

Elzbieta A Pach

Education

Oct 2003 to June 2008 Jagiellonian University Cracow, Poland

Masters Degree in Organic Chemistry (Advisor: Janusz Jamrozik)

- Project title: “Studies of *mono*- and *tris*-propellanes of high steric specifications”

Feb 2007 to July 2007 University of Barcelona Barcelona, Spain

Erasmus Grant (Advisor: Josep M. Ribo)

- Laboratory project: “Amplification of chirality in Soai’s reaction”
- Laboratory project: “Aggregation of porphyrins in acetic acid solution”

Experience

April 2009 to present Lawrence Berkeley National Laboratory Berkeley, CA

Guest Scientist (Advisor: Miquel B. Salmeron, Materials Sciences Division)

- Synthesis of novel bi-metallic nanoparticles and its characterization by Electron Microscopy and X-Ray based techniques
- Studies on selectivity and yield enhancement in Fischer-Tropsch reaction on novel nanoparticles in home-built ambient pressure reactor
- In-situ X-Ray spectroscopic investigation of selectivity and yield enhancement in catalysis by novel nanomaterials (Advanced Light Source)
- In-situ Transmission Electron Microscopy investigation of nanoparticles dynamics during catalytic reaction (collaboration with Haimei Zheng, National Center for Electron Microscopy)

Nov 2008 to Feb 2009 Dockland’s Centre d’Idiomas Barcelona, Spain

English and Chemistry Teaching Fellow

- English classes for ages 9 to 11
- Individual Biochemistry classes for students

Awards

Feb 2007 to July 2007 University of Barcelona Barcelona, Spain

The Erasmus Program Grant (European Region Action Scheme for the Mobility of University Students)

Publications

“Revealing Correlation of Valence State with Nanoporous Structure in Cobalt Catalyst Nanoparticles by *in situ* Environmental TEM” Huolin L. Xin, Elzbieta A. Pach, Rosa E. Diaz, Eric A. Stach, Miquel Salmeron, Haimei Zheng* ACS Nano, submitted

Selected Presentations and Meetings

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| October 1 – 3, 2011 | Advanced Light Source User’s Meeting | Berkeley, CA |
| April 25 – 29, 2011 | Materials Research Society Spring Meeting and Exhibit | San Francisco, CA |
| <i>Presentation 1:</i> “In-situ Spectroscopic Study of the Oxidation of Cu(110) and Water Adsorption on CuOx at Near Ambient Conditions” P. Jiang, F. Borondisc, L. Giovanetti, J. Newberg, E. Pach, H. Bluhm and M. Salmeron | | |
| <i>Presentation 2:</i> “Study of Co-based Bimetallic Nanoparticle Catalysts for Fischer-Tropsch Synthesis by TEM” H. Zheng, E. Pach, M. Salmeron | | |
| March 24, 2011 | American Chemical Society National Meeting | Anaheim, CA |
| <i>Presentation:</i> “In-situ Spectroscopic Study of the Oxidation of Cu(110) and Water Adsorption on CuOx at Near Ambient Conditions” ” P. Jiang, F. Borondisc, L. Giovanetti, J. Newberg, E. Pach, H. Bluhm and M. Salmeron | | |
| Feb 15, 2008 | XVIIth Meeting of Institute of Organic Chemistry, Polish Academy of Science | Szczyrk, Poland |
| <i>Presentation:</i> “The studies of <i>Mono-</i> and <i>tris-</i> propellanes of high steric specifications” E. Pach, J.Jamrozik | | |

Skills

Nanoparticle Synthesis: size control, mono- and bi-metallic nanoparticles, alloy and core-shell, sol-gel

Air-free synthesis: Schlenk line and Glove-box techniques, sublimation, re-crystallization

Analysis and Characterization: Scanning and Transmission Electron Microscopy, Powder X-Ray Diffraction, X-Ray Photoelectron Spectroscopy, X-Ray Absorption Spectroscopy, Nuclear Magnetic Resonance, Infrared Spectroscopy, UV-Vis Spectroscopy, Circular Dichroism, Mass Spectrometry, Gas Chromatography, Liquid Chromatography

Computer: CasaXPS, Igor, ImageJ, MestRec, ChemDraw, ChemSketch, Microsoft Office, Photoshop

Languages: Polish (native), English (fluent), Spanish (fluent)

References Upon request.
