucose to into platform molecules"
Funding agency: São Paulo Research Foundation

Rafael Roberto Bastos

From 10/2019
"Utilization of CO2 in petrochemical and biorefinery"
Funding agency: Coordination of Improvement of Higher Education Personnel (CAPES)

Master's degree

Juliana Pimenta Lorenti

From 08/2018
"Effect of the structure in the catalytic activity of mesoporous Sn-silicas for the conversion of glucose"
Funding agency: Coordination of Improvement of Higher Education Personnel (CAPES)

Matheus Soares Costa

From 08/2018
"Adsorption of CO in Au/ZrO_2: elucidating the active sites"
Funding agency: Coordination of Improvement of Higher Education Personnel (CAPES)

Natalia Mariano Cabral

From 03/2019
"Inert atmosphere dehydrogenation of HMF using supported Au and Cu catalysts for the production of precursors for polymers"
Funding agency: Coordination of Improvement of Higher Education Personnel (CAPES)

Marcel Souza Lima
From 11/2018
“Synthesis of heterogeneous bifunctional catalysts for the alcol condesation of HMF and furfural”
Funding agency: Coordination of Improvement of Higher Education Personnel (CAPES)

Gustavo Duran Iga
From 11/2018
“Effect of the interaction between ions and surfactantes during the formation of the mesophase in the synthesis of SBA-15 and SBA-16”
Funding agency: Coordination of Improvement of Higher Education Personnel (CAPES)