

PERSONAL INFORMATION

Family name, First name: López De Lacey, Antonio

Researcher unique identifier:0000-0002-9347-0452 ORCID

Date of birth: July 4th, 1966

Nationality: Spanish

- URL: <https://icp.csic.es/profile/lopez-de-lacey-antonio/> and <https://icp.csic.es/research/research-groups/bioelectrocatalysis/>

• EDUCATION

1995 PhD in Chemistry, Universidad Autónoma de Madrid/, Spain

1989 Grade in Chemistry, Universidad Complutense de Madrid/ Spain

• CURRENT POSITION(S)

2023 Research Professor, Institute of Catalysis and Petrochemistry, CSIC/, Spain

• PREVIOUS POSITIONS

2011-2023 Research Scientist, Institute of Catalysis and Petrochemistry, CSIC, Spain

2003-2011 Staff Scientist/ Institute of Catalysis and Petrochemistry, CSIC, Spain

2001-2003 “Ramón y Cajal” Tenure Track, Institute of Catalysis and Petrochemistry, CSIC/, Spain

1998-2001 Postdoctoral Researcher, Institute of Catalysis and Petrochemistry, CSIC, Spain

1996-1998 Postdoctoral Marie Curie Researcher, Laboratory of Enzyme Technology, CNRS, France

1995-1996 Postdoctoral Researcher, Institute of Catalysis and Petrochemistry, CSIC, Spain

1991-1995 Predoctoral Student/ Institute of Catalysis and Petrochemistry, CSIC, Spain

1990 PostGraduate Student/ Institute of Catalysis and Petrochemistry, CSIC, Spain

• FELLOWSHIPS AND AWARDS

2001-2003 “Ramón y Cajal” Tenure Track Contract, Spanish Ministry of Science

2000-2001 Postdoctoral Fellowship, Madrid Regional Government

1996-1998 Marie Curie Postdoctoral Individual Fellowship, European Union 4th Framework Programme

• ORGANISATION OF SCIENTIFIC MEETINGS

2024 Co-Chair of the 28th International Symposium of the Bioelectrochemistry Society

2019 Co-Chair of the 12th International Hydrogenase Conference,

• INSTITUTIONAL RESPONSIBILITIES

2017-2023 ViceDirector of the Institute of Catalysis and Petrochemistry, CSIC, Spain

2011-2017 Head of Biocatalysis Department/ Institute of Catalysis and Petrochemistry/ CSIC/ Spain

2004-2011 Secretary of the Scientific Cloister/ Institute of Catalysis and Petrochemistry/ CSIC/ Spain

- **RESEARCH INTERESTS**

Redox metalloenzymes, bioelectrocatalysis, enzymatic biofuel cells, biosensors, hydrogen conversion, carbon dioxide reduction, nanobioelectronics, photoelectrochemistry, bioelectrosynthesis

- **PUBLICATIONS**

114 articles in SCI journals, h=41, 6493 citations. Relevant articles of the last 10 years:

- . G. García-Molina, P. Natale, A. M. Coito, D. G. Cava, I. A. C. Pereira, I. López-Montero, M. Vélez, M. Pita, A. L. De Lacey. "Electro-enzymatic ATP regeneration coupled to biocatalytic phosphorylation reactions". Bioelectrochemistry 152, 107490 (2023).
- J. Álvarez-Malmagro, A. R. Oliveira, C. Gutiérrez-Sánchez, B. Villajos, I. A. C. Pereira, M. Vélez, M. Pita, A. L. De Lacey. "Bioelectrocatalytic activity of W-formate dehydrogenase covalently immobilized on functionalized gold and graphite electrodes". ACS. Appl. Mater. Interfaces 13, 11891-11900 (2021).
- G. García-Molina, P. Natale, L. Valenzuela, J. Alvarez-Malmagro, C. Gutiérrez-Sánchez, A. Iglesias-Juez, I. López-Montero, M. Vélez, M. Pita, A. L. De Lacey. "Potentiometric detection of ATP based on the transmembrane proton gradient generated by ATPase reconstituted on a gold electrode". Bioelectrochemistry 133, 107490 (2020).
- J. Szczesny, A. Ruff, A. R. Oliveira, M. Pita, I. A. C. Pereira, A. L. De Lacey, W. Schuhmann. "Electroenzymatic CO₂ Fixation at Polymer/Enzyme Modified Gas Diffusion Layer". ACS Energy Lett. 5, 321-327 (2020).
- S. Abdellaoui, D. F. C. Macazo, R. Cai, A. L. De Lacey, M. Pita, S. D. Minteer. "Enzymatic electrosynthesis of alkanes by bioelectrocatalytic decarbonylation of fatty acids". Angew. Chem. Int. Ed. 57, 2404-2408 (2018).
- M. C. Marques, C. Tapia, O. Gutiérrez-Sanz, A. R. Ramos, K. L. Keller, J. D. Wall, A. L. De Lacey, P. M. Matias, I. A. C. Pereira. "The role of selenocysteine in the maturation and catalytic properties of [NiFeSe] hydrogenase". Nat. Chem. Biol. 13, 544-550 (2017).
- R. D. Milton, R. Cai, S. Abdellaoui, D. Leech, A. L. De Lacey, M. Pita and S. D. Minteer "Bioelectrochemical Haber-Bosch Process: An Ammonia-Producing H₂/N₂ Fuel cell". Angew. Chem. Int. Ed. 56, 2680-2683 (2017).
- O. Gutiérrez-Sanz, P. Natale, I. Márquez, M. C. Marques, S. Zacarías, M. Pita, I. A. C. Pereira, I. López-Montero, A. L. De Lacey, M. Vélez. "H₂-fueled ATP synthesis on an electrode: mimicking cellular respiration". Angew. Chem. Int. Ed. 55, 6216-6220 (2016).
- O. Gutiérrez-Sanz, C. Tapia, M. C. Marques, S. Zacarías, M. Vélez, I. A. C. Pereira, A. L. De Lacey. "Induction of a proton gradient across a gold-supported biomimetic membrane by electroenzymatic H₂ oxidation". Angew. Chem. Int. Ed. 54, 2684-2687 (2015).
- M. Pita, D. M. Mate, D. Gonzalez-Perez, S. Shleev, V. M. Fernandez, M. Alcalde, A. L. De Lacey. "Bioelectrochemical oxidation of water". J. Am. Chem. Soc. 136, 5892-5595 (2014).

- **SUPERVISION OF GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS**

2001-2023 14 Postdocs/ 10 PhD/ 7 Master Students