

# Alexandros Katsaounis

## List of Publications

### A. Articles in International Journals

- A44. E.I. Papaioannou, E. Siokou, Ch. Comninellis, A. Katsaounis  
"Pt-Ir binary electrodes for direct oxidation of methanol in low temperature fuel cells (DMFCs), Electrocatalysis, submitted
- A43. H. Biorn, E. Kalamaras, E.I. Papaioannou, L. Sygellou, A. Katsaounis  
"Electrochemical oxidation of alcohols on Pt-TiO<sub>2</sub> binary electrodes", Int. J. Hydrogen Energy, accepted for publication
- A42. V.M. Daskalaki, H. Marakas, D. Mantzavinos, A. Katsaounis, P. Gikas  
" Use of seawater for the Boron-doped diamond electrochemical treatment of diluted vinasse wastewater", Water Science and Technology (2013) in press
- A41. D. Theleritis, S. Souentie, A. Katsaounis, C.G. Vayenas  
"Mathematical modeling of Ni/GDC and Au-Ni/GDC SOFC anodes performance under internal methane steam reforming conditions", J. Catalysis, 306 (2013) 116-128
- A40. D. Venieri, E. Chatzisyneon, E. Politi, S. Sofianos, A. Katsaounis, D.Mantzavinos  
"Photoelectrocatalytic disinfection of water and wastewater: performance evaluation by qPCR and culture techniques", J. Water and Health, 11 (2013) 21-29
- A39. D. Theleritis, S. Souentie, A. Katsaounis, C.G. Vayenas  
"Hydrogenation of CO<sub>2</sub> over Ru/YSZ electropromoted catalysts", ACS Catalysis, 2 (2012) 770
- A38. D. Venieri, E. Chatzisyneon, S. Sofianos, E. Politi, N. Xekoukoulotakis, A. Katsaounis, D. Mantzavinos  
"Removal of faecal indicator pathogens from waters and wastewaters by photoelectrocatalytic oxidation on TiO<sub>2</sub>/Ti-films under simulated solar radiation" Environmental Science & Pollution Research 19 (2012) 3782-3790
- A37. V. Amstutz, A. Katsaounis, A. Kapalka, Ch. Comninellis and K.-M. Udert  
"Effects of carbonate on the electrolytic removal of ammonia and urea from urine with thermally prepared IrO<sub>2</sub> electrodes", J. Applied Electrochemistry, 42 (2012) 787-795
- A36. C. Jiménez-Borja, A. Consuegra, F. Sapountzi, F. Dorado, A. Katsaounis, J.L. Valverde  
"Oscillatory behaviour of Rh/YSZ under electropromoted conditions" Chemical Physics Letters, 519-520 (2012) 89-92
- A35. E. Tsantaki, T. Velegraki, A. Katsaounis, D. Mantzavinos  
"Anodic oxidation of textile dyehouse effluents on boron-doped diamond electrode", Journal of Hazardous Materials, 207-208 (2012) 91-96
- A34. Z. Frontistis, C. Brebou, D. Venieri, D. Mantzavinos, A. Katsaounis  
"BDD anodic oxidation as tertiary wastewater treatment for the removal of emerging micro-pollutants, pathogens and organic matter" Journal of Chemical Technology and Biotechnology 86 (2011) 1233-1236
- A33. E. Turro, A. Giannis, R. Cossu, E. Gidakos, A. Katsaounis  
"Electrochemical oxidation of stabilised landfill leachate on DSA electrodes", Journal of Hazardous Materials, 190 (2011) 460
- A32. V. Daskalaki, E. Timotheatou, A. Katsaounis, D. Kalderis

- "Degradation of Reactive Red 120 using hydrogen peroxide in subcritical water", *Desalination*, 274 (2011) 200
- A31. V. Daskalaki, Z. Frontistis, D. Mantzavinos, A. Katsaounis  
"Solar light-induced degradation of bisphenol-A with TiO<sub>2</sub> immobilized on Ti", *Catalysis Today*, 161 (2011) 110
- A30. A. Nakos, S. Souentie, A. Katsaounis  
"Electrochemical promotion of methane oxidation on Rh/YSZ", *Applied Catalysis B: Environmental*, 101 (2010) 31
- A29. A. Kapałka, A. Katsaounis, N.L. Michels, A. Leonidova, S. Souentie, Ch. Comninellis, Kai M. Udert  
"Ammonia oxidation to nitrogen mediated by electrogenerated active chlorine on Ti/PtO<sub>x</sub>-IrO<sub>2</sub>", *Electrochemistry Communications* 12 (2010) 1203
- A28. A. Kapałka, S. Fierro, Z. Frontistis, A. Katsaounis, S. Neodo, K.M. Udert, Ch. Comninellis  
"Electrochemical oxidation of ammonia (NH<sub>4</sub><sup>+</sup>/NH<sub>3</sub>) on thermally and electrochemically prepared IrO<sub>2</sub> electrodes", *Electrochimica Acta*, 56 (2011) 1361
- A27. E. Chatzisyneon, S. Fierro, I. Karafyllis, D. Mantzavinos, N. Kalogerakis, A. Katsaounis  
"Anodic oxidation of phenol on Ti/IrO<sub>2</sub> electrode: Experimental studies", *Catalysis Today* 151 (2010) 185
- A26. T. Panakoulias, P. Kalatzis, D. Kalderis, A. Katsaounis  
"Electrochemical degradation of Reactive Red 120 using DSA and BDD anodes", *J. Applied Electrochemistry* 40 (2010) 1759
- A25. T. Velegraki, N. Xekoukoulotakis, A. Katsaounis, E. Diamantopoulos, D. Mantzavinos  
"Electrochemical oxidation of benzoic acid in water over BDD electrodes: Statistical analysis of key operating parameters, kinetic modelling, reaction by-products and ecotoxicity", *Chemical Engineering Journal* 160 (2010) 538
- A24. A. Kapałka, S. Fierro, Z. Frontistis, A. Katsaounis, O. Frey, M. Koudelka, Ch. Comninellis, K.M. Udert  
"Electrochemical behaviour of ammonia (NH<sub>4</sub><sup>+</sup> / NH<sub>3</sub>) on electrochemically grown anodic iridium oxide film (AIROF) electrode", *Electrochemistry Communications* 11 (2009) 1590
- A23. E. Chatzisyneon, N. Xekoukoulotakis, E. Diamadopoulos, A. Katsaounis, D. Mantzavinos  
"Boron-doped diamond anodic treatment of olive mill wastewaters: Statistical analysis, kinetic modeling and biodegradability", *Water Research*, 43 (2009) 3999
- A22. A. Katsaounis  
"Recent developments and trends in Electrochemical Promotion of Catalysis", *Journal of Applied Electrochemistry*, 40 (2010) 885
- A21. E.H. Calderon, A. Katsaounis, R. Wüthrich, P. Mandin, G. Foti, Ch. Comninellis  
"Effectiveness factor of fast (Fe<sup>3+</sup>/Fe<sup>2+</sup>), moderate (Cl<sub>2</sub>/Cl<sup>-</sup>) and slow (O<sub>2</sub>/H<sub>2</sub>O) redox couples using IrO<sub>2</sub> based electrodes of different loading", *Journal of Applied Electrochemistry*, 39 (2009) 1827
- A20. E.H. Calderon, J. Hahladakis, G. Foti, A. Katsaounis  
"Effectiveness factor of isopropanol oxidation on IrO<sub>2</sub> based electrodes of different loading", *Electrochimica Acta*, 55 (2010) 8215
- A19. N. Papastefanakis, D. Mantzavinos, A. Katsaounis  
"DSA electrochemical treatment of olive mill wastewater on Ti/RuO<sub>2</sub> anode", *J. Applied*

- A18. E. Chatzisymeon, A. Dimou, D. Mantzavinos, Ch. Comninellis, A. Katsaounis  
"Electrochemical Oxidation of model compounds and Olive Mill Wastewater over DSA electrodes: 1. The case of Ti/IrO<sub>2</sub>", Journal of Hazardous Materials, 167 (2009) 268
- A17. A. Katsaounis  
"Temperature programmed desorption of oxygen from Pd films interfaced with Y<sub>2</sub>O<sub>3</sub>-doped ZrO<sub>2</sub>", Journal of Applied Electrochemistry, 38 (2008) 1097
- A16. A. Katsaounis  
"Electrochemical promotion of catalysis (EPOC): Perspectives for application to gas emissions treatment", Global Nest Journal, 10 (2008) 225
- A15. C.G. Vayenas, M. Tsampas, A. Katsaounis  
"First principles analytical prediction of the conductivity of Nafion membranes", Electrochimica Acta, 52 (2007) 2244-2256
- A14. S. Balomenou, D. Tsiplakides, A. Katsaounis, S. Brosda, G. Foti, Ch. Comninellis, S. Thiemann-Handler, B. Cramer, C.G. Vayenas  
"Monolithic Electrochemically Promoted Reactors: A step for the practical utilization of Electrochemical Promotion", Solid State Ionics, 177 (2006) 2201
- A13. A. Katsaounis, M. Tsampas, S.P. Balomenou, D. Tsiplakides, C.G. Vayenas  
"Potential-dependent electrolyte resistance and steady-state multiplicities of PEM fuel cells" Solid State Ionics, 177 (2006) 2397
- A12. C.G. Vayenas, A. Katsaounis  
"Proton and electron wave-particles in chemical and physical environments" Applied Catalysis B: Environmental, 64 (2006) 111
- A11. C. Koutsodontis, A. Katsaounis, J.C. Figueroa, C. Cavalca, C.G. Vayenas  
"The effect of catalyst film thickness on the magnitude of the Electrochemical Promotion for the case of ethylene oxidation on Pt/YSZ" Topics in Catalysis, 39 (2006) 97-100
- A10. C. Koutsodontis, A. Katsaounis, J.C. Figueroa, C. Cavalca, C.G. Vayenas  
"The effect of catalyst film thickness on the magnitude of the Electrochemical Promotion of catalytic reactions" Topics in Catalysis, 38 (2006) 157
- A9. M. Tsampas, A. Picos, S. Brosda, A. Katsaounis, C.G. Vayenas  
"The effect of membrane thickness on the conductivity of Nafion", Electrochimica Acta, 51 (2006) 2743-2755
- A8. A. Katsaounis, S.P. Balomenou, D. Tsiplakides, C.G. Vayenas  
"The role of potential-dependent electrolyte resistance in the performance and steady-state multiplicities of PEM fuel cells: Experimental investigation and macroscopic modeling" Electrochimica Acta, 50 (2005) 5132
- A7. D. Tsiplakides, S. Balomenou, A. Katsaounis, C. Koutsodontis, C.G. Vayenas  
"Electrochemical promotion of Catalysis: Mechanistic investigations and monolithic electropromoted reactors", Catalysis Today, 100 (2005) 133
- A6. A. Katsaounis, S. Balomenou, D. Tsiplakides, S. Brosda, S.G. Neophytides, C.G. Vayenas  
"Proton tunneling-induced bistability, oscillations and enhanced performance of PEM fuel cells", Applied Catalysis B: Environmental, 56 (2004) 237
- A5. A. Katsaounis, Z. Nikopoulou, X.E. Verykios, C.G. Vayenas

"Comparative isotope-aided investigation of Electrochemical Promotion and Metal-Support Interactions: 2. CO oxidation by  $^{18}\text{O}_2$  on electropromoted Pt films deposited on YSZ and on nanodispersed Pt/YSZ catalysts", *Journal of Catalysis*, 226 (2004) 197

- A4. S. Balomenou, D. Tsiplakides, A. Katsaounis, S. Thiemann-Handler, B. Cramer, G. Foti, Ch. Comninellis, C.G. Vayenas  
"Novel monolithic electrochemically promoted catalytic reactor for environmentally important reactions", *Applied Catalysis B: Environmental*, 52 (2004) 181
- A3. A. Katsaounis, Z. Nikopoulou, X.E. Verykios, C.G. Vayenas  
"Comparative isotope-aided investigation of Electrochemical Promotion and Metal-Support Interactions: 1.  $^{18}\text{O}_2$  TPD of electropromoted Pt films deposited on YSZ and of dispersed Pt/YSZ catalysts", *Journal of Catalysis*, 222 (2004) 192
- A2. F. Tietz, Ch. Papadelis, D. Tsiplakides, A. Katsaounis, C.G. Vayenas  
"Temperature Programmed Oxygen Desorption of the Perovskites Series  $\text{Ln}_{0.65}\text{Sr}_{0.3}\text{Mn}_{0.8}\text{Co}_{0.2}\text{O}_3$  (Ln: La-Gd)", *Ionics*, 7 (2001) 101
- A1. C.G. Yiokari, G.E. Pitselis, D.G. Polydoros, A.D. Katsaounis, C.G. Vayenas  
"High-Pressure Electrochemical Promotion of Ammonia Synthesis over an Industrial Iron Catalyst", *The Journal of Physical Chemistry A*, 104 (1999) 10600-10602

## B. Books and Chapters in Books

- B1. A. Katsaounis, S. Brosda, C.G. Vayenas  
"Electrocatalysis" in *Encyclopedia of Electrochemistry*, Vol. 5, Wiley-VCH GmbH & Co KGaA, editors A.J. Bard, M. Stratmann etc, 2008
- B2. A. Katsaounis  
"Air Treatment Technologies" in *Introduction to Environmental Engineering Science*, Technical University of Crete, 2008
- B3. C.G. Vayenas, A. Katsaounis, S. Brosda, A. Hammad  
"Electrochemical Modification of Catalytic Activity" in "Handbook of Heterogeneous Catalysis", 2<sup>nd</sup> edition, editors G. Ertl, H. Knötzinger, F. Schüth and J. Weitcamp, Weinheim, 2008
- B4. A. Katsaounis, S. Souentie  
"In-Cell Mediated (via Active Chlorine) Electrochemical Oxidation of Organic Pollutants in Water Using DSA Electrodes" in "Encyclopedia of Applied Electrochemistry", editors R.F. Savinell, Ken-ichiro Ota, G. Kreysa, Springer 2013
- B5. C.G. Vayenas, A. Katsaounis, S. Brosda and F. Sapountzi  
"Electrochemical Promotion of Catalytic Reactions" in "Encyclopedia of Applied Electrochemistry", editors R.F. Savinell, Ken-ichiro Ota, G. Kreysa, Springer 2013

## C. Patents

- C1. C.G. Vayenas, S. Balomenou, D. Tsiplakides, A. Katsaounis, S. Brosda, G. Foti, C. Comninellis, S. Thiemann-Handler, B. Cramer, World Intellectual Property Organization (WO/2005/072860).