

Curriculum Vitae – Dimitrios Kalderis, Ph.D.

Name and Surname : Dimitrios Kalderis
Date of birth : 6th of September 1975
Family status : Married, 1 daughter
Nationality : Greek
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1. Professional status:

Environmental Chemist - Assistant Professor in Solid Waste Management and Valorization.
Department of Electronic Engineering, Hellenic Mediterranean University, Crete, Greece

Scientific expertise/research interests:

Processing of biomass/agricultural waste for the production of added-value materials used in environmental remediation

Hydrothermal carbonization of industrial wastewaters and solid waste

Remediation of soils contaminated with organic substances

Teaching Courses at undergraduate level:

Municipal Solid Waste Management

Processing of Toxic Industrial Waste

Biomass valorization

2. Education:

School of Chemistry, University of Leeds, UK – B.Sc. Chemistry 2:1, 1994-1997

School of Chemistry, University of Leeds, UK – Ph.D. Environmental Chemistry, 1997-2001

Ph.D. Thesis: Soil remediation using sub- and supercritical water

3. Professional experience in funded projects:

3/2019 – 3/2022 DEcision support system For Irrigation in Crete based on Innovative Technologies – DEFICIT (RIS3Crete). Funding: European Structural and Investment Funds – Partnership Agreement 2014-2020 (Role: Researcher)

1/2018 – 6/2019 IUPAC Project #2015-056-3-600, Environment Division (VI)
“Glossary of Terms used in biochar research”. Role: Coordinator

7/2013 – 11/2015 Archimedes III – Risk assessment of the urban stormwater polluting load threatening the coast of the Chania municipality. Funding from the Greek

- Ministry of Education. (Role: Researcher)
- 1/2012 – 12/2016** COST Action TD1107 - Biochar as option for sustainable resource management (Networking project) - Prof. Kalderis was National Representative for Greece
- 1/2009 – 8/2009** Investigation, assessment and remediation of sites contaminated with industrial and hazardous waste. Funding from the Greek Ministry of Environment. (Role: Researcher)
- 1/2008 – 1/2010** IUPAC Project #2007-026-2-600, Environment Division VI
«Soils contaminated with explosives: Environmental Risk Assessment and Evaluation of state-of-the-art treatment processes». Role: Coordinator.
- 1/2008 – 5/2008** Case study: Management options for the bio-degradable waste of the municipality of Eleusina, Greece. Funding from the Municipality of Eleusina (Role: Researcher)
- 5/2007 – 10/2007** Case study: Management options for the sewage sludge of the Crete Prefecture. Funding by the Prefecture of Crete. (Role: Researcher)
- 7/2005 – 1/2007** Project HARMONICA: Production of added value materials for environmental applications from India's agricultural waste – Production of activated carbons from rice husk and sugarcane bagasse (EUROPEAN UNION-INDIA CROSS CULTURAL PROGRAMME (ALA/95/23/2003/077-124). (Role: Researcher)
- 8/2004 – 3/2005** Project ERIS – Smart environmental systems: Application in olive mill wastewater treatment (EU Support Framework 2000-2006 – Competitiveness Action). (Role: Researcher)
- 2/2004 – 6/2005** Project HIVALUE: Production of added value materials from coal gasification by-products (EU COAL AND STEEL ECONOMIC COMMUNITY ECSC 7220-PR/145). (Role: Researcher)

Reviewer for the following Journals

am: Acta Materialia
 arabjc: Arabian Journal of Chemistry
 bite: Bioresource Technology
 cej: Chemical Engineering Journal
 chem: Chemosphere
 colsua: Colloids and Surfaces A: Physicochemical and Engineering Aspects
 des: Desalination
 hazmat: Journal of Hazardous Materials
 indcro: Industrial Crops and Products
 jaap: Journal of Analytical and Applied Pyrolysis
 jalcom: Journal of Alloys and Compounds
 jece: Journal of Environmental Chemical Engineering
 jfue: Fuel
 jggc: International Journal of Greenhouse Gas Control
 jiec: Journal of Industrial and Engineering Chemistry
 psep: Process Safety and Environmental Protection
 ultson: Ultrasonics Sonochemistry
 Environmental Science and Technology (American Chemical Society)
 Water Research (IWA)
 Biomass and Waste Valorization (Springer)

4. Publications up to 31st September 2019

h-index: 21

Citations: 2222 (Google Scholar)

Publications in peer-reviewed international Journals

1. Evaluation of the enhanced resistance of *Ogataea* (*Hansenula*) polymorpha to benzalkonium chloride as a resource for bioremediation technologies, Muter, O., Khroustalyova, G., Rimkus, A., **Kalderis, D.**, Ruchala, J., Sibirny, A., Rapoport, A. *Process Biochemistry* (2019) in press. Impact Factor: 2.883
2. Cu₂O-CuO@biochar composite: Synthesis, characterization and its efficient photocatalytic performance, Khataee, A., **Kalderis, D.**, Gholami, P., Fazli, A., Moschogiannaki, M., Binas, V., Lykaki, M., Konsolakis, M. *Applied Surface Science* 498 (2019) 143846. Impact Factor: 5.155
3. Degradation of chloramphenicol and metronidazole by electro-Fenton process using graphene oxide-Fe₃O₄ as heterogeneous catalyst, Fatma Görmez, Özkan Görmez, Belgin Gözmen, **Dimitrios Kalderis**. *Journal of Environmental Chemical Engineering* 7 (2019) 102990. Impact Factor: not yet appointed
4. Assessment of orange peel hydrochar as a soil amendment: impact on clay soil physical properties and potential phytotoxicity, **Dimitrios Kalderis**, George Papameletiou, Berkant Kayan. *Waste and Biomass Valorization* 2019 <https://doi.org/10.1007/s12649-018-0364-0>. Impact Factor 2.358
5. Synthesis of pumice-TiO₂ nanoflakes for sonocatalytic degradation of famotidine, Tannaz Sadeghi Rad, Alireza Khataee, Berkant Kayan, **Dimitrios Kalderis**, Sema Akay. *Journal of Cleaner Production* 202 (2018) 853-862. Impact Factor: 6.395
6. Synthesis of ZrO₂ nanoparticles on pumice and tuff for sonocatalytic degradation of rifampin, Alireza Khataee, Peyman Gholami, Berkant Kayan, **Dimitrios Kalderis**, Laleh Dinpazhoh, Sema Akay. *Ultrasonics Sonochemistry* 48 (2018) 349-361. Impact Factor: 7.279
7. Preparation of novel CeO₂-biochar nanocomposite for sonocatalytic degradation of a textile dye, Khataee, A. Gholami, P., **Kalderis, D.**, Pachatouridou, E., Konsolakis, M. *Ultrasonics Sonochemistry* 41 (2018) 503-513. Impact Factor: 7.279
8. Degradation of nitroaromatic compounds in subcritical water: application of response surface methodology, Berkant Kayan, Sema Akay, Belgin Gözmen, A. Murat Gizir, Muhammet Demirel, **Dimitrios Kalderis**, *Desalination and Water Treatment* 77 (2017) 237-246. Impact Factor: 1.234
9. Poly(benzoxazine-co-sulfur): An efficient sorbent for mercury removal in aqueous solution, Sema Akay, Berkant Kayan, **Dimitrios Kalderis**, Mustafa Arslan, Yusuf Yagci, Baris Kiskan, *Journal of Applied Polymer Science* 134(38) 2017 45306. Impact Factor: 2.188
10. Sonocatalytic degradation of Reactive Yellow 39 using synthesized ZrO₂ nanoparticles on biochar, Alireza Khataee, Berkant Kayan, Peyman Gholami, **Dimitrios Kalderis**, Sema Akay, Laleh Dinpazhoh, *Ultrasonics Sonochemistry* 39 (2017) 540-549. Impact Factor 7.279

11. Adsorption of 2,4-dichlorophenol on paper sludge/wheat husk biochar: Process optimization and comparison with biochars prepared from wood chips, sewage sludge and hog fuel/demolition waste, **Dimitrios Kalderis**, Berkant Kayan, Sema Akay, Esra Kulaksız, Belgin Gözmen, Journal of Environmental Chemical Engineering 5(3) (2017) 2222-2231. Impact Factor: not yet appointed
12. Sonocatalytic degradation of an anthraquinone dye using TiO₂-biochar nanocomposite, Alireza Khataee, Berkant Kayan, Peyman Gholami, **Dimitrios Kalderis**, Sema Akay. Ultrasonics Sonochemistry 39 (2017) 120-128. Impact Factor 7.279
13. Adsorption of Malachite Green on Fe-modified biochar: influencing factors and process optimization, Esra Kulaksız, Belgin Gözmen, Berkant Kayan, **Dimitrios Kalderis**. Desalination and Water Treatment 74 (2017) 383-394. Impact Factor: 1.234
14. Acid Red 1 and Acid Red 114 decolorization in H₂O₂-modified subcritical water: process optimization and application on a textile wastewater, Berkant Kayan, Sema Akay, Esra Kulaksız, Belgin Gözmen, **Dimitrios Kalderis**, Desalination and Water Treatment (ISSN:1944-3994) 2017, 59, 248-261. Impact Factor: 1.234
15. Numerical analysis of the influence of the impregnation ratio on the microporous structure formation of activated carbons, prepared by chemical activation of waste biomass with phosphoric (V) acid, Kwiatkowski, M., **Kalderis, D.**, Diamadopoulos, E. Journal of Physics and Chemistry of Solids (ISSN:0022-3697) 2017, 105, 81-85. Impact Factor: 2.207
16. Ultrasound-assisted removal of Acid Red 17 using nanosized Fe₃O₄-loaded coffee waste hydrochar, Khataee, A., Kayan, B., **Kalderis, D.**, Karimi, A., Akay, S., Konsolakis, M. Ultrasonics Sonochemistry (ISSN:1350-4177) 2017, 35, 72-80. Impact Factor: 7.279
17. Fe-modified sporopollenin as a composite biosorbent for the removal of Pb²⁺ from aqueous solutions, Şener, M., Kayan, B., Akay, S., Gözmen, B., **Kalderis, D.** Desalination and Water Treatment (ISSN:1944-3994) 2016, 57, 28294-28312. Impact Factor: 1.234
18. Toward the Standardization of Biochar Analysis: The COST Action TD1107 Interlaboratory Comparison, Bachmann, H.J., Bucheli, T.D., **Kalderis, D.**, et al., Journal of Agricultural and Food Chemistry (ISSN:0021-8561) 2016, 64(2), 513-527. Impact Factor: 3.571
19. Rice husks and their hydrochars cause unexpected stress response in the nematode *Caenorhabditis elegans*: reduced transcription of stress-related genes, Shumon Chakrabarti, Christiane Dicke, **Dimitrios Kalderis**, Jürgen Kern, Environmental Science and Pollution Research (ISSN:0944-1344) 2015, 22(16), 12092-12103. Impact Factor: 2.914
20. Ca and Fe modified biochars as adsorbents of arsenic and chromium in aqueous solutions, E. Agrafioti, **D. Kalderis**, E. Diamadopoulos, Journal of Environmental Management (ISSN:0301-4797) 146 (2014), 444-450. Impact Factor: 4.865
21. Subcritical water treatment of landfill leachate: Application of response surface methodology, P. Kirmizakis, C. Tsamoutsoglou, B. Kayan, **D. Kalderis**, Journal of

- Environmental Management (ISSN:0301-4797) 146 (2014) 9-15, Impact Factor: 4.865
22. Characterization of hydrochars produced by hydrothermal carbonization of rice husk, **D. Kalderis**, M. S. Kotti, A. Méndez, and G. Gascó, *Solid Earth* (ISSN:1869-9510) 5, 2014, 477–483. Impact Factor: 2.380
 23. Arsenic and chromium removal from water using biochars derived from rice husk, organic solid wastes and sewage sludge, Agrafioti, E., **Kalderis, D.**, Diamadopoulos, E., *Journal of Environmental Management* (ISSN:0301-4797) 2014, 133, 309-314. Impact Factor: 4.865
 24. Biochar production by sewage sludge pyrolysis, Agrafioti, E., Bouras, G., **Kalderis, D.**, Diamadopoulos, E., *Journal of Analytical and Applied Pyrolysis* (ISSN:0165-2370) 2013, 101, 72-78. Impact Factor: 3.470
 25. Adsorption of Cu(II) ions from aqueous solutions on biochars prepared from agricultural by-products, Pellerá, F.-M., Giannís, A., **Kalderis, D.**, Anastasiadou, K., Stegmann, R., Wang, J.-Y., Gidarakos, E. *Journal of Environmental Management* (ISSN:0301-4797) 2012, 96(1), 35-42. Impact Factor: 4.865
 26. Soils contaminated with explosives - environmental fate and evaluation of state-of-the-art treatment processes: A review, **Kalderis D.**, Boopathy R., Juhasz A. Comfort S. *Pure and Applied Chemistry* (ISSN: 0033-4545) 2011 83(7), 1407-1484. Impact Factor: 5.294
 27. Degradation of Reactive Red 120 using hydrogen peroxide in subcritical water, Daskalaki, V.M., Timotheatou, E.S., Katsaounis, A., **Kalderis, D.** *Desalination* (ISSN:0011-9164) 2011, 274(1-3), 200-205. Impact Factor: 6.035
 28. Valorization of solid waste residues from olive oil mills: A review, **Kalderis D.** and Diamadopoulos E. *Terrestrial and Aquatic Environmental Toxicology* 4 (Special Issue 1), 2010, 7-20. Impact Factor: not appointed yet
 29. Electrochemical degradation of Reactive Red 120 using DSA and BDD anodes Panakoulias T., Kalatzis P., **Kalderis D.**, Katsaounis A. *Journal of Applied Electrochemistry* (ISSN:0021-891X) 2010, 40(10), 1759-1765. Impact Factor: 2.366
 30. Options for sustainable sewage sludge management in small wastewater treatment plants on islands: The case of Crete, **Kalderis D.**, Aivalioti M., Gidarakos E. *Desalination* (ISSN:0011-9164) 2010, 260(1-3), 211-217. Impact Factor: 6.035
 31. Asbestos Pollution in an Inactive Mine: Determination of asbestos fibers in the deposit tailings and water, Koumantakis E., Anastasiadou K., **Kalderis D.**, Gidarakos E. *Journal of Hazardous Materials* (ISSN:0304-3894) 2009, 167(1-3), 1080-1088. Impact Factor: 7.650
 32. Flocculation behavior of okra and mallow in treating wastewater, Anastasakis K., **Kalderis D.** and Diamadopoulos E. *Desalination* (ISSN:0011-9164) 2009, 249(2), 786-791. Impact Factor: 6.035
 33. Interaction of soil and water and TNT during degradation of TNT on contaminated soil using subcritical water, **D. Kalderis**, S.B. Hawthorne, A.A. Clifford, E. Gidarakos, *Journal of Hazardous Materials* (ISSN:0304-3894) 2008, 159, 329-334. Impact Factor: 7.650

34. Characterization and treatment of wastewater produced during the hydrometallurgical extraction of Ge from fly ash. **D. Kalderis**, E. Tsolaki, A. Antoniou, E. Diamadopoulos, *Desalination* (ISSN:0011-9164), 2008, 230, 162-174. Impact Factor: 6.035
35. Production of activated carbon from bagasse and rice husks by a single-stage chemical activation method at low retention times. **Kalderis D.**, Bethanis S., Paraskeva P. Diamadopoulos E., *Bioresource Technology* (ISSN:0960-8524) 2008, 99, 6809-6816. Impact Factor: 6.669
36. Production of Activated Carbon from Agricultural By-Products. E. Diamadopoulos, P. Paraskeva, **D. Kalderis**, *Journal of Chemical Technology and Biotechnology*, (ISSN:0268-2575) 2008, 83(5) 581-592. Impact Factor: 2.659
37. Adsorption of Polluting Substances on Activated Carbon Prepared from Rice Husk and Sugarcane Bagasse, **D. Kalderis**, D. Koutoulakis, P. Paraskeva, E. Diamadopoulos, E. Otal, J.Olivares del Valle, C. Fernandez-Pereira. *Chemical Engineering Journal* (ISSN:1385-8947) 2008, 144, 42-50. Impact Factor: 8.355
38. Pilot-Scale Destruction of TNT, RDX and HMX on Contaminated Soils Using Subcritical Water, Hawthorne S.B., Lagadec A.J.M., **Kalderis D.** Lilke A.V. Miller D.J. *Environmental Science & Technology* (ISSN:0013-936X) 2000, 34, 3224-3228. Impact Factor: 7.149

Publications in conferences

1. Degradation of Pesticides and Explosives on Highly-Contaminated Soils in Subcritical Water. Yuji Takao, **Dimitrios Kalderis**, Arnaud J.M. Lagadec, Carol. B. Grabanski, David J. Miller and Steven B. Hawthorne. Abstracts of the 32nd American Chemical Society Great Lakes Regional Meeting, June 5, 2000, Fargo, ND, USA.
2. Non-oxidative Destruction of TNT, RDX and HMX on Contaminated Soil Using Subcritical (Hot/Liquid) Water. Steven B. Hawthorne, Arnaud J.M. Lagadec, **Dimitrios Kalderis**, Alan V. Lilke, and David J. Miller. Proceedings of the 1st Annual Conference and Exhibition on Natural Gas Technologies, Gas Technology Institute, September 30 – October 2, 2002, Orlando, FL, USA.
3. The kinetics of high pressure subcritical water degradation of TNT, HMX and RDX on contaminated soil. Anthony A. Clifford, **Dimitrios Kalderis**, John F. Griffiths, Steven B. Hawthorne and David J. Miller. Proceedings of the 12th Symposium on Chemical Problems Connected with the Stability of Explosives, Swedish Section for Detonics and Combustion, Stockholm, 2004, 77-90 (C03).
4. Subcritical Water Remediation of Soils contaminated with TNT, RDX and HMX. **D. Kalderis**, S. B. Hawthorne, A. J. M. Lagadec, A. V. Lilke, D. J. Miller, and N. Lydakis – Simantiris. 2nd International Workshop of Integrated Soil and Water Protection: Risks from Diffuse Pollution, Prague, 28-29th of June 2004 (C04).
5. Activated Carbon from Bagasse and Rice Husks by a single stage pyrolysis activation method (poster). **D. Kalderis**, S. Bethanis, D. Koutoulakis, P. Paraskeva, E. Diamadopoulos, C. Fernandez-Pereira, J. Olivares del Vale, M. Balakrishnan, R. Johri, A. Gosh. Protection and Restoration of the Environment VIII, Chania (Greece), 3-7th of July 2006.

6. Subcritical Water Degradation of HMX and RDX on soil at low temperatures **D. Kalderis** and E. Gidakos. 1st International Conference on Hazardous Waste Management, 1-3 October 2008, Chania, Crete, Greece (C05).
7. Application of the EVAPASSOLD model to the inactive landfills of Kouroupitos and Mesomouri. **D. Kalderis**, E. Gidakos and R. Stegmann. 1st International Conference on Hazardous Waste Management, 1-3 October 2008, Chania, Crete, Greece (C06).
8. Water pollution level of the groundwater and surface water in the lake Kournas, Crete-Greece. G. Stavroulakis, A. Papafilippaki, and **D. Kalderis**. 2010. In the Proceedings of the “Protection and Restoration of the Environment X” 05-09/7/2010 Corfu (C09).
9. Adsorption of Cu(II) ions from aqueous solutions using biochar prepared from agricultural byproducts. Pellera F., Giannis A., Anastasiadou K., **Kalderis D.**, Pentari D., Gidakos E. 2nd International Conference on Hazardous Waste Management, Chania, Crete, Greece, 5 – 8 October, 2010 (C11).
10. Hydrothermal conversion of chrysotile asbestos using supercritical steam. Axiotis D., Anastasiadou K., **Kalderis D.**, Gidakos E. 2nd International Conference on Hazardous Waste Management, 5-8 October 2008, Chania, Crete, Greece (C12).
11. Soil contaminated by explosives – environmental fate and evaluation of state of the art remediation processes. **Kalderis D.**, Juhasz A., Boopathy R., Comfort S. 11th International UFZ-Deltares/TNO Conference on Management of Soil, Groundwater and Sediment, Salzburg 22-24 September 2010 (C15).
12. Electrochemical Degradation of Reactive Red 120 Using DSA and BDD Anodes, T. Panakoulis, P. Kalatzis, **D. Kalderis** and A. Katsaounis, 61st International Society of Electrochemistry Annual Meeting, Nice, France, 27/9-1/10 2010 (C16).
13. Copper adsorption using biochars generated by pyrolysis. Pellera F., Giannis A., **Kalderis D.**, Gidakos E. Proceedings Venice 2010, 3rd International Symposium on Energy from Biomass and Waste, Venice, Italy, 8-11 November 2010 (C10).
14. Synthesis of Zeolite type ‘A’ from Greek chrysotile asbestos in subcritical water, K. Anastasiadou, F. Simantiraki, **D. Kalderis**, E. Gidakos, Protection and Restoration of the Environment XI – Solid Waste Management, 3-6th July 2012, Thessaloniki, Greece.
15. Production of synthetic zeolite from treated asbestos waste, K. Anastasiadou, **D. Kalderis**, E. Gidakos, 3rd International Conference on Industrial and Hazardous Waste Management – Crete 2012, 2-5th September 2012, Chania, Crete, Greece.
16. As(V), Cr(III) and Cr(VI) sorption on biochars and soil. Evan Diamadopoulos, Evita Agrafioti, and **Dimitrios Kalderis**. Geophysical Research Abstracts Vol. 16, EGU2014-9816, 2014 - EGU General Assembly 2014 (C13).
17. Effects of rice husks and their chars from hydrothermal carbonization on the germination rate and root length of *Lepidium sativum*. Jürgen Kern, Irina Mukhina, Christiane Dicke, Giacomo Lanza, and **Dimitrios Kalderis**. Geophysical Research Abstracts, Vol. 17, EGU2015-10002, 2015 - EGU General Assembly 2015 (C14).
18. Stavroulakis G., **Kalderis D.** and Papafilippaki A. 2015. Temporal examination of urban water runoff quality in Chania, Greece. Proceedings of the 14th International

Conference on Environmental Science and Technology, CEST 2015. 3-5 September 2015, Rhodes, Greece.

19. Stavroulakis G., **Kalderis D.** and Papafilippaki A. and Minou A. 2015. Distribution of sea water pollution in the Venetian Harbour Chania, Greece. Proceedings of the 14th International Conference on Environmental Science and Technology, CEST 2015. 3- 5 September 2015, Rhodes, Greece.
20. **Kalderis D.**, Stavroulakis G., and Diamadopoulos E. 2015. Urban run-off management in a Greek coastal city: Citizens' awareness, attitudes and proposed solutions. Proceedings of the International Conference 'Science in Technology' SCinTE 2015. 5-7 November 2015, Athens, Greece.
21. O. Muter, G. Khroustalyova, **D. Kalderis**, A. Sibirny, A. Rapoport. Tools for utilization of distillery industry waste-yeast biomass in bioremediation technologies, 6th International Conference on Sustainable Solid Waste Management, 13-16th of June 2018, Naxos, Greece.