FOTO

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Posición y cargo: Profesor asociado

Grupo de Investigación: IMDEA Agua. BioE (Biotechnoogy for a sustainable environment) (https://bioelectrogenesis.es/)

Docencia: Química General e Introducción al laboratorio / Química Inorgánica**.**

Área de Conocimiento: Química Inorgánica

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Biography:

Chemical Engineer (University of Alicante, Spain, 2002) and PhD Degree (Program "Electrochemistry, Science and Technology",2009. Supervisors: Prof. Antonio Aldaz and Prof. Vicente Montiel). Author of 31 scientific articles published in international journals (h-index = 15), more than 40 communications in national and international conferences and 3 international patents. On the period 2010- 2012, he was involved as a researcher in the BacWire project (European project co-financed by the 7th Framework Program). The final objective of the project was the development of a new concept of microbial fuel cell using nanomaterials and functionalized electrodes (www.bacwire.eu , coordinated by the University of Alicante). He collaborated in the design and construction of a bioelectrochemical cell reactor for simultaneous waste water treatment and electricity production (total electrode area of 0.8 m^2 - Pilot Plant scale).
In the period 2013-2015, he joined the Innovation Department of Aqualia (a Spanish company devoted to the management of the integral water cycle) as Project Manager, gaining a global vision of the water sector and its technological challenges. In 2015 he joined the Bioe Group (www.bioelectrogenesis.es) as a researcher at IMDEA Water Institute. Principal investigator of the project "BioDES: Microbiological desalination: low energy cost technology for obtaining drinking

water and treating waste water simultaneously" (CTM2015-74695-JIN, 2017-2019). Also, he participated as leader of a work package in the project "MIDES: Microbial Desalination for Low Energy Drinking Water" (No. 685793-H2020) (period 2016-2020), leading the construction of two Microbial Desalination Technology Pilot Plants (Production: 3.500 L / day of drinking water from brackish/marine water).
From the academic point of view, he collaborated in teaching activities at the University of Alicante in the degrees Chemical Engineering and Chemistry, and also in the PhD Program of "Hydrology and Management of Water Resources" at the Universidad de Alcalá- Universidad Rey Juan Carlos. He supervised 7 master's degree projects carried out by students of the Master's Program "Hydrology and Management of Water Resources" at IMDEA Water Institute. Supervisor of two doctoral theses related to water treatment technology.
Finally, he is member of the R&D committee of the International Desalination Association (IDA) for the period 2020-2022, and founding member of a spin-off company at the University of Alicante (http://www.g2mtech.com/).

Selected papers

1. Alberto Mozo, Jesús Morón-López, Stanislav Vakaruk, Ángel G. Pompa-Pernía, Ángel González-Prieto, Juan Antonio Pascual Aguilar, Sandra Gómez-Canaval, Juan Manuel Ortiz, Chlorophyll soft-sensor based on machine learning models for algal bloom predictions. *Sci Rep* **12**, 13529 (2022). https://doi.org/10.1038/s41598-022-17299-5
2. Ewusi-Mensah, D.; Huang, J.; Chaparro, L.K.; Rodenas, P.; Ramírez-Moreno, M.; Ortiz, J.M.; Esteve-Núñez, A. Algae-Assisted Microbial Desalination Cell: Analysis of Cathode Performance and Desalination Efficiency Assessment. Processes 2021, 9, 2011. https://doi.org/10.3390/pr9112011
3. Marina Ramírez-Moreno, Abraham Esteve-Núñez, Juan Manuel Ortiz, Desalination of brackish water using a microbial desalination cell: Analysis of the electrochemical behaviour, Electrochimica Acta, 388 (2021) 138570, https://doi.org/10.1016/j.electacta.2021.138570
4. A Lejarazu-Larrañaga, S Molina, JM Ortiz, R Navarro, E García-Calvo, Nitrate-Selective Anion Exchange Membranes Prepared using Discarded Reverse Osmosis Membranes as Support, Membranes **2020**, 10, 377; doi:10.3390/membranes10120377 www.mdpi
5. Ramírez-Moreno M, Rodenas P,Aliaguilla M, Bosch-Jimenez P, Borràs E, Zamora P, Monsalvo V, Rogalla F, Ortiz JM and Esteve-Núñez A (2019) Comparative Performance of Microbial Desalination Cells Using Air Diffusion and Liquid Cathode Reactions: Study of the Salt Removal and Desalination Efficiency. Front. Energy Res. 7:135. doi: 10.3389/fenrg.2019.00135

Patents

1. Ortiz Díaz-Guerra, Juan Manuel, Esteve-Núñez, Abraham, Borjas Hernández, Lidia Zulema, Monsalvo García, Víctor Manuel, Rogalla, Frank, METHOD OF DESALINATION AND WASTEWATER TREATMENT IN A MICROBIAL DESALINATION CELL REACTOR, EP 3 336 064 A1 (2016).
2. Patente Nacional (España): SISTEMA DE TRATAMIENTO DE LIXIVIADOS MEDIANTE ELECTROCOAGULACIÓN- P ES 2382274 B1. Genesca Francitorra, Roger (ES), Montiel Leguey, Vicente (ES); Aldaz Riera, Antonio (ES); Expósito Rodriguez, Eduardo (ES); García-García, Vicente (ES); Gallud Martinez, Francisco (ES); Ortiz Díaz-Guerra, Juan Manuel (ES).
3. Patente Nacional (España): SISTEMA AUTÓNOMO DE TRATAMIENTO DE AGUAS, numero

de solicitud, P201530629, referencia: PT:0053/2014. Autores: Montiel Leguey, Vicente (ES); Aldaz Riera, Antonio (ES); Expósito Rodriguez, Eduardo (ES); García-García, Vicente (ES); Gallud Martinez, Francisco (ES); Ortiz Díaz-Guerra, Juan Manuel (ES).

Others

- Founding partner of the Technological Base Company of the University of Alicante "Gas to Materials Technologies (G2M Tech)". (http://www.g2mtech.com). Company created in July 2011, dedicated to the construction and commercialization of microporous material characterization systems using high pressure adsorption isotherms (H_2, N_2, CH_4, Argon, Helium, etc.).
- Member of the Royal Spanish Chemical Society (RSQE), International Society of Electrochemistry (ISE) and International Society for Microbial Electrochemistry and Technology (ISMET).
- Participant in the Greenshouse and ClimateLaunchPad 2019 program of EIT Climate-KIC (Winner of the 2019 Spanish edition) (European Institute of Innovation & Technology (EIT). The objective of these programs is to train researchers and promote emerging 'green' business ideas to mitigate the effects of climate change.
- Member of the R&D committee of the International Desalination Association (IDA) for the period 2020-2022.

Research Interest:

Environmental biotechnology, microbial electrochemistry and technology, applied electrochemistry for environmental protection, biosensors and water quality monitoring, water technology, sustainable desalination, renewable energy.