

GEMA PÉREZ

PhD in Chemical Engineering (2012)
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Current Position: Chemical Laboratory Technician

Research topics:

- Technical and analytical support to research projects:
 - Physico-chemical characterization
 - Microbiological analysis (*E.coli*, *Legionella*, eggs of nematode)
 - Control and maintenance of analytical facilities (HPLC, IC)
 - Developing and applying standardized analytical facilities
- Electrochemical oxidation with BDD electrodes for water regeneration:
 - Removal of nitrogen compounds (nitrate, nitrite, ammonium)
 - Treatment of RO concentrates
 - Disinfection of secondary effluents

• Publications:

- Pérez, G., Ibañez, R., Urtiaga, A.M., Ortiz, I. **Kinetic study of the simultaneous electrochemical removal of aqueous nitrogen compounds using BDD electrodes**, Under revision Chemical Engineering Journal, 2012.
- Pérez, G., Saiz, J., Ibañez, R., Urtiaga, A.M., Ortiz, I. **Assessment of the formation of inorganic oxidation by-products during the electrocatalytic treatment of ammonium from landfill leachates**, Water Research 46, 2579-2590, 2012.
- Pérez, G., Fernández-Alba, A.R., Urtiaga, A.M., Ortiz, I. **Electro-oxidation of reverse osmosis concentrates generated in tertiary wastewater treatment**, Water Research 44, 2763-2772, 2010.
- Pérez, G., Gómez, P., Ibañez, R., Ortiz, I., Urtiaga, A. **Electrochemical disinfection of secondary wastewater treatment plant (WWTP) effluent**, Water Science & Technology 62, 892-897, 2010.

• Congress contributions:

- **"Kinetics of the simultaneous electrochemical removal of nitrate and nitrite ions"** G. Pérez, A. Urtiaga, I. Ortiz. ANQUE-ICCE. International Congress of Chemical Engineering. Sevilla (Spain). June 2012. Submitted.
- **"Tertiary water treatment employing BDD electrodes. Electrooxidation of emerging micropollutants"** G. Pérez, I. Ortiz, A. Urtiaga. 9thESEE. "European Symposium on Electrochemical Engineering" Chania (Greece). June 2011. Oral Presentation.

- **“Removal of pharmaceutical compounds in the ultrafiltration/reverse osmosis treatment of the secondary effluent of a WWTP. Pilot scale monitoring”**. A. Urriaga, G. Pérez, I. Ortiz. International Congress on Membranes and Membrane Processes. ICOM 2011 Amsterdam (The Netherlands) July 2011. Oral Presentation.
- **“Design of an electro-oxidation process for disinfection of secondary effluents of wastewater treatment plants (WWTP)”** G. Pérez, A. Urriaga, I. Ortiz. 7th ANQUE International Congress. Integral Water Cycle. Present and Future. A Shared Commitment. Oviedo (Spain) June, 2010. Poster.
- **“UF-RO pilot plant treatment of the secondary effluent of a WWTP for industrial water reuse”** A. Urriaga, R. Ibañez, P. Gómez, A. Plaza, G. Pérez, I. Ortiz. VIIIth Ibero-American Conference on Membrane Science and Technology (CITEM 2010). Sintra (Portugal) April 2010. Oral Presentation.
- **“Assessment of a hybrid process for regeneration of secondary wastewater treatment plant (WWTP) effluents. Pilot plant operation”** G. Pérez, A. Urriaga, I. Ortiz. Euromembrane 2009. Montpellier (France) September 2009. Oral Presentation.
- **“Sustainable Technologies for Reclaimed Water Production: Electro-oxidation Treatment of the Reverse Osmosis Concentrate”** G. Pérez, P. Gómez, I. Ortiz, A. Urriaga. 8th World Congress of Chemical Engineering. Montreal (Canada) August 2009. Oral Presentation.
- **“Electrochemical disinfection of secondary wastewater treatment plant (WWTP) effluent”** G. Pérez, A. Urriaga, I. Ortiz, AOP5-5th IWA Specialist Conference on Oxidation Technologies for Water and Wastewater Treatment. Berlin (Germany) March 2009. Poster.

- **R&D Projects:**

Title: **TÉCNICOS DE APOYO CONVOCATORIA 2011**

Partners: Ministerio de Economía y Competitividad – Secretaria de Estado de Investigación, Desarrollo e Innovación y Universidad de Cantabria.

Duration, since 01/01/2012 to 31/12/2016.

Number of participants: 7

Title: **The application of green technologies for sustainable water purification and reuse “Greentech”**.

Partners: New Indigo Programme, networking projects in the field of water related challenges. 7^a Programa Marco. Universidad de Cantabria, University of Oulu (Oulu, Finland), Institute of Chemical Technology of Mumbai (Mumbai, India).

Duration, since, 01/01/2012 to 31/12/2013.

Number of participants: 30

Title: **INVESTIGACION Y DESARROLLO DE SEPARACIONES REACTIVAS. CONTRIBUCION AL DESARROLLO TECNOLÓGICO SOSTENIBLE**

Partners: Ministerio de Educación y Ciencia; Sociedad Regional Cantabria I+D+I S.L. (IDICAN); Universidad de Cantabria.

Duration, since 01/01/2009 to 31/12/2013.

Main researcher: Inmaculada Ortiz Uribe

Number of participants: 20

Title: **TRATAMIENTO Y REUTILIZACIÓN DE AGUA PARA UNA GESTIÓN SOSTENIBLE**

Partners: Ministerio de Educación y Ciencia; Sociedad Regional Cantabria I+D+I S.L. (IDICAN); Universidad de Alcalá de Henares; MARE S.A. (Medioambiente, Aguas, Residuos y Energía de Cantabria S.A.); Universidad de Cantabria.

Duration, since 26/06/2006 to 25/06/2012.

Main researcher: Inmaculada Ortiz Uribe

Number of participants: 18