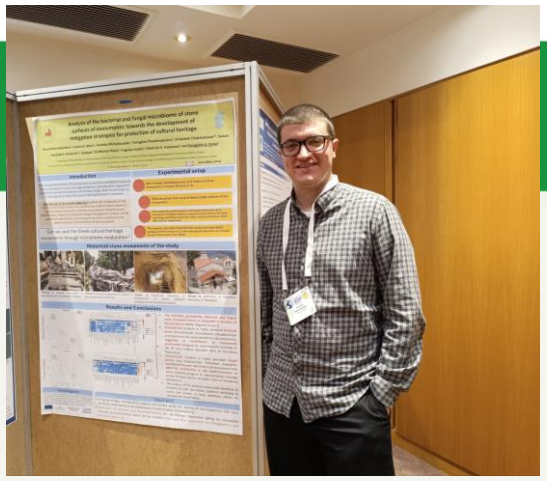
Venetios Michelioudakis



KEY-WORDS:
PHARMACEUTICALS·
TRANSFORMATION PRODUCTS ·
ENVIRONMENTAL RISK ASSESSMENT

PROFILE

I am a first-year PhD student in Enviromental Ecotoxicology. Part of the Marie Sklodowska-Curie Action (MSCA) Doctoral Network Pharm-ERA.

AFFILIATION

AEIFORIA SRL (Spin-off company of Università Cattolica del Sacro Cuore in Piacenza, Italy)
Department for Sustainable Food Process, Università Cattolica del Sacro Cuore

LANGUAGES

Mother language

Level C2

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Prof. Luigi Lucini (UCSC)

PROJECT TITLE

Assessing and predicting the fate of model pharmaceutical compounds and their transformation products in soils & towards the aquatic systems

Steps of the research

- Identification of Pharmaceuticals (PhCs) in probable contaminated areas (WWTP, agricultural soil, Ground water, manure).
- In silico analysis of the selected PhCs with the tool Typology of Pollutants (TyPol), a compound classification tool. And propose potential Transformation Products (TPs).
- Set a field dissipation and plant uptake experiment of the PhCs and TPs for the risk assessment
- Find new TPs with Untargeted metabolomics (Ion mobility LC-HRMS)
- Train TyPol with the acquired data

Research Contribution

The improved version of TyPol tool will enable a robust estimation of the fate of pharmaceutical TPs using the molecular properties of the TPs as main predictors. This tool will be useful to the EU providing a more comprehensive Risk assessment for Pharmaceuticals including their TPs.

Collaborations

INRAE, Palaiseau, France Dr. L. Mamy
INRAE, Lyon, France Dr. C. Margoum

Why should you care?

Global contamination of soil and aquatic ecosystems by pharmaceutical pollutants raises severe concerns about impacts on ecosystem health and repercussions on humans and animals.
A *priori* estimation of the Pharmaceutical TPs' fate in soil and potential transfer to aquatic ecosystems, will preserve environmental contamination and humans in an One Health scheme.