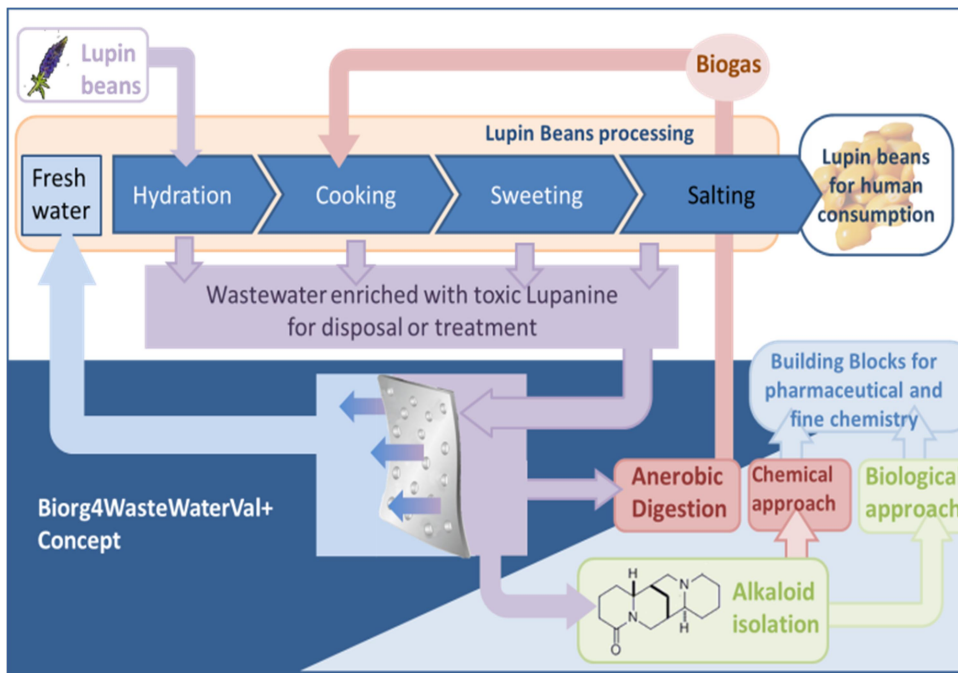


# Closing the loop on valorization of food processing wastewater containing alkaloids: the lupanine case

29<sup>th</sup> May 2017



Food processing industry uses a large volume of fresh water to deliver safe food for humanity. The resulting wastewater, a stream rich in organic natural compounds, is usually disposed in public sewers or using different suboptimal solutions.

The need for more sustainable solutions, in a circular economy perspective, fosters the development of new processes able to recover valuable compounds, water included, closing the loop.

The workshop, hosted in parallel to the Engineering Future Food Conference EFF2017 (<http://www.aidic.it/eff2017/>), will present how to confront with alkaloids containing food wastewater. A far reaching concept in which alkaloids are isolated and converted into building blocks of value for pharmaceutical and chemical industries, compensating for water detoxification costs will be debated. Lupanine is used as a particular example to illustrate this concept, and the preliminary results from the Biorg4WasteWaterVal+ project (H2020 Water Works 2014) will be presented.

When: 29 May 2017

Where: Hotel Michelangelo, Piazza L. di Savoia 6, 20124 – Milan

Time: 14:00 - 18:00

Registration: free at the web-site: [www.dica.polimi.it/lupanine](http://www.dica.polimi.it/lupanine)

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# Program

- 14:00-14:20 Registration
- 14:20-14:40 Alkaloids in food and feed: possibilities of conversion into added value compounds (prof. C. Afonso – University of Lisbon)
- 14:40-15:00 Food processing industry wastewater containing alkaloids: an overview of recovery and treatment perspectives (prof. F. Malpei – Politecnico di Milano DICA)
- 15:00-15:20 Developing lupin crop into a major and sustainable food and feed source: state of the art (prof. M. Duranti, UNIMI and International Lupine Association)
- 15:20-15:40 The Biorg4WasteWaterVal+ project: an integrated approach (prof. F. Ferreira -University of Lisbon)
- 15:40-16:00 Membrane separation design and validation (prof. F. Ferreira – University of Lisbon and Dr. D. Scaglione – Politecnico di Milano)
- 16:00-16:20 Coffee break
- 16:20-16:40 Membrane adsorber development (Dr. T. Schafer - Basque Centre for Macromolecular Design & Engineering)
- 16:40-17:00 Screening for biocatalysts producing added-value commodities from alkaloids: the case of lupanine (Dr. M. Koutinas - Cyprus University of Technology )
- 17:00-17:20 Energy recovery through biogas production (Dr. D. Scaglione - Politecnico di Milano)
- 17:20-18:00 Discussion and conclusions

## Partners:

Faculty of Pharmacy, University of Lisbon;

Associação do Instituto Superior Técnico para a Investigação e Desenvolvimento, University of Lisbon;

Basque Centre for Macromolecular Design & Engineering (Basque Excellence Research Centre)

Cyprus University of Technology

Tremoceira Estrela da Piedade (TEP)

## Collaborative partners:

University of Vienna

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