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Dr Paramaconi Rodriguez PhD

Birmingham Fellow

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About

Paramaconi Rodriguez is Birmingham Fellow of the School of Chemistry since Nov 2012.

Paramaconi has published more than 30 manuscripts in peer-reviewed scientific journals including high impact factor chemistry journals as Nature Chemistry, J. Am.Chem. Soc. and Angew. Chem. Int. Ed. In addition two patents have being filed. Paramaconi's work has being highlighted on the cover of the PCCP, Nature Chemistry and ChemPhysChem journals.

His research work has being also recognized with several fellowships and awards from the International Society of Electrochemistry, the Science National foundation of Netherlands (NWO) and recently the Birmingham Fellowship.

Presented over 50 oral presentations, invited and keynote lectures at universities, research institutes and international conferences.

For press coverage related to his work:

science.leidenuniv.nl/index.php/faculteit/newsitem/goudkatalyse_heeft_baat_bij_koolmonoxide/ (http://science.leidenuniv.nl/index.php/faculteit/newsitem/goudkatalyse_heeft_baat_bij_koolmonoxide/) (in Dutch)

www.chemistryviews.org/details/news/1438035/Carbon_Monoxide_Promotion.html (http://www.chemistryviews.org/details/news/1438035/Carbon_Monoxide_Promotion.html)

www.chemistryviews.org/details/news/1477681/New_Method_for_Cleaning_Catalysts.html (http://www.chemistryviews.org/details/news/1477681/New_Method_for_Cleaning_Catalysts.html)

Qualifications

- Birmingham Fellow, School of Chemistry, University of Birmingham, November 2012
- Scientific Officer, Electrochemical Energy Conversion Section, Paul Scherrer Institute, 2011
- Researcher, Surface Chemistry and Catalysis group. University of Leiden, 2007/20011
- PhD (CUM LAUDE) in Material Science in the University of Alicante, Spain, 2007
- Msc in Material science in the University of Alicante, Spain, 2005
- Degree in Chemistry in the University Simón Bolívar, Venezuela, 2003

Biography

Paramaconi Rodríguez was born in Caracas (Venezuela) in 1979. He studied Chemistry at the University Simón Bolívar in 1997-2003. He combined his degree in chemistry with a 3-years research work on the electrochemical oxidation of phenols on lead-oxide electrodes under the supervision of Prof. Dr. Carlos Borrás. Later, he also participated in the study the oxidation of thiophene in microemulsion systems using a rotating pump reactor, under the supervision of Prof. Dr. Jorge Mostany. Afterwards, he moved to Alicante (Spain) to do his Ph.D with Prof.dr. Juan Feliu and Prof Enrique Herrero. He worked on the electrochemical characterization of single-crystal platinum surfaces and platinum nanoparticles using electrochemical tools. During this period Paramaconi performed two research visits, in Guelph (Canada) with Prof. Dr. Jacek Lipkowski and in Bern (Switzerland) with Prof. Dr. David Fermín in Bern. He received his Ph.D degree, Cum-Laude, in April 2007 and he recieved the prize for the best PhD thesis of the Materials Science and chemistry of the University of Alicante. In October 2007, Paramaconi started his post-doc in Leiden under the supervision of Marc Koper. In 2010 Paramaconi Rodríguez has been awarded with a VENI grant for his proposal "Elucidating the catalytic properties of gold by electrochemistry" and in 2011, he recieved the International Society of electrochemistry (ISE) Travel Awards for Young Electrochemists.

He continued his career at the Electrocatalysis and Interfaces group in the Paul Scherrer Institute (PSI) in Switzerland in 2011 and currently he is Birmingham Fellow in the University of Birmingham and Visitor Scientific Officer in the PSI

Research

RESEARCH THEMES

- Electrocatalysis
- Polymer electrolyte fuel cell (PEFC)
- Waste water remediation
- CO2 reduction
- Li-batteries
- Synthesis of metal nanoparticles
- Gold Catalysis

- Surface structure sensitive reaction

RESEARCH ACTIVITY

- Molecular-level understanding of (electro)catalysis
- Effect of the surface structure and composition on adsorption processes and heterogeneous catalysis
- Rational design of new materials with improved catalytic and durability properties for Fuel cell applications
- Bioelectrochemistry. Adsorption of metallorganic complex

Publications

1. Annett Rabis, Paramaconi Rodriguez, and Thomas J. Schmidt. (2012), Electrocatalysis for Polymer Electrolyte Fuel Cells: Recent Achievements and Future Challenges. ACS Catal., 2 (5) : 864–890
2. Nuria Garcia-Araez, Paramaconi Rodriguez, Huib J. Bakker, Marc T.M. Koper. (2012),Effect of the Surface Structure of Gold Electrodes on the Coadsorption of Water and Anions. J. Phys. Chem. C. 116: 4786-4792
3. J.Monzo, M.T.M Koper, P.Rodriguez. (2012), Removing Polyvinylpyrrolidone from catalytic Pt nanoparticles without modification of superficial order. ChemPhysChem 13(3):709-715
4. P.Rodriguez, Y. Kwon and M.T.M. Koper. (2012), The promoting effect of adsorbed carbon monoxide on the oxidation of alcohols on a gold catalyst. Nature Chemistry 4:177-182
5. P.Rodriguez, A.I. Yanson, F.D. Tichelaar, M.T.M Koper. (2011), An easy and effective way to prepare clean metal alloys nanoparticles. J. Am. Chem. Soc.133 (44): 17626–17629
6. Matteo Duca, Marta C. Figueiredo, Victor Climent, Paramaconi Rodriguez, Juan M. Feliu, Marc T.M. Koper. (2011) Selective catalytic reduction at flawless Pt (100) sites: the pathway from nitrite to N2. J. Am. Chem. Soc.133 (28):10928–10939
7. Youngkook Kwon, Stanley C.S. Lai, Paramaconi Rodriguez, Marc T.M. Koper. (2011), On the catalytic activity of gold towards the oxidation of alcohols in alkaline solution. J.Am.Chem Soc.133 (18): 6914–6917
8. A.I. Yanson, P.Rodriguez, N. Garcia-Araez, R.V. Mom, F.D. Tichelaar, M.T.M Koper. (2011), Cathodic corrosion- a quick, clean and versatile method for synthesis of metallic nanoparticles. Angew. Chem. Int. Ed ,50:6346-6350
9. M.Duca, M.Oroval Cucarella, P.Rodriguez and M.T.M Koper. (2010), Direct reduction of nitrite to N2 on a Pt (100) electrode in alkaline media. J.Am.Chem.Soc 132 (51):18042-18044
10. C.Stoffelsma, P.Rodriguez, G.Garcia, N. Garcia-Araez, D.Strmcnik, N. Markovic and M.T.M. Koper. (2010), Promotion of the oxidation of carbon monoxide at stepped platinum single-crystal electrodes in alkaline media by lithium and beryllium cations. J.Am.Chem.Soc. 132(45): 16127-16133
11. P. Rodríguez, A.A.Koverga, and M.T.M Koper. (2010), Carbon monoxide as a promoter for its own oxidation on a gold electrode. Angew. Chem. Int. Ed 49:1241-1243

Patents

1. Inventors: Alex Yanson, Paramaconi Rodriguez, Nuria García-Aráez, and Marcus. T.M. Koper. Process to prepare metal nanoparticles or metal oxide nanoparticles.10LU280 (P115406NL00)
2. Inventors: Paramaconi Rodriguez, Wei Liu, Annette Foelske, Rüdiger Kötz, Jipei Yuan, Anne-Kristin-Herrmann, Alexander Eychmüller, Thomas J. Schmidt. High surface area catalyst for electrochemical processes and manufacture method. (EP12177908201)

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