CV Dr. Ir. Jimmy A. Faria A.

PERSONAL INFORMATION
Family name, First name: Faria Albanese, Jimmy Alexander
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EDUCATION
2012 PhD. Chemical Engineering
University of Oklahoma, USA
2008 Bachelor in Chemical Engineering
Universidad Nacional Experimental Politécnica “Antonio José de Sucre”, Venezuela

ACADEMIC/INDUSTRIAL EXPERIENCE
2023- Professor, University of Twente, The Netherlands
2022-2023 Associate Professor, University of Twente, The Netherlands
2017-2022 Tenure-Track Assistant Professor, University of Twente, The Netherlands
2015-2017 Group Leader of the Hydrogen Technological Area, Abengoa Research, Spain
2014-2015 Program Manager, Catalysis and Materials for H_2, Abengoa Research, Spain
2012-2014 Senior Researcher, Chemical Processes Group, Abengoa Research, Spain
2012 PhD. Research Intern, Low Carbon H_2 Group, Phillips 66 Research Center, USA
2008-2012 Research Assistant, University of Oklahoma, USA.

Track-record summary
After my undergraduate studies in Chemical Engineering (Venezuela) I moved to the US to pursue my PhD at the University of Oklahoma with Prof. D. E. Resasco. During my PhD, I developed a breakthrough technology for simultaneous reaction and separation using amphiphilic nanohybrid catalysts. This research led to several groundbreaking publications (Science, JACS, ACS Catal.) and the creation of a 10 M$ Center for Interfacial Reaction Engineering at the University of Oklahoma. Before graduation, I conducted a research internship at Phillips 66 R&D center on hydrogen production from bio-derived feedstocks that resulted in the filling of one patent on catalytic reforming of crude glycerol. After this exciting research, I decided to move to industry to developed innovating technologies at the Corporate R&D of Center of Abengoa (Spain). In this position, I developed new processes for biomass valorization that led to several patents (6) and publications (10), some of which were instrumental for the commercial deployment of lignocellulosic bioethanol technology employed by the company. Later, I became the Group Leader of the Hydrogen Technological Area where I managed a group of scientists and engineers (R&D budget of~2M€/year) in the development of ethanol reforming for compact H_2 production units, which are currently employed by the Spaniard Navy in the state-of-art submarines class S-80 as stealth propulsion system. The innovative character of my scientific work led to the acquisition of external funding (EU-FP7 and Spanish government) for ~1.7M€ that supported the development of advanced catalytic materials and processes.

After 5 years working in industry, in 2017 I returned to academia with the aim of developing my own research line on multi-phasic catalytic reaction systems and intensified catalytic reactors for biomass valorization, polymers upcycling, and chemical energy storage (i.e. Power2X with X being NH_3, CH_3OH, and CH_4). Since then, my group at the University of Twente (The Netherlands) has made key contributions to the removal of toxic nitrites in drinking water, catalysis in biphasic-liquid systems, and production of chemical building blocks from biomass, resulting in six book chapters and 38 research

articles. In parallel, I have managed to secure 3.2 M€ in external funding to support my research team, which is composed of six PhDs and two PDs. More recently, I received the prestigious VIDI personal grant (0.87 M€) from the Netherlands Research Foundation (NWO) for the development of a new process for catalytic depolymerization of plastics. Currently, most of my projects are connected to industrial partners, which allows me to quickly explore the commercial value of our work in the lab. In the next few years, my intention is to become a leading innovator in the field catalysis, facilitating the technology transfer from my group to the world via start-ups.

FELLOWSHIPS AND AWARDS

2023 Energy & Fuels Rising Stars – The editorial board of the ACS journal Energy & Fuels selects the most promising early career researchers in the area of energy for this recognition.

2022 VIDI personal award (0.87 M€) "Foams for Catalytic Upcycling of Plastics (FoCuS)" from the Netherlands Research Foundation.

2019 Best Teacher of BSc. in Chemical Science and Engineering of the year. Awarded by the students in collaboration with the Student Association of Chemical Engineers (Alembic).

2018 Best oral contribution of the symposium *Conversion of Biomass Derived Molecules to Chemicals & Fuels* in the ACS Annual Meeting, New Orleans, USA. Includes an invitation to submit a full-article in the Journal Industrial & Engineering Chemistry Research. *Front cover of the journal.*

2008-2012 Graduate Assistantship, University of Oklahoma, USA, **96 K€**

2011-2012 Robert Hughes Centennial Fellowship Award, University of Oklahoma, USA, **15 K€** (Recognition given to the top 5 % of graduate students – size 6000 students - 2 times awarded)

2011-2012 BP Graduate Student Excellence Award, British Petroleum, USA, **7.5 K€** (Recognition given to the best graduate student – size 100 students)

2011 Graduate Student Award Symposium, Industrial and Engineering Chemistry Division (I&Ec), American Chemical Society, USA

2011 Research Award at the OK-EPSCOR-NSF State Conference, USA

2009 Research Award of the Student Research Performance Day, University of Oklahoma, USA

2006 First Place. 6th Session of the International School of Polymers. University of "Los Andes". Venezuela

2007 Research and Development Excellence Award, Universidad Nacional Experimental Politécnica "Antonio José de Sucre", Venezuela

2003-2005 Scholarship for the Academic Excellence, Universidad Nacional Experimental Politécnica "Antonio José de Sucre", Venezuela (Recognition to the best student of each semester – class size 120 students – 5 times awarded)

INSTITUTIONAL RESPONSIBILITIES

I am expert reviewer of the German Academic Exchange Service (DAAD), Postdoc-Program PRIME of Germany, the National Commission of Scientific Research and Technology (Comisión Nacional de Investigación Científica y Tecnológica – CONICYT) of the Republic of Chile, the Spanish National Evaluation and Foresight Agency from the Ministry of Economic Affairs, KAUST university, science foundation of Israel, and the Dutch Research Council (Nederlandse Organisatie voor Wetenschappelijk Onderzoek).

TEACHING/TRAINING ACTIVITIES

Since 2017, I teach the courses of Advanced Catalysts, Reaction kinetics and catalysis in the BSc grogram of CSE at the University of Twente, The Netherlands.

ORGANISATION OF SCIENTIFIC MEETINGS

2023 Co-organizer of The Netherlands Process Technology Symposium (NPS) hosted by the University of Twente and the Netherlands Process Technology association and Kivi.

2022 Organizer of the Award symposium for the lifetime achievements in catalysis during the ACS Catalysis Science and Technology Division Symposia of the ACS – Fall Meeting in Chicago, USA

2020-21 NextGenChem meeting, CHAINS meeting. The Netherlands.

2020 Organizer of the Symposium solvation effects in thermo-, electro-, and photo- catalysis in the ACS Catalysis Science and Technology Division Symposia of the ACS – Fall Meeting in San Francisco, USA

2020 Organizer of the RESILIENT-Island workshop at the University of Curaçao on sustainable production of water, energy, and food. Supported by the NWO.
2019 Organizer of the Symposium Catalytic conversion of biomass-derived oxygenates in the ACS Catalysis Science and Technology Division Symposia of the ACS – Fall Meeting in San Diego, USA
2019 Chair of the session of *"Catalysis Reaction Engineering"* in the Netherlands' Catalysis and Chemistry Conference (NCCC), Netherlands (+*500 attendees*).
2019 Co-organizer of the Lorentz Research Center Workshop on "Educating in Process Intensification", Lorentz Research Center, Leiden.
2018 Chair of the Session *"Catalysis Engineering"* in *CHAIN* the annual scientific chemistry conference organized by Netherlands Organization for Scientific Research (NWO), Netherlands (+*1500 attendees*).
2018 Organizer of the Symposium Water (Greenest Solvent): Single and Biphasic Reactions in the ACS Catalysis Science and Technology Division Symposia of the ACS – Fall Meeting in Boston, USA
2014 Organizer of the workshop on Chemistry for Biomass Conversion (Chem4Bio) in collaboration with the Agency of Innovation and Development of Andalusia (IDEA), Spain
2014 Organizer of the Summer-school in Catalysis at Abengoa Research, Spain

PEER REVIEW CONTRIBUTIONS

I have been invited editor of Catalysis Today special issue on our symposium in the ACS meeting in San Diego 2019 on Biomass Conversion. In addition, I am a reviewer of the Journal of the American Chemical Society, ACS Catalysis, Advanced Energy Materials, Journal of Catalysis, Journal of Applied Catalysis A: General, Journal of Industrial & Engineering Chemistry, Industrial & Engineering Chemistry Research, ACS Sustainable Chemistry & Engineering, Energy & Fuels, ChemCatChem, Catalysis Science and Technology, Journal of Electrochemistry Society, Fuel Processing Technology, and Polyhedron.

RESEARCH GRANTS

Before my appointment at UT, I secured research grants for a total value of **1.8** M€ from competitive funding schemes of the European Union, Spanish Minister of Economic Affairs. Since 2017, I have received **2.9 M€** on research funding directly for my group at University of Twente, including the VIDI (**0.87 M€**). In addition, I have **1.9 M€** pending for decision funding.

MEMBERSHIPS OF SCIENTIFIC SOCIETIES/NETWORKS

I am a member of the Science and Catalysis Technology division of the American Chemical Society, American Institute of Chemical Engineers, Dutch Catalysis Society, the Netherlands Institute for Catalysis Research (NIOK), and Royal Netherlands Chemical Society.

INVITED CONFERENCE PRESENTATIONS AND SEMINARS AT LEADING INSTITUTIONS

2023 "Ammonia synthesis for small island developing states". Utrecht Chemistry Society. The Netherlands.
2022 *Dies Natalis* of the University of Twente invited speaker.
2021 "Renaissance of ammonia synthesis for sustainable production of energy and fertilizers" Invited seminar from the Netherlands Process Technology from KIVI. The Netherlands.
2021 "Tunning solvation effects using polymer functionalized catalysts" Invited seminar at the Department of Chemical, Biological, and Materials Engineering of the University of Oklahoma, USA.
2019 Invited speaker at the ACS Symposium on solvation effects of the ACS Annual Meeting, San Diego, USA.
2018 "Catalysis in water-oil emulsion systems", Invited seminar at the Department of Chemical Engineering of the University of Groningen, Netherlands, USA.
2018 "Biphasic reaction systems", Invited seminar at the Department of Chemical Engineering of the University of New York, New York, USA.
2018 "Catalytic Strategies for Biomass Conversion in Liquid Environments", Invited Keynote Speaker at the Netherlands Process Technology Symposium, University of Twente
2017 "Catalytic Strategies for Biomass Conversion in Liquid Environments", invited seminar at Max-Planck-Institut für Kohlenforschung, Germany.

LIST OF PUBLICATIONS

I have (co-)authored 40 publications in international peer-reviewed journals (19 as corresponding author) and 5 book chapters. The journals in which these papers were published include wide-audience ones (e.g. Science, JACS, Angewandte Chemie) as well as in journals dedicated to chemistry, catalysis, and enginering (e.g. ACS Catalysis, Journal of Catalysis, Renewable Energy Reviews, Chemical Engineering Journal). It is very interesting to see the evolution of my role in these papers from first author (mainly during my PhD years) to middle author, mainly as a result of the research collaboration that I stablished between Abengoa and Prof. D. E. Resasco's group at University of Oklahoma, to the last author as daily supervisor in my current position at University of Twente. The total number of citations has been steadily growing (2252 citations, h-index of 20, average citations per article is 60, Source: google scholar).

I) Journal articles

***: Corresponding author. †: Collaboration project. @: equal contributor.**

40. Pengcheng Huang, Rick Baldenhofer, Ricardo P. Martinho, Leon Lefferts, and **Jimmy A. Faria Albanese*,** "Stimulus-Responsive Control of Transition States on Nanohybrid Polymer-Metal Catalysts", ACS Catalysis, 2023, DOI: 10.1021/acscatal.3c00276.
39. Tao Wang, **Jimmy A. Faria Albanese**, Wiebe M. de Vos, Joris de Grooth, Continuous pH regulation for PES@CoFe2O4 based catalytic UF membranes: Preventing adsorption for optimal degradation. 2023, doi.org/10.1016/j.seppur.2023.123663
38. Maria João Enes da Silva, Rolf Sybren Postma, Leon Lefferts, Aayan Banerjee, **Jimmy Alexander Faria Albanese***, "The Onset of Mass Transport Limitations Triggers the Stimulus Responsiveness of Polymer Coated Catalysts", Journal of Chemical Engineering, 2023, DOI: 10.2139/ssrn.4238499.
37. Shadi Shirazimoghaddam, Ihsan Amin, **Jimmy A Faria Albanese**, and N. Raveendran Shiju, "Chemical Recycling of Used PET by Glycolysis Using Niobia-Based 2 Catalysts", ACS Engineering Au 2023, Accepted.
36. Pengcheng Huang, Yu Yan, Aayan Banerjee, Leon Lefferts, Bin Wang, **Jimmy A. Faria Albanese***, "Proton Shuttling Flattens the Energy Landscape of Nitrite Catalytic Reduction", Journal of Catalysis 2022, doi.org: 10.1016/j.jcat.2021.08.003
35. Victor N. Sagel, Kevin H.R. Rouwenhorst, **Jimmy A. Faria*,** "Renewable Electricity Generation in Small Island Developing States: The Effect of Importing Ammonia", Energies 2022, 15(9), 3374; doi.org: 10.3390/en15093374.
34. M. Pilar Ruiz, **Jimmy A. Faria*,** "Catalysis at the Solid–Liquid–Liquid Interface of Water–Oil Pickering Emulsions: A Tutorial Review", ACS Engineering Au (2022). doi: 10.1021/acsengineeringau.2c00010
33. Victor N. Sagel, Kevin H.R. Rouwenhorst, **Jimmy A. Faria*,** "Green ammonia enables sustainable energy production in small island developing states: A case study on the island of Curaçao", Renewable and Sustainable Energy Reviews 161 (2022) 112381. doi: 10.1016/j.rser.2022.112381
32. Maria Joao Enes da Silva, Aayan Banerjee, Leon Lefferts, **Jimmy Alexander Faria Albanese***, "*In-situ* ATR-IR Spectroscopy Reveals Complex Absorption-Diffusion Dynamics in Model Polymer-Membrane-Catalyst Assemblies (PCMA)", ChemCatChem, (2022), doi: 10.1002/cctc.202101835.
31. Maria João Enes da Silva, Leon Lefferts, **Jimmy Alexander Faria Albanese*,** "N-isopropylacrylamide polymer brushes alter the micro-solvation environment during aqueous nitrite hydrogenation on Pd/Al_2O_3 catalyst", Journal of Catalysis 402, (2021), doi:10.1016/j.jcat.2021.08.003
30. **Jimmy Faria-Albanese*,** "Renaissance of Ammonia Synthesis for Sustainable Production of Energy and Fertilizers", Curr. Opin. Green Sustain. Chem. (2021) doi:10.1016/j.cogsc.2021.100466.
29. Nuria García-Moncada, Juan Carlos Navarros, José Antonio Odriozola, Leon Lefferts, **Jimmy A. Faria***, "Enhanced catalytic activity and stability of nanoshaped Ni/CeO_2 for CO_2 methanation in micro-monoliths", Catal. Today, (2021) doi:10.1016/j.cattod.2021.02.014.
28. Azam Anaraki Firooz,* Masoumeh Ghalkhani,* Jimmy A. Faria Albanese, Maryam Ghanbari, "High electrochemical detection of dopamine based on Cu doped single phase hexagonally ZnO plates", Materials Today Communications, (2021), 10.1016/j.mtcomm.2020.101716.
27. Maria Pappaterra, Pengyu Xu, Walter van der Meer, Jimmy A. Faria,* David Fernandez Rivas,* Cavitation intensifying bags improve ultrasonic advanced oxidation with Pd/Al2O3 catalyst", Ultrasonics Sonochemistry 70, (2021), 10.1016/j.ultsonch.2020.105324.
26. David Fernandez Rivas, Daria C. Boffito, **Jimmy Faria-Albanese**, Jarka Glassey, Nona Afraz, Henk Akse, Kamelia.V.K. Boodhoo, Rene Bos, Judith Cantin, Yi Wai (Emily) Chiang, Jean-Marc Commenge, Jean-Luc Dubois, Federico Galli, Jean Paul Gueneau de Mussy, Jan Harmsen, Siddharth Kalra, Fred Keil, Ruben Morales-Menendez, Francisco J. Navarro-Brull, Timothy Noël, Kim Ogden, Gregory S Patience, David Reay, Rafael M. Santos, Ashley Smith-Schoettker, Andrzej

I. Stankiewicz, Henk van den Berg, Tom van Gerven, Jeroen van Gestel, Michiel van der Stelt, Mark van de Ven, R. S. Weber, “Process intensification education contributes to sustainable development goals. Part 2”, Education for Chemical Engineers 32, 15–24 (2020). 10.1016/j.ece.2020.05.001

25. David Fernandez Rivas, Daria C. Boffito, **Jimmy Faria-Albanese**, Jarka Glassey, Nona Afraz, Henk Akse, Kamelia.V.K. Boodhoo, Rene Bos, Judith Cantin, Yi Wai (Emily) Chiang, Jean-Marc Commenge, Jean-Luc Dubois, Federico Galli, Jean Paul Gueneau de Mussy, Jan Harmsen, Siddharth Kalra, Fred Keil, Ruben Morales-Menendez, Francisco J. Navarro-Brull, Timothy Noël, Kim Ogden, Gregory S Patience, David Reay, Rafael M. Santos, Ashley Smith-Schoettker, Andrzej I. Stankiewicz, Henk van den Berg, Tom van Gerven, Jeroen van Gestel, Michiel van der Stelt, Mark van de Ven, R. S. Weber, “Process intensification education contributes to sustainable development goals. Part 1”, Education for Chemical Engineers 32, 1–14, (2020). 10.1016/j.ece.2020.04.003.
24. Daniel Santhanaraj, Maria P. Ruiz, Mallik R. Komarneni, Tu Pham, Gengnan Li, Daniel E. Resasco, and **Jimmy Faria***, "Synthesis of α,β- and β-Unsaturated Acids and Hydroxy Acids by Tandem Oxidation, Epoxidation, and Hydrolysis/Hydrogenation of Bioethanol Derivatives", Angew. Chem. Int. Ed., 59 (2020), 1-6, 9, 11, (2019). 10.1002/anie.202002049.
23. Pengyu Xu, Shilpa Agarwal, **Jimmy Faria Albanese**, Leon Lefferts, "Enhanced transport in Gas-Liquid-Solid catalytic reaction by structured wetting properties: Nitrite hydrogenation", Chemical Engineering and Processing: Process Intensification, 148 (2020) 107802, 10.1016/j.cep.2020.107802.
22. Daniel Goma,Juan José Delgado, Leon Lefferts, **J. Faria**, José Juan Calvino, and Miguel Ángel Cauqui, "Catalytic Performance of Ni/CeO2/X-ZrO2 (X = Ca, Y) Catalysts in the Aqueous-Phase Reforming of Methanol", Nanomaterials, 9, 11, (2019) 1582, 10.3390/nano9111582.
21. Manuel Antonio Díaz-Pérez, Javier Moya, Juan Carlos Serrano-Ruiz , and **J Faria*,** "Interplay of Support Chemistry and Reaction Conditions on Copper Catalyzed Methanol Steam Reforming", Ind. Eng. Chem. Res., 57, 45 (2018), 15268. 10.1021/acs.iecr.8b02488.
20. Zheng Zhao, Lu Zhang, Qiaohua Tan, Feifei Yang, **J. Faria**, Daniel Resasco, "Synergistic bimetallic Ru–Pt catalysts for the low-temperature aqueous phase reforming of ethanol", AIChE Journal (2018), 10.1002/aic.16430.
19. Beatriz Gómez-Monedero, M. Pilar Ruiz, Fernando Bimbela, **J. Faria***, "Selective depolymerization of industrial lignin-containing stillage obtained from cellulosic bioethanol processing", Fuel Process. Technol., 173 (2018) 165.
18. B. Gómez-Monedero, M. P. Ruiz, **J. Faria***, “Catalytic hydroprocessing of lignin β-O-4 ether bond model compound phenethyl phenyl ether over ruthenium catalysts”, Biomass Conversion and Biorefinery, 10.1007/s13399-017-0275-5 (2017).
17. N. Aranda-Pérez, M. Pilar Ruiz, J. Echave, and **J. Faria*** “Enhanced Activity and Stability of Ru-TiO_2 Rutile for Aqueous Phase Ketonization”, Applied Catalysis A: General, 531 (2017) 106.
16. B. Gómez-Monedero, M. P. Ruiz, J. **Faria***, “Selective Hydrogenolysis of a-O-4, b-O-4, 4-O-5 C-O Bonds of Lignin-Model Compounds and Lignin-containing Stillage Derived from Cellulosic Bioethanol Processing”, Applied Catalysis A: General http://dx.doi.org/10.1016/j.apcata.2017.04.022 (2017).
15. T. N. Pham, Z. Lu, D. Shi, M. R. Komarneni, M. P. Ruiz, **J. Faria*** and D. E. Resasco “Fine-Tuning the Acid-Base Properties of Boron-Doped Magnesium Oxide Catalyst for Selective Aldol-Condensation”, ChemCatChem 8 (2016) 3611.
14. L. Zhang, T. N. Pham, **J. Faria†**, D. Santhanaraj, T. Sooknoi, Q. Tan, Z. Zhao, and D. E. Resasco “Synthesis of C4 and C8 Chemicals from Ethanol on MgO Incorporated Faujasite Catalysts with Balanced Confinement Effects and Basicity” ChemSusChem, 10.1002/cssc.201501518 (2016).
13. **J. Faria†**, M.P. Ruiz, D.E. Resasco “Carbon Nanotube-Zeolite Hybrid Catalysts for Glucose Conversion in Water/Oil Emulsions”, ACS Catalysis 5 (2015) 4761.
12. Zhang, T. N. Pham, **J. Faria†**, and D. E. Resasco “Improving the selectivity to C4 products in the aldol condensation of acetaldehyde in ethanol over faujasite zeolites”, Applied Catalysis A: General 504 (2014) 119.
11. F. Bimbela, B. Gómez-Monedero, J. Arauzo, **J. Faria**, M. P. Ruiz. “Fast pyrolysis of red Eucalyptus, Camelina straw and Wheat straw in an ablative reactor”, Energy & Fuels 29 (2015) 1766.
10. D. Shi, **J. Faria†**, T. N. Pham, D. E. Resasco “Enhanced Activity and Selectivity of Fischer−Tropsch Synthesis Catalysts in Water/Oil Emulsions”, ACS Catalysis 6 (2014) 1944.
9. D. Shi, **J. Faria†**, A. A. Rownaghi, R. L. Huhnke, and D. E. Resasco “Fischer–Tropsch Synthesis Catalyzed by Solid Nanoparticles at the Water/Oil Interface in an Emulsion System”, Energy & Fuels 27 (2013), 10.

8. M.T. Jimaré, F. Cazaña, A. Ramirez, C. Royo, E. Romeo, **J. Faria**, D. Resasco and A. Monzón "Modeling experimental vanillin hydrodeoxygenation reactions in water/oil emulsions. Effects of mass transport", Catalysis Today 210 (2013), 89.
7. S. Drexler, **J. Faria**, M.P. Ruiz, J. Harwell, and D.E. Resasco. "Amphiphilic nanohybrids catalysts for reactions at the water/oil interface in subsurface reservoirs", Energy & Fuels, 26 (2012) 2231.
6. P. Zapata, **J. Faria**, M. P. Ruiz, D.E. Resasco. "Condensation/hydrogenation of biomass-derived oxygenates in water/oil emulsions stabilized by nanohybrid catalysts", Topic in Catalysis 55 (2011), 38.
5. P. Zapata[@], **J. Faria**[@], M.P. Ruiz and D.E. Resasco "Hydrophobic Zeolites for Biofuel Upgrading Reactions at the Liquid–Liquid Interface in Water/Oil Emulsions", Journal of American Chemical Society 134 (2012) 8570.
4. J. Baez, M. P. Ruiz, **J. A. Faria**, J. Harwell, B. Shiau, D. E. Resasco. "Stabilization of interfacially-active-nanohybrids/polymer suspensions and transport through porous media" Proceedings - SPE Symposium on Improved Oil Recovery 1 (2012), 766.
3. M.P. Ruiz, **J. Faria**, M. Shen, S. Drexler, T. Prasomsri, D.E. Resasco. "Nanostructured Carbon-Metal Oxide Hybrids as Amphiphilic Emulsion Catalysts", ChemSusChem 4 (2011) 964.
2. **J. Faria**, M.P. Ruiz, D.E. Resasco. "Phase-Selective Catalysis in Emulsions Stabilized by Janus Silica-Nanoparticles" Advanced Synthesis and Catalysis 352 (2010) 2359.
1. S. Crossley, **J. Faria**, M. Shen and D.E. Resasco. "Solid Nanoparticles that Catalyze Biofuel Upgrade Reactions at the Water/Oil Interface" Science 327 (2010) 68.

II) Book Chapters and Editorial work (*Edited Books and [@]Book Chapters)

6. Maria João Enes da Silva, **Jimmy Alexander Faria Albanese**[@*], Leon Lefferts*Elucidating Transport and Reaction Processes in Solid-Liquid Interfaces Using Attenuated Total Reflectance Infrared Spectroscopy (ATR-IR), 2022, Elsevier, in-printing.
5. **J. A. Faria A.**, B. Gómez-Monedero and M. P. Ruiz, "Challenges and Opportunities of Lignin Reductive Catalytic Depolymerization in the Bioethanol Refinery", 2019, ISBN-13: 978-1-53614-770-4, Nova Science Publishers, New York.
4. **J. A. Faria A.*,** M. P. Ruiz, "Climate Change Mitigation: Greenhouse Gas Reduction and Biochemicals", 2015, ISBN-13: 978-1771882422, Apple Academic Press, UK.
3. **J. A. Faria A.***, M. P. Ruiz, "Solid Waste as a Renewable Resource: Methodologies", 2015, ISBN-13: 978-1771882439, Apple Academic Press, UK.
2. J. C. Serrano-Ruiz, M. P. Ruiz, **J. Faria**[@], "An introduction to Green chemistry methods", 2013, ISBN: 978-1-909453-11-1. Editors: R. Luque and J. C. Colmenares, Future Science Ltd, UK.
1. D.E. Resasco, **J. Faria**[@], S. Sitthisa, T. Prasomsri, M.P. Ruiz. "Furfurals as chemical platform for biofuel production", in "Heterogeneous catalysis in biomass to chemicals and fuels", 2011, ISBN: 978-81-308-0462-0, Editors: David Kubička and Iva Kubičkova, Research Signpost, Kerala, India.

LIST OF PATENTS and PATENT APPLICATIONS

7. **J. A. Faria**[*], M.P. Ruiz, B. Gómez, M. Lecea, "A catalytic process for the depolymerization of lignin", Spanish Patent Office (Spanish Patent Application Number P201630455). 2015.
6. **J. A. Faria**[*], M.P. Ruiz, D.E. Resasco, T. N. Pham, M. R. Komarneni, D. S. Bakiaraj, "Process of obtainment of an unsaturated acid", Spanish Patent Office (Spanish Patent Application Number P201531162). 2015.
5. D.E. Resasco, **J. A. Faria**[†], M.P. Ruiz, "Catalytic conversion of carbohydrates to diketones and hydroxyacids", Spanish Patent Office (Spanish Patent Application Number P201431785). 2014.
4. D.E. Resasco, T. N. Pham, Zhang L., **J. A. Faria**[†], M.P. Ruiz, "Microporous catalyst with selective encapsulation of metal oxides useful for producing butadiene precursors", ES application number P201431595 and US application number 62/072,574. 2014.
3. D.E. Resasco, T. N. Pham, Zhang L., **J. A. Faria**[†], M.P. Ruiz, "Mixed oxides comprising magnesium and boron, and their use as catalysts for producing butadiene precursors", ES application number P201431594 and US application number 62/072,538. 2014.
2. **J. A. Faria**, J. M. Nelson, U. P. Paul, D. K. Smith, "Catalysts for renewable hydrogen production from oxygenated feedstocks". PTC/US2013/068380. 2012.
1. D.E. Resasco, S. Drexler, J. Harwell, B. Shiau, M. Kadhum, **J. Faria**, M.P. Ruiz. "Method and Foam composition for recovering hydrocarbons from a subterranean reservoir". US 20150175876 A1. 2011.