Dr. Maximiliano Andrés Zensich

PhD in Chemistry

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Areas of interest

- Development of cathodes and anodes materials
- Chemistry of lithium battery
- Recovery of valuable materials
- Circular economy for energy materials

Skills

- Synthesis and physico-chemical characterization of materials
- Carbonous materials chemistry
- Electrochemical lithium extraction/purification procedures
- Lithium batteries characterization
- Teaching and Mentoring.

Biosketch

- 2019 - 2022. Post- doctoral fellow in the Molecular Electrochemistry Group at INQUIMAE – CONCET. Supervisor: Dr. Prof. Ernesto J. Calvo.
- 2019. PhD in chemistry. *Preparation and Characterization of Advanced Carbonaceous Nanomaterials. Energy Applications.* National University of Río Cuarto. Argentina. Supervisor: Dr. Gustavo Morales and Dr. Fernando Fungo.
- 2014. Diploma in Chemistry (5 years equivalent to BSc and MSc), National University of Río Cuarto.
- Born on December 15th of 1986, Río Gallegos, Santa Cruz, Argentina.

Journal articles

- **M. Zensich**, A. Rozenblit, A.Y. Tesio, E.J. Calvo. *Electrodialysis of LiH_2PO_4 for high-purity LiOH and green H_2 production*. Journal of The Electrochemical Society, 2022.
- Pecnikaj, I.; Orlandi, S.; Pozzi, G.; Cappellari, M.V.; Marzari, G.; Fernández, L.; **Zensich, M.A.**; Hernández, L.; Fungo, F.G. *Improving the Electropolymerization Properties of Fluorene-Bridged Dicarbazole Monomers through Polyfluoroalkyl Side Chains,* Langmuir, 2019.
- **M.A. Zensich**, T Jaumann, G.M. Morales, L Giebeler, C.A. Barbero, J Balach. *A top-down approach to build Li_2S@ rGO cathode composites for high-loading lithium–sulfur batteries in carbonate-based electrolyte*. Electrochimica Acta, 2019.
- N.M. Cativa, M.S. Alvarez Cerimedo, J. Puig, G.F. Arenas, F. Trabadelo, M.A. Ayude, **M.A. Zensich**, G.M. Morales, W.F. Schroeder, H.E. Romeo, C.E. Hoppe. *PEG-based cross-linked films with aligned channels: combining cryogenic processing and photopolymerization for the design of micro-patterned oriented platforms.* Molecular Systems Design & Engineering, Royal Society of Chemistry, 2019.
- Robledo, S. N., López, J. C., Granero, A. M., **Zensich, M. A.**, Morales, G. M., Fernández, H., & Zon, M. A. *Characterization of the surface redox process of caffeic acid adsorbed at glassy carbon electrodes modified with partially reduced graphene oxide*. Journal of Electroanalytical Chemistry, 2016.

Selected presentations at conferences

XXII National Meeting of Physics-chemistry and Inorganic Chemistry -CAFQI. "Study of CO_2 reduction on slightly reduced graphene oxide surface". April 2021.

Electrochemical Conference on Energy and the Environment: Bioelectrochemistry and Energy Storage "Synthesis and Characterization of a Composite Cathode Material (Li2S@rGO) for Li-S Batteries Made By in Situ Electrochemical Conversion of MoS_2@rGO". July. 2019

IV Nanocórdoba 2017. "Graphene Based Tridimensional Structures Modified with Gold Nanoparticles. Synthesis Conditions Effect". May. 2017.

XX National Meeting of Physics-chemistry and Inorganic Chemistry -CAFQI. "Study of CO_2 Adsorption on Graphene by Crystal Quartz Microbalance". May 2017.

20th Topical Meeting of the International Society of Electrochemistry – ISE. "FeOOH/Graphene Oxide Composite for Lithium-Ion Battery". March. 2017.

VII Meeting of Surface Physics-Chemistry 2016. EFYQS 2016. "Behaviour of Graphene Oxide in Basic Media. Chemical Structure". October. 2016.

Scholarships

- 2020 - 2022. Post-doctorate level scholarship of the National Scientific and Technical Research Council (CONICET), Argentina.
- 2014 - 2019. PhD student scholarship of the National Scientific and Technical Research Council (CONICET), Argentina.
- 2013. Research initiation scholarship of Argentine nanotechnology foundation.

Key achievements

- Design and building of two and three compartment electrodialysis reactor, with external gas separator setup, for lithium hydroxide extraction from lithium chloride and lithium phosphate solution.
- Development of antimicrobial silicone composites for medical catheter industrial production.

Teaching and mentoring

Supervision of students

- 2019. Jimena Berce. Undergraduate research assistantship. Cooperation agreement between INQUIMAE and YPF company. University of Buenos Aires.
- 2018. Florencia Podetti - Research assistant scholarship. National University of Río Cuarto.

Teaching

- 2020 – 2022. Graduate teaching assistant. Common Basic Cycle (CBC), University of Buenos Aires, Argentina.
- 2014 – 2018 Graduate teaching assistant. Chemistry Department, Faculty of Exact, physical-chemical and Natural Sciences, National University of Río Cuarto, Argentina.
- 2011 - 2013. Undergraduate teaching assistant at Chemistry Department, Faculty of Exact, Physical, Chemistry and Natural Sciences, University of Rio Cuarto, Argentina

Other skills

- Languages: English (Intermediate competition), Spanish (native).