



INTERNATIONAL CONFERENCE



IWWATV  
2015

# Industrial Waste & Wastewater Treatment & Valorisation

## AGENDA

**21-23 May 2015**  
President Hotel, Athens



National Technical  
University of Athens  
NTUA



Hellenic  
Water  
Association

[www.iwwatv.uest.gr](http://www.iwwatv.uest.gr)

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The best papers  
of the Conference  
will be published



ROOM 3	<b>SESSION VI: Food Industries and waste treatment and products recovery</b> <b>Chair: M. Loizidou, D. Bolzonella</b>
15:00 - 15:15	<b>M. Alexandropoulou, G. Antonopoulou, G. Lyberatos,</b> Fermentative hydrogen production from food – industry wastes
15:15 - 15:30	<b>C. Da Ros, C. Cavinato, P. Pavan, D. Bolzonella,</b> Mesophilic and Thermophilic anaerobic co-digestion of winery wastewater sludge and wine lees: an integrated approach for wine production
15:30 - 15:45	<b>V. Varelas, E. Sotiropoulou, M. Liouni, E. T. Nerantzis,</b> Production of $\beta$ -Glucan from winery yeast waste biomass
15:45 - 16:00	<b>E. I. Sotiropoulou, V. Varelas, M. Liouni, E. T. Nerantzis,</b> Grape seed oil: From a winery waste to a value added cosmetic product
16:00 - 16:15	<b>G. Z. Kyzas, D. N. Bikiaris,</b> Molecularly Imprinted Polymers (MIPs) for recovery of resveratrol from winery effluents
16:15 - 16:30	<b>E. Nikolaidou, M. Iossifidou, V. Tataki, A. Eftaxias, A. Aivasidis, V. Diamantis,</b> Energy recovery and treatment of wine lees using a compact-portable anaerobic digester
16:30 - 16:45	<b>D. Trasanidou, S. Grigorakis, A. Apostolakis, D. P. Makris,</b> Implementation of Box-Behnken Experimental Design and Kinetics to Optimise Organic Solvent-Free Ultrasound-Assisted Extraction of Red Grape Pomace Polyphenols and Pigments
16:45 - 17:00	<b>K. Kaderidis, A. M. Goula, K. G. Adamopoulos,</b> An integrated process for utilization of pomegranate peels
17:00 - 17:15	<b>I.F. Strati, V. Oreopoulou,</b> Recovery and isomerization of carotenoids from tomato processing by-products
17:15 - 17:30	<b>V. Diamantis, A. Aivasidis, A. Eftaxias, C. Achillas, K. Mimides, F. Pliakas,</b> Agro-industrial residuals for enhanced food production in geothermal greenhouses
17:30 - 17:45	<b>M. Ghimpusan, G.D. Nechifor, A. C. Nechifor, P. Passeri,</b> Performance of combination of treatment processes for food industry wastewater depuration
17:45 - 18:00	<b>A. Orfanos, H.K. Karapanagioti, I.D. Manariotis,</b> Removal of methylene blue from food-industry byproducts
18:00 - 18:15	<b>M. E. Abd El-Hack, S. A. Mahgoub,</b> Mitigating harmful emissions from laying hens manure and enhancing productive performance through feeding on DDGS supplementation with enzymes and Bacillus spp
18:15 - 18:30	<b>M. L. Montoro, M. L. Herrero, M. Di. Vallejo, M. F. Sardella, C. Deiana,</b> Influence of pretreatment variables on the bioavailability of sugars for the production of bioethanol from melon
18:30 - 18:45	<b>L. Mailin López González, I. Pereda Reyes, O. Romero Romero, H. Vervaeren,</b> Synergetic effects on methane yield from sugarcane press mud co-digested with vinasse



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Athens, 13<sup>th</sup> February, 2015

Subject: Paper Acceptance

Paper title: **Molecularly Imprinted Polymers (MIPs) for recovery of resveratrol from winery effluents**

Dear Dr. Kyzas,

We are happy to announce that your abstract submitted for the International Conference on Industrial Waste & Wastewater Treatment & Valorization, **IWWATV 2015** (<http://www.iwwatv.uest.gr>) has been accepted for **oral** presentation.

You are also asked to submit your full manuscript before 20<sup>th</sup> April, 2015. You may find the guidelines for full paper preparation in the IWWATV 2015 website (<http://www.iwwatv.uest.gr/index.php/conference/guidelines-for-full-paper-submission>).

We look forward to seeing you in Athens, Greece from 21<sup>st</sup> to 23<sup>rd</sup> May 2015.

On behalf of the IWWATV 2015 Scientific Committee

A handwritten signature in blue ink, appearing to read 'M. Loizidou', is placed above the printed name.

Maria Loizidou  
NTUA Professor

# Molecularly Imprinted Polymers (MIPs) for recovery of resveratrol from winery effluents

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## **Abstract**

One of the most hot-topics of recent research is the reuse of some compounds existed as pollutants in environment. These compounds (molecules, ions, complexes, etc) are of high-added value and it will be ideal to selectively bind them with any environmental application and reuse them in their initial or modified form. The latter can be achieved using molecular imprinted polymers (MIPs). The whole process is based on adsorption technology, which is already one of the most successful techniques for pollutants removal. In winery effluents, some high-added value compounds as phenolics (resveratrol) exist and it will ideal to selectively separate them. Resveratrol is a natural and low molecular mass product emerged from the biosynthesis of phenylalanine. Moreover it is thought to be an intermediate leading to some of the structurally more complicated polyphenols and flavonoids. The experiments for the pH effect showed that the optimum value was at alkaline conditions (pH=10), while the maximum theoretical adsorption capacity was found to be 85 mg/g at 25 °C. The latter was found after fitting to the combinational isotherm model of Langmuir-Freundlich. The adsorption was reached at equilibrium slowly (~6 h) after testing the optimum adsorption contact time. The selectivity tests with other similar phenolic compounds showed extremely large selectivity to resveratrol molecules, revealing the excellent use of this material as selective adsorbent.

## **Acknowledgments**

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