

## PhD Candidate Profile

**Name:** Lis Manrique-Losada

**Research Group (if relevant):** Remediación Ambiental y Biocatálisis (GIRAB)

**Research Centre (if relevant):** N/A



**Department/School(s) (if relevant):**

Department of Chemistry

**College:**

University of Antioquia

**Supervisor(s):**

Dr. Ricardo Torres Palma

**Funding body:**

N/A

**Area (field) of study:**

Municipal wastewater treatment by Solar photo Fenton at natural pH and its combination with biological treatment

**Thesis Title:**

Municipal wastewater treatment of Florencia Caqueta by a combination of a biological process with advanced oxidation processes type Fenton.

**Abstract:**

Combined chemical and biological treatment systems have proven to be an efficient alternative to remediate municipal wastewater (MWW) with non-biodegradable organic matter. In this project, a system for the remediation of ARM will be developed, through the application of an anaerobic biological process combined with a process based on the photo-Fenton reaction, using sunlight as a source of radiation, in order to guarantee a high efficiency in oxidation and mineralization of the effluent, and a low-cost system designed in the environmental and socioeconomic context of the region. The matrix effects on the degradation and mineralization of the ARM and the performance of the reactors will also be investigated.

### Collaborations:

### Publications:

- Lis Manrique Losada, Erika Jasbleidy Laguna Castillo, Ederson Ardnnet Osorio Restrepo, and Ricardo A Torres-Palma. Treatment of dye-polluted waters by TiO<sub>2</sub>-photocatalysis using artificial and solar light. *Producción mas limpia*. December 2017 DOI: 10.22507/pml.v12n2a4.
- A.M. Botero-Coy, Diana Martinez-Pachon, C. Boix, Manrique-Losada Lis, Felix HernandezFelix Hernandez. An investigation into the occurrence and removal of pharmaceuticals in Colombian wastewater'. November 2018. *Science of The Total Environment* 642:842-853. DOI: 10.1016/j.scitotenv.2018.06.088.
- De La Vega, D., González, C., Escalante, C., Gallego, J., Salamanca, M., & Manrique Losada, L. Uso de zeolita faujasita para adsorción de iones en aguas residuales municipales. *Tecnología y Ciencias del Agua* (2018). 9(4), 184-208. DOI: 10.24850/j-tyca-2018-04-08.

### Presentations:

- 1er Congreso Colombiano de Procesos Avanzados de Oxidación. 2015-09-21 to 2015-09-24 At Manizales Colombia . Oral.
- II Seminario Internacional: Nuevos Conceptos del Uso de la Radiación Solar para la Descontaminación de Aguas 2016-08-31 to 2016-09-02 at Universidad de Cartagena, Cartagena Colombia. Oral.
- 3rd Iberoamerican Conference on Advanced Oxidation Technologies (III CIPOA) and 2nd Colombian Conference on Advanced Oxidation Processes (II CCPAOX). At: Guatapé Colombia. 2017. Oral and poster.
- VI Seminario Internacional de Química Aplicada para la Amazonia Tipo de evento: Seminario . 2017-05-10 to 2017-05-12 - Universidad de la Amazonia at Florencia Colombia. Oral.
- 10th European Meeting on Solar Chemistry and Photocatalysis: Environmental Applications . 2018-06-04 to 2018-06-08 - Palacio de Exposiciones y Congresos Cabo de Gata - Ciudad de Almería Spain. Poster.
- 3er Congreso Colombiano de procesos de oxidación avanzada. 28 oct – 2 nov 2018. Florencia Colombia.