## Name:

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## Research Group (if relevant):

Grupo de Investigación en Remediación Ambiental y Biocatálisis (GIRAB)

## Research Centre (if relevant):

N/A

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

N/A

## College:

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## Supervisor(s):

Dr. Ricardo Torres Palma

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## Funding body:

Departamento Administrativo de Ciencia, Tecnología e Innovación, COLCIENCIAS.

## Area (field) of study:

Water treatment by combined advanced oxidation processes- photocatalytic ozonation.

## Thesis Title:

Degradation of pharmaceutical compounds in hospital wastewater by photocatalytic ozonation.

## Abstract:

Hospital wastewater (HWW) have been singled out as one of the main point sources for pharmaceutical discharge in influents of wastewater treatment plants (WWTPs). Despite the growing concern about their potentially harmful nature of the substances they may contain, in many countries, including Colombia no distinction is usually made between HWW and urban wastewater (UWW), and are discharged without being previously treated into public sewage network and transported for co-treatment at the WWTPs. Given the concern over the risk posed by hospital effluent and their contribution of pharmaceutical compounds in water bodies, there is a need to implement efficient treatments for hospital effluents before their discharge into the sewage system, in order to minimize the pollutant load, especially of pharmaceuticals and the associated risk to human health and the environmental.

In this context, the object of research will be to contribute to new results and lead to the discussing of the development of more efficient strategies, such as photocatalytic ozonation (PO). While it is true that these combined advanced oxidation processes have been shown to exhibit very high treatment efficacy for the degradation of emerging compounds and minimization of total organic carbon, there are no reports in literature approached using PO in real hospital wastewater at pilot-scale.

## Collaborations:

N/A

## Publications:

N/A

## Presentations:

N/A