



COST ACTION GREENERING – DATA COLLECTION

First name, Family Name: George Z. Kyzas
Type (Academic or Industrial): Academic
Country: Greece
Leadership position in the COST:
Working Group in which you are involved: WG1
E-mail: kyzas@chem.ihu.gr

Laboratory/Company: Department of Chemistry, International Hellenic University, Kavala, Greece

Laboratory/Company info (limited to 400 characters):

The Department of Chemistry (International Hellenic University) is one of six Chemistry Departments in Greece. The Department of Chemistry in Kavala has remarkable research infrastructures some of which are unique in Greece. Existing infrastructure are in the range of €15,000,000. The use of equipment has three main objectives: a) promoting research driven education, b) supporting high quality postgraduate theses and c) producing new knowledge through the doctoral program.

Link to the home page of the Laboratory/Company: <https://www.ihu.gr/en/enhome>

Fields of expertise (limited to 400 characters):

- Activated carbons from agricultural wastes (peels)
- Graphene and graphene-based materials
- Wastewater treatment with low-cost adsorbent materials
- Nanomaterials, Nanobubbles
- Photocatalytic materials
- Polymeric adsorbent materials

5 Main publications or patents:

- G.Z. Kyzas^{*}, G. Bomis, R. Kosheleva, E.K. Efthimiadou, M. Kostoglou, E.P. Favvas, A.C. Mitropoulos^{*}, “Nanobubbles effect on heavy metal ions adsorption by activated carbon”, *Chemical Engineering Journal* 356 (2019) 91-97 (doi: 10.1016/j.cej.2018.09.019).
- G.Z. Kyzas^{*}, N.K. Lazaridis, A.C. Mitropoulos, “Removal of dyes from aqueous solutions with untreated coffee residues as potential low-cost adsorbents: Equilibrium, reuse and thermodynamic approach”, *Chemical Engineering Journal* 189-190 (2012) 148-159 (doi: 10.1016/j.cej.2012.02.045)
- G.Z. Kyzas, N.K. Lazaridis, E.A. Deliyanni^{*}, “Oxidation time effect of activated carbons for drug adsorption”, *Chemical Engineering Journal* 234 (2013) 491-499 (doi: 10.1016/j.cej.2013.06.024)
- G.Z. Kyzas^{*}, E.A. Deliyanni, “Modified activated carbons from potato peels as green environmental-friendly adsorbents for the treatment of pharmaceutical effluents”,



Chemical Engineering Research and Design 97 (2015) 135-144 (doi: 10.1016/j.cherd.2014.08.020)

- G.Z. Kyzas, E.A. Deliyanni*, K.A. Matis, “Activated carbons produced by pyrolysis of waste potato peels: Cobalt ions removal by adsorption”, Colloids and Surfaces A: Physicochemical and Engineering Aspects 490 (2016) 74-83 (doi: 10.1016/j.colsurfa.2015.11.038)

Collaborations:

- Laboratory of Polymers, Department of Chemistry, Aristotle University of Thessaloniki, Greece
- Institute of Biomaterials, University of Erlangen-Nuremberg, Germany
- Institute of Nanoscience and Nanotechnology, NCSR “Demokritos”, Athens, Greece

Facilities:

- FTIR spectroscopy
- SEM
- TEM
- XRD
- AFM
- N₂ and Hg Porosimetry