

Curriculum Vitae

Juan Pablo Esquivel Bojorquez, Ph.D.

CSIC Tenured Scientist

Instituto de Microelectrónica de Barcelona, IMB-CNM (CSIC)
juanpablo.esquivel@csic.es · Tel: (+34) 93 594 7700
www.speedresearchgroup.com

Co-founder and Scientific Advisor

Fuelium, S.L.
jpesquivel@fuelium.tech
www.fuelium.tech



juanpabloeb

Academic Degrees

2010 – PhD in Electronics Engineering, Universidad Autónoma de Barcelona, Spain
2008 – MSc in Micro and Nanoelectronics, Universidad Autónoma de Barcelona, Spain
2005 – BSc in Mechatronics Engineering, Tecnológico de Monterrey, Mexico

Other studies

2012 – U2B: From University to Business. Entrepreneurship and Start-up Management, Universidad Autónoma de Barcelona, Spain
2003 – International Student Exchange Program, Helsinki University of Technology, Finland

Professional activities

2017 – Present: CSIC Tenured Scientist, IMB-CNM (CSIC), Barcelona, Spain
2016 – 2017: Marie Curie Fellow Researcher, IMB-CNM (CSIC), Barcelona, Spain
2013 – 2016: Senior Fellow Researcher, University of Washington, Seattle, USA
2010 – 2013: Postdoctoral researcher, IMB-CNM (CSIC), Barcelona, Spain
August-December 2004: Research assistant, Tecnológico de Monterrey, Mexico

Entrepreneurial activities

September 2015 - Present: Co-founder and scientific advisor, Fuelium, S.L., Barcelona, Spain

Fields of Competence

Micro fuel cells, batteries, paper microfluidics, organic electronics, circular economy

Executive summary of scientific production and impact

total number of publications	37
patents	8
number of conference contributions	52 (31 oral presentations, 12 presented himself)
total number of ISI-citations	513 (451 without self-citations)
h index	14 (13 without self-citations)

Language Skills

Spanish, English, German, Catalan

Fellowships

- Marie Curie International Outgoing Fellowship
7th European Community Framework Programme, August 2013
- Santander Young Researchers Fellowship
Banco Santander, Spain, July 2011
- Research training JAE program scholarship
National Ministry of Science and Innovation (MICINN), Spain, October 2009
- Mobility fellowship for obtaining European Doctorate Mention
National Ministry of Science and Innovation (MICINN), Spain, July 2009
- Doctoral student scholarship
National Council on Science and Technology (Conacyt), Mexico, September 2006

Distinctions & Awards

- Science for Solving Society's Problems Challenge, Bill & Melinda Gates Foundation / ECS, Oct 2014
- TR35 Mexico - MIT's Technology Review, May 2012
- National Researcher Level 1 - SNI (Conacyt), Mexico, 2011
- Outstanding PhD thesis - Universidad Autónoma de Barcelona, Spain, 2010
- *Cum Laude*, European Doctorate Mention - Universidad Autónoma de Barcelona, Spain, 2010
- *Magna Cum Laude*, Bachelor of Science - Tecnológico de Monterrey, México, 2005

Organizational skills

Coordinator - Symposium bioMEMS, Monterrey, México, 2005

Coordinator - Symposium de Microsistemas, Monterrey, México, 2004

Visiting Fellowships

2011 July-September

Centro de Investigación y Desarrollo Tecnológico en Electroquímica, Querétaro, Mexico

Characterization of polymeric microfluidic fuel cells

2010 July-August

Helmholtz Zentrum Berlin für Materialien und Energie, Berlin, Germany

Design and fabrication of micro fuel cell-powered microfluidic platform

2009 July-September

Helmholtz Zentrum Berlin für Materialien und Energie, Berlin, Germany

Development of micro fuel cells with polymer micro and nanostructuring

Research Projects Participation

PowerPAD: Biodegradable redox paper fuel cell

Nov 2014 – Oct 2015, Electrochemical Society and Bill and Melinda Gates Foundation

Autonomous Paper-based Point-of-Care Biosensing System (APPOCS)

Aug 2013 – Feb 2017, Marie Curie International Outgoing Fellowship, European Community FP7

Desarrollo de micro pilas de combustible monolíticas basadas en tecnologías de silicio (MPILA)

Oct 2007 – Sep 2009, Spanish Ministry of Science and Innovation, MEC TEC-2007-64669

Microtechnology-based fuel Cells for Ambient intelligence and Low power Applications (MICAELA)

Oct 2009 – Sep 2012, Spanish Ministry of Science and Innovation, MICINN-TEC2009-14660-C02-01

Selected scientific publications

A Metal-Free and Biotically Degradable Battery for Portable Single-Use Applications

J.P. Esquivel, P. Alday, O.A. Ibrahim, B. Fernández, E. Kjeang, N. Sabaté

Advanced Energy Materials (2017) 201700275

Microfluidic fuel cells on paper: meeting the power needs of next generation lateral flow devices

J.P. Esquivel, J. Del Campo, J.L. de la Fuente, S. Rojas and N. Sabaté

Energy and Environmental Science 7 (2014) 1744-1749

Featured in *Science Magazine*, *Chemistry World*

Fuel cell-powered microfluidic platform for Lab-on-a-Chip applications

J.P. Esquivel, M. Castellarnau, T. Senn, B. Löchel, J. Samitier, N. Sabaté

Lab Chip 12 (2012) 74-79 – **JOURNAL FRONT COVER**

Featured in *Chemistry World*, TOP 10 Most accessed articles Nov 2011

Selected Patents

J.P. Esquivel, N. Sabaté, P. Alday, E. Kjeang, O. Ibrahim

Portable and disposable power source for measuring and/or monitoring solutions, EP15200865.2, Dec 2015

J.P. Esquivel, N. Sabaté, F.J. Del Campo, J. Buser

Dispositivo generador eléctrico que incorpora una pila de combustible, PCT/2016070221, March 2015

N. Sabaté, J.P. Esquivel

Fuel cell and analysis device that comprise it, PCT/EP2013/062718, June 2012