



PhD Candidate Profile

Name:

Pedro Luis Sanabria Florez

Research Group (if relevant):

Grupo de pesquisa em metodologias analíticas e processos avançados-GMAPS

Research Centre (if relevant):

N/A

Department/School(s) (if relevant):

Instituto de Química - Dep. de Química Inorgânica

College:

Universidade Federal do Rio Grande do Sul

Supervisor(s):

Dr. Carla Sirtori

Funding body:

Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES-Brazil)

Area (field) of study:

Removal of emerging contaminants in water by advanced oxidation processes

Thesis Title:

Chemotherapics degradation by Fenton and photo-Fenton solar processes in neutral pH: identification of processing products and risk assessment.

Abstract:

Chemotherapics are widely used micro-pollutants in the treatment of breast cancer. Given their high consumption these chemicals end up being present in the domestic and hospital effluent, which if not treated by efficient processes.

In this work we study the application of the advanced oxidation process (solar photo-Fenton) for the degradation of chemotherapics in hospital effluent, simulated effluent water and distilled water. As wastewater treatment plants are unable to completely eliminate compounds (emerging contaminants) it is necessary to treat effluents.

The degradation will allow the evaluation of the kinetic study of the degradation of the compounds, as well as the identification of potential transformation products generated using high resolution exact mass techniques. Finally, after the total degradation of chemotherapics the reuse of treated water will be evaluated. Another section of the research will be risk evaluation using the QSARs model.





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Collaborations:

N/A

Publications:

- Leonor Yamile Vargas-Méndez, Doris Natalia Rosado-Solano, Pedro Luis Sanabria-Flórez, Carlos Eduardo Puerto-Galvis, Vladimir Kouznetsov. "In vitro antioxidant and anticholinesterase activities and in vivo toxicological assessment (Zebrafish embryo model) of ethanolic extracts of *Capsicum chinense* Jacq". *Journal of Medicinal Plants Research* 10(6), 59-66, 2016.
- Doris Natalia Rosado-Solano, Mario Alberto Baron-Rodríguez, Pedro Luis Sanabria Florez, Luz Karime Luna-Parada, Carlos Eduardo Puerto-Galvis, Andres Felipe Zorro-Gonzalez, Vladimir V. Kouznetsov, Leonor Yamile Vargas-Mendez. "Synthesis, Biological Evaluation and In Silico Computational Studies of 7-Chloro-4-(1H-1,2,3-triazol-1-yl)quinoline Derivatives: Search for New Controlling Agents against *Spodoptera f rugiperda* (Lepidoptera: Noctuidae) Larvae". *J. Agric. Food Chem.* 67, 9210-9219, 2019.
- Leonor Y. Vargas-Méndez, Pedro L. Sanabria-Flórez, Laura M. SaavedraReyes, Diego R. Merchan-Arenas, Vladimir V. Kouznetsov. "Bioactivity of semisynthetic eugenol derivatives against *Spodoptera frugiperda* (Lepidoptera: Noctuidae) larvae infesting maize in Colombia". *Saudi Journal of Biological Sciences* 26, 1613-1620, 2019.

Presentations:

33° Congreso Latinoamericano de Química, CLAQ y el X Congreso de Ciencias Químicas, Tecnología e Innovación, QUIMICUBA2018. ESTUDIO DE DEGRADACIÓN DE AGROTÓXICOS VÍA SISTEMAS FOTO-FENTO MEDIANTE LA UTILIZACIÓN DE LÁMPARAS DE LED?S. 2018. (Congreso)

X Simpoquim. Estudo da degradação de pesticidas via processo foto-Fenton utiizando lâmpada LED como fonte de energia. 2018. (Simpósio).

XXV Encontro de Química da Região Sul. Estudo da atrazina em água com partição em baixa temperatura. 2018. (Encontro).

44 Congreso Socolen Sociedad Colombiana de Entomología Entomoloía Médica, Forense y Veterinaria Carteles. Espiropiperidinas como larvicidas frente al mosquito *Aedes aegypti* (Diptera: Culicidae). 2017. (Congreso).

IUPAC 2017 - 46th World Chemistry Congress. SPIROPIPERIDINES AS INHIBITORS OF ACETYLCHOLINESTERASE AND LARVICIDAL AGENTS AGAINST *AEDES AEGYPTI* (DIPTERA: CULICIDAE). 2017. (Congress).