

Dimitris I. Kondarides

Associate Professor

Department of Chemical Engineering
University of Patras, GR 26504 Patras, Greece
Tel: 2610-969527; Fax: 2610-991527
e-mail: dimi@chemeng.upatras.gr

EDUCATION

- B.S. in Chemistry, University of Patras, 1987
- Ph.D. in Chemical Engineering, University of Patras, 1993
- Post-doctoral studies, Department of Chemistry, Graduate School of Science, The University of Tokyo, Japan (1993-1994)

RESEARCH INTEREST AND ACTIVITIES

Research activities are focused in the fields of Heterogeneous Catalysis and Photocatalysis and, especially, in materials synthesis and characterization, (photo)catalyst development and evaluation, and investigation of reaction kinetics and mechanisms. Of particular interest is the investigation of the surface chemistry and structure of dispersed metallic systems and of reducible metal oxides and their mixtures. Materials are characterized using a combination of physicochemical techniques, including selective chemisorption of probe molecules, temperature programmed desorption, reduction and oxidation (TPR, TPO and TPD), FT-IR, Raman, XPS and XRD. In parallel to catalyst development and testing, fundamental studies are made to identify the surface parameters, which determine the catalytic performance. Identification of reaction pathways and mechanisms is accomplished with the combined use of *in situ* FT-IR spectroscopy and transient mass spectrometry, including steady-state isotopic transient kinetic analysis (SSITKA).

Primary goals in the field of **Heterogeneous Catalysis** are:

- Production of hydrogen for fuel cells, by reformation of biomass-derived components and derivatives.
- Development of water-gas shift (WGS) catalysts for fuel processors used in PEM fuel cell systems.
- Development of catalytic materials for the selective methanation of CO in reformat gas
- Production of methanol and dimethylether via hydrogenation of CO and CO₂.
- Oxidation of volatile organic compounds (VOC) over metal and metal oxide catalysts.
- Development of novel catalysts for the selective reduction of NO_x present in the exhaust of lean-burn and diesel engines.

In the field of **Photocatalysis**, current research activities are focused on:

- Production of hydrogen by photocatalytic reforming of biomass components and derivatives at ambient conditions.
- Development of innovative photoelectrochemical devices (Photo-Electro-Reformers) for the production of electricity with simultaneous mineralization of waste organic compounds in solution.
- Photocatalytic treatment of wastewater streams containing non-biodegradable organic compounds.
- Investigation of photocatalytic reaction kinetics and mechanisms.

- Development of novel photocatalyst formulations with improved absorption characteristics in the solar spectral region.
- Development of methods for photocatalyst fixation on appropriate substrates.
- Design of advanced photocatalytic reactors, operating with artificial or solar light.

PROFESSIONAL AFFILIATIONS

- Member of the Editorial Board of “Applied Catalysis B: Environmental” (2004 – today)
- Member of the Board of the “Catalysis Society of Greece” (2006 – today)
- Association of Greek Chemists

VISITING PROFESSOR

Invited Visiting Professor at the Swiss Federal Institute of Technology in Lausanne (SFITL). (2006, 1 month).

HONOURS

1988-1992: Scholarship for graduate studies, ICEHT/FORTH

1993-1994: Fellowship, Japanese-German Center, Berlin

2008: E.ON Research Award in “Application of Nanotechnology in the Energy Business”

ORGANIZATION OF CONFERENCES.

Member of the Organizing/Scientific Committees of the following conferences:

- 1st Conference of the European Union Coordination Action “CO-ordination of Nanostructured Catalytic Oxides Research and Development in Europe”: CONCORDE. Louvain-la-Neuve (Belgium), January 26-28, 2005;
- 4th Panhellenic Scientific Conference of Chemical Engineering, Patras, Greece, 29-31 May 2006;
- 9th Panhellenic Symposium of Catalysis, Lefkas, Grece, 6-7 October 2006;
- 3rd National Congerence of Hydrogen Technologies, Patras, Greece, 8-9 October 2007;
- 10th Panhellenic Symposium of Catalysis, Metsovo, Grece, 3-4 October 2008;
- The 15th International Conference on Advanced Oxidation Technologies for Treatment of Water, Air and Soil (AOTs-15), Niagara Falls, NY, USA, October 5-8, 2009.
- 11th Panhellenic Symposium of Catalysis, Athens, Grece, 22-23 October 2010;
- The Photocatalytic and Advanced Oxidation Technologies for Treatment of Water, Air, Soil and Surfaces” (PAOT), Gdansk Technical University, Poland, July 4-8, 2011.
- 7th European Meeting on Solar Chemistry & Photocatalysis: Environmental Applications (SPEA7), June 17-20 2012, Porto, Portugal.
- Advances in Catalysis for biomass valorization” (CAT4BIO), Thessaloniki, Greece, July 8-11, 2012.
- Third International Symposium on Green Chemistry for the Environment, Health and Development, Skiathos Island, Greece, October 3-5, 2012.
- 12th Panhellenic Symposium of Catalysis, Chania, Grece, 25-27 October 2012;
- 3rd European Conference on Environmental Applications of Advanced Oxidation Processes (EAAOP-3), Almeria, Spain, October 28-30, 2013.

REFEREE IN INTERNATIONAL SCIENTIFIC JOURNALS

Regular reviewer in 40 International Scientific Journals, including: Nature Materials, Nature Communications, Applied Catalysis B: Environmental; Journal of Catalysis; Journal of Physical Chemistry; Catalysis Communications; Catalysis Letters; Catalysis Today; Journal of Hazardous Materials; Journal of Molecular Catalysis; Journal of Photochemistry and Photobiology A; International Journal of Hydrogen Energy; Industrial & Engineering Chemistry Research; Environmental Science & Technology; Electrochimica Acta; Energy and Environmental Science; Applied surface Science, Chemosphere; Desalination; Chemistry of Materials; Water Environment Research; Journal of Advanced Oxidation Technologies; Colloids and Surfaces A; Central European Journal of Chemistry; Chemical Papers.

FUNDED RESEARCH

A. Coordinator in nine (9) international and national research projects:

1. "Photocatalytic splitting of water for hydrogen production". Program: "K. Karatheodory", Research Committee, University of Patras, Greece, 2002-2005 (23500 €).
2. "Optimization of catalytic units of a novel process for the production of electricity from biomass for stationary applications". Program: PENED 2001 (contract 01ED561), General Secretariat of Research and Technology (GSRT) Greece, 2002-2005 (45000 €).
3. "Development of novel catalysts and reactors for the production of hydrogen by photocatalytic cleavage of water with the use of solar light". Program: Pythagoras, YPEPTH/EPEAEK, Greece, 2004-2006 (60000 €).
4. "Development of photocatalytic and photoelectrochemical cells for the production of hydrogen by cleavage of water with the use of solar radiation". Program: PENED 2003 (contract 03ED607), GSRT, Greece, 2005-2008 (45000 €).
5. "Conversion of excess electricity to reformable liquid fuels", HELBIO-MORPHIV, Greece, 2009-2010 (13000 €).
6. "Development and pilot plant demonstration of hydrogen production from solar energy and biomass (waste) compounds and derivatives at ambient conditions mediated by nanostructured photocatalysts", Contract No.: 2008/24_DCE-UoPatras", 2008 E.ON International Research Initiative Call "Application of Nanotechnology in the Energy Business", 2009-2012 (375900 €).
7. Development of novel Photo-Fuel Cells for the production of hydrogen and electricity via oxidation of organic compounds with the use of solar radiation (PhotoFuelCell), code No MIS 379320, Duration: 48 months (06.10.2011-30.09.2015). Program: THALES, Ministry of Education Lifelong Learning and Religious Affairs (600.000 €).
8. Development of an innovative, energy efficient and environmentally friendly Power System, operating with hydrogen and fuel cell, for standalone refrigeration applications. Acronym: HyPEMRef, Duration: 30 months (10.12.2012-30.06.2015). Code No 11ΣΥΝ_7_396. Programme: Cooperation (160000 €).
9. Development of low cost PEM fuel cells based on novel low and non-Pt electrocatalysts. Acronym: nonPT-PEM, Code No: 12CHN269; Duration: 36 months (01.10.2012-30.09.12), Greece-China Cooperation 2012-2014» (EPAN-II) (55000 €).

B. Member of the research group of twenty (26) research projects carried out at the Laboratory of Heterogeneous Catalysis of the Department of Chemical Engineering, University of Patras.

GRADUATE STUDENTS SUPERVISED

1. P. Panagiotopoulou, "Development and characterization of novel catalytic materials for the water-gas shift (WGS) reaction at low temperatures, and kinetic studies" (2006)
2. V. Daskalaki, "Development of an integrated process for the production of hydrogen by photocatalytic cleavage of water with the use of solar radiation" (2009)
3. S. Akarmazyan, "Simultaneous production of methanol and dimethylether from synthesis gas" (in progress)
4. E. Filippaiou, "Synthesis, characterization and performance of photocatalysts for the production of hydrogen from water suspensions with the use of solar light" (2012)
5. G. Nomikos, "Development of novel photocatalytic reactors for environmental and energy-related processes" (2012)

SUMMARY OF PUBLISHED WORK

- Papers in international refereed journals: 63
- Presentations in international conferences: 66
- Presentations in national conferences 48

CITATIONS

- Total number of citations >3200
- Hirsch index (*h*) 30

CHAPTERS IN BOOKS

1. Dimitris I. Kondarides, (2010), PHOTOCATALYSIS, in Catalysis, [Ed. Gabriele Centi], in Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO, EOLSS Publishers, Oxford, UK.
[<http://www.eolss.net/outlinecomponents/Catalysis.aspx>]
2. Dimitris I. Kondarides and X.E. Verykios, Chapter 15 – "Photocatalytic Production of Renewable Hydrogen", in "The Role of Catalysis for the Sustainable Production of Bio-fuels and Bio-chemicals" (Ed. K.S. Triantafyllidis, A. Lappas and M. Stocker), Elsevier BV, 2013, pages 495-527.

LIST OF PUBLICATIONS IN REFEREED JOURNALS

1. "In situ high temperature SERS study of oxygen adsorbed on Ag: Support and electrochemical promotion effects", D.I. Kondarides, G.N. Papatheodorou, C.G. Vayenas and X.E. Verykios, Ber. Bunsen-Ges. Phys. Chem. 97 (1993) 709-720.
2. "Oxygen adsorption on supported silver catalysts investigated by microgravimetric and transient techniques", D.I. Kondarides and X.E. Verykios, J. Catal. 143 (1993) 481-491.
3. "The adsorption of oxygen on Ag and Ag-Au alloys: Mechanistic implications in ethylene epoxidation catalysis", D.I. Kondarides and X.E. Verykios, Stud. Surf. Sci. Catal. 82 (New Developments in Selective Oxidation II), (1994) 471-480.
4. "Surface chemistry and historical survey of ethylene epoxidation", D.I. Kondarides and Y. Iwasawa, Hyomen (Surface) 32 (1994) 295-307. (Review article, translated and published in Japanese).
5. "A novel PtMo₆/MgO catalyst for alkane-to-alkene Conversion", D.I. Kondarides, K. Tomishige, Y. Nagasawa and Y. Iwasawa, Stud. Surf. Sci. Catal. 91 (1995) 141-150.
6. "Interaction of oxygen with supported Ag-Au alloy catalysts", D.I. Kondarides and X.E. Verykios, J. Catal. 158 (1996) 363-377.

7. "Characterization and performance of a [PtMo6]/MgO catalyst for alkane-to-alkene conversion", D.I. Kondarides, K. Tomishige, Y. Nagasawa, U. Lee and Y. Iwasawa, *J. Mol. Catal. A* 111 (1996) 145-165.
8. "Effect of chlorine on the chemisorptive properties of Rh/CeO₂ catalysts studied by XPS and temperature programmed desorption techniques", D.I. Kondarides and X.E. Verykios, *J. Catal.* 174 (1998) 52-64.
9. "Chlorine-induced alterations in oxidation state and CO chemisorptive properties of CeO₂-supported Rh catalysts", D.I. Kondarides, Z. Zhang and X.E. Verykios, *J. Catal.* 176 (1998) 536-544.
10. "XPS and FTIR study of Ru/Al₂O₃ and Ru/TiO₂ catalysts: reduction characteristics and interaction with a methane-oxygen mixture", C. Elmasides, D.I. Kondarides, W. Gruenert and X.E. Verykios, *J. Phys. Chem. B* 103 (1999) 5227-5239.
11. "The effect of operational parameters and TiO₂-doping on the photocatalytic degradation of azo-dyes", F. Kiriakidou, D.I. Kondarides and X.E. Verykios, *Catal. Today* 54 (1999) 119-130.
12. "Catalytic reduction of NO by CO over rhodium catalysts: 1. Adsorption and displacement characteristics investigated by in situ FTIR and transient-MS techniques", T. Chafik, D.I. Kondarides and X.E. Verykios, *J. Catal.* 190 (2000) 446-459.
13. "Catalytic reduction of NO by CO over rhodium catalysts: 2. Effect of oxygen on the nature, population and reactivity of surface species formed under reaction conditions", D.I. Kondarides, T. Chafik and X.E. Verykios, *J. Catal.* 191 (2000) 147-164.
14. "The oxidation state of Ru catalysts under conditions of partial oxidation of methane studied by XPS and FTIR spectroscopy", C. Elmasides, D.I. Kondarides, S.G. Neophytides and X.E. Verykios, *Stud. Surf. Sci. Catal.* 130 D (2000) 3083-3088.
15. "Reduction of NO by propylene over modified Rh/TiO₂ catalysts in the presence of oxygen", T.I. Halkides, D.I. Kondarides and X.E. Verykios, *Stud. Surf. Sci. Catal.* 130 B (2000) 1343-1348.
16. "Catalytic reduction of NO by CO over rhodium catalysts: 3. The role of surface isocyanate species", D.I. Kondarides, T. Chafik and X.E. Verykios, *J. Catal.* 193 (2000) 303-307.
17. "Partial oxidation of methane to synthesis gas over Ru/TiO₂ catalysts: Effects of the modification of the support on oxidation state and catalytic performance", C. Elmasides, D.I. Kondarides, S.G. Neophytides and X.E. Verykios, *J. Catal.* 198 (2001) 195-207.
18. "Steam reforming of biomass-derived ethanol for the production of hydrogen for fuel cell applications", A.N. Fatsikostas, D.I. Kondarides and X.E. Verykios, *Chem. Commun.* (2001) 851-852.
19. "On the Participation of NCO Surface Species in the NO+CO Reaction", D.I. Kondarides and X.E. Verykios, *J. Catal.* 202 (2001) 207-209.
20. "Production of hydrogen for fuel cells by reformation of biomass-derived ethanol", A.N. Fatsikostas, D.I. Kondarides and X.E. Verykios, *Catal. Today* 75 (2002) 145-155.
21. "Mechanistic study of the reduction of NO by C₃H₆ in the presence of oxygen over Rh/TiO₂ catalysts", T.I. Halkides, D.I. Kondarides and X.E. Verykios, *Catal. Today* 73 (2002) 213-221.
22. "Activity enhancement of bimetallic Rh-Ag/Al₂O₃ catalysts for selective catalytic reduction of NO by C₃H₆", A. Kotsifa, T.I. Halkides, D.I. Kondarides and X.E. Verykios, *Catal. Lett.* 79 (2002) 113-117.
23. "Pathways of solar light-induced photocatalytic degradation of azo dyes in aqueous TiO₂ suspensions", M. Styliidi, D.I. Kondarides and X.E. Verykios, *Appl. Catal. B* 40 (2003) 271-286.

24. "Catalytic reduction of NO by C₃H₆ over Rh/TiO₂ catalysts. Effect of W⁶⁺-cation doping of TiO₂ on morphological characteristics and catalytic performance", T.I. Halkides, D.I. Kondarides and X.E. Verykios, *Appl. Catal. B* 41 (2003) 415-426.
25. "Mechanistic and kinetic study of solar-light induced photocatalytic degradation of Acid Orange 7 in aqueous TiO₂ suspensions", M. Styliidi, D.I. Kondarides and X.E. Verykios, *Int. J. Photoenergy* 5 (2003) 59-67.
26. "Production of hydrogen for fuel cells by steam reforming of ethanol over supported noble metal catalysts", D.K. Liguras, D.I. Kondarides and X.E. Verykios, *Appl. Catal. B* 43 (2003) 345-354.
27. "Visible light-Induced photocatalytic degradation of acid orange 7 in aqueous TiO₂ suspensions", M. Styliidi, D.I. Kondarides and X.E. Verykios, *Appl. Catal. B* 47 (2004) 189-201.
28. "Effect of morphological characteristics of TiO₂-supported noble metal catalysts on their activity for the water-gas shift reaction", P. Panagiotopoulou and D.I. Kondarides, *J. Catal.* 225 (2004) 327-336.
29. "Adsorption of Acid Orange 7 on the surface of titanium dioxide", K. Bourikas, M. Styliidi, D.I. Kondarides and X.E. Verykios, *Langmuir* 21 (2005) 9222-9230.
30. "Effect of the nature of the support on the catalytic performance of noble metal catalysts for the Water-Gas Shift Reaction", P. Panagiotopoulou and D.I. Kondarides, *Catal. Today* 112 (2006) 49-52.
31. "Enhancement of photoinduced hydrogen production from irradiated Pt/TiO₂ suspensions with simultaneous degradation of diluted of azo-dyes", A. Patsoura, D.I. Kondarides and X.E. Verykios, *Appl. Catal. B* 64 (2006) 171-179.
32. "Particle size effects on the reducibility of titanium dioxide and its relation to the Water-Gas Shift activity of Pt/TiO₂ catalysts", P. Panagiotopoulou, A. Christodoulakis, D.I. Kondarides and S. Boghosian, *J. Catal.* 240 (2006) 114-125.
33. "Comparative study of the chemisorptive and catalytic properties of supported Pt catalysts related to the selective catalytic reduction of NO by propylene", A. Kotsifa, D.I. Kondarides and X.E. Verykios, *Appl. Catal. B* 72 (2007) 136-148.
34. "Water-gas shift activity of doped Pt/CeO₂ catalysts", P. Panagiotopoulou, J. Papavasiliou, G. Avgouropoulos, T. Ioannides and D.I. Kondarides, *Chem. Eng. J.* 134 (2007) 16-22.
35. "Photocatalytic degradation of organic pollutants with simultaneous production of hydrogen", A. Patsoura, D.I. Kondarides and X.E. Verykios, *Catal. Today* 124 (2007) 94-102.
36. "A comparative study of the water-gas shift activity of Pt catalysts supported on single (MO_x) and composite (MO_x/Al₂O₃, MO_x/TiO₂) metal oxide carriers", P. Panagiotopoulou and D.I. Kondarides, *Catal. Today*, 127 (2007) 319-329.
37. "Hydrogen production by photocatalytic alcohol reforming employing highly efficient nanocrystalline titania films", N. Strataki, V. Bekiari, D.I. Kondarides, P. Lianos, *Appl. Catal. B* 77 (2007) 184-189.
38. "Hydrogen production by photo-induced reforming of biomass components and derivatives at ambient conditions", D.I. Kondarides, V.M. Daskalaki, A. Patsoura, X.E. Verykios, *Catal. Lett.* 122 (2008) 26-32.
39. "A comparative study of the selective catalytic reduction of NO by propylene over supported Pt and Rh catalysts", A. Kotsifa, D.I. Kondarides, X.E. Verykios, *Appl. Catal. B* 80 (2008) 260-270.
40. "Selective methanation of CO over supported noble metal catalysts: Effects of the nature of the metallic phase on catalytic performance", P. Panagiotopoulou, D.I. Kondarides, X.E. Verykios, *Appl. Catal. A* 344 (2008) 45-54.

41. "Effects of alkali additives on the physicochemical characteristics and chemisorptive properties of Pt/TiO₂ catalysts", P. Panagiotopoulou, D.I. Kondarides, *J. Catal.* 260 (2008) 141-149.
42. "Selective methanation of CO over supported Ru catalysts", P. Panagiotopoulou, D.I. Kondarides, X.E. Verykios, *Appl. Catal. B* 88 (2009) 470-478.
43. "Catalytic activity of supported platinum and metal oxide catalysts for toluene oxidation", S.M. Saqer, D.I. Kondarides, X.E. Verykios, *Top. Catal.* 52 (2009) 517-527.
44. "Photooxidation products of ethanol during photoelectrochemical operation using a nanocrystalline titania anode and a two compartment chemically biased cell", M. Antoniadou, D.I. Kondarides, P. Lianos, *Catal. Lett.* 129 (2009) 344-349.
45. "Efficient production of hydrogen by photo-induced reforming of glycerol at ambient conditions", V.M. Daskalaki, D.I. Kondarides, *Catal. Today* 144 (2009) 75-80.
46. "Kinetic and mechanistic studies of the water-gas shift reaction over Pt/TiO₂ catalyst", C.M. Kalamaras, P. Panagiotopoulou, D.I. Kondarides, A.M. Efstathiou *J. Catal.* 264 (2009) 117-129.
47. "Effects of alkali-promotion of TiO₂ on the chemisorptive properties and water-gas shift activity of supported noble metal catalysts", P. Panagiotopoulou, D.I. Kondarides, *J. Catal.* 267 (2009) 57-66.
48. "Mechanistic aspects of the ethanol steam reforming reaction for hydrogen production on Pt, Ni and PtNi catalysts supported on γ -Al₂O₃", M.C. Sanchez-Sanchez, R.M. Navarro Yerga, D.I. Kondarides, X.E. Verykios, J.L.G. Fierro, *J. Phys. Chem. A* 114 (2010) 3873-3882.
49. "An efficient photoelectrochemical cell functioning in the presence of organic wastes", M. Antoniadou, D.I. Kondarides, D. Labou, S. Neophytides, P. Lianos, *Sol. Energy Mater. Sol. Cells* 94 (2010) 592-597.
50. "Anaerobic photocatalytic oxidation of carbohydrates in aqueous Pt/TiO₂ suspensions with simultaneous production of hydrogen", D.I. Kondarides, A. Patsoura, X.E. Verykios, *J. Adv. Oxid. Technol.* 13 (2010) 116-123.
51. "Solar light-responsive Pt/CdS/TiO₂ photocatalysts for hydrogen production and simultaneous degradation of inorganic or organic sacrificial agents in wastewater", V.M. Daskalaki, M. Antoniadou, G. Li Puma, D.I. Kondarides, P. Lianos, *Environ. Sci. Technol.* 44 (2010) 7200-7205.
52. "Aldol condensation products during photocatalytic oxidation of ethanol in a photoelectrochemical cell", P. Panagiotopoulou, M. Antoniadou, D.I. Kondarides, P. Lianos *Appl. Catal. B* 100 (2010) 124-132.
53. "Chemical reaction engineering and catalysis issues in distributed power generation systems", P. Panagiotopoulou, D.I. Kondarides, X.E. Verykios, *Ind. Eng. Chem. Res.* 50 (2011) 523-530.
54. "Mechanistic study of the selective methanation of CO over Ru/TiO₂ catalyst. Identification of active surface species and reaction pathways", P. Panagiotopoulou, D.I. Kondarides, X.E. Verykios, *J. Phys. Chem. C* 115 (2011) 1220-1230.
55. "Effects of promotion of TiO₂ with alkaline earth metals on the chemisorptive properties and water-gas shift activity of supported platinum catalysts", P. Panagiotopoulou, D.I. Kondarides, *Appl. Catal. B* 101 (2011) 738-746.
56. "Production of peroxide species in Pt/TiO₂ suspensions under conditions of photocatalytic water splitting and glycerol photo-reforming", V.M. Daskalaki, P. Panagiotopoulou, D.I. Kondarides, *Chem. Eng. J.* 170 (2011) 433-439.
57. "Catalytic oxidation of toluene over binary mixtures of copper, manganese and cerium oxides supported on γ -Al₂O₃", S. Saqer, D.I. Kondarides, X.E. Verykios, *Appl. Catal. B* 103 (2011) 275-286.

58. "Photocatalysis and photoelectrocatalysis using (CdS-ZnS)/TiO₂ combined photocatalysts", M. Antoniadou, V.M. Daskalaki, N. Balis, D.I. Kondarides, Ch. Kordulis, P. Lianos, Appl. Catal. B 107 (2011) 188-196.
59. "Mechanistic aspects of the selective methanation of CO over Ru/TiO₂ catalyst", P. Panagiotopoulou, D.I. Kondarides, X.E. Verykios, Catal. Today 181 (2012) 138-147.
60. "Solar photocatalysis for the abatement of emerging micro-contaminants in wastewater: Synthesis, characterization and testing of various TiO₂ samples", H. Dimitroula, V.M. Daskalaki, Z. Frontistis, D.I. Kondarides, P. Panagiotopoulou, N.P. Xekoukoulotakis, D. Mantzavinos, Appl. Catal. B 117-118 (2012) 283-291.
61. "Photocatalysis and photoelectrocatalysis using nanocrystalline titania alone or combined with Pt, RuO₂ or NiO co-catalysts", M. Antoniadou, P. Panagiotopoulou, D.I. Kondarides, P. Lianos, J. Appl. Electrochem. 42 (2012) 737-743.
62. "Quantum dot sensitized titania applicable as photoanode in photoactivated fuel cells", M. Antoniadou, D.I. Kondarides, D.D. Dionysiou, P. Lianos, J. Phys. Chem. C 116 (2012) 16901-16909.
63. "Kinetics and mechanism of glycerol photo-oxidation and photo-reforming reactions in aqueous TiO₂ and Pt/TiO₂ suspensions", P. Panagiotopoulou, E.E. Karamerou, D.I. Kondarides, Catal. Today 209 (2013) 91-98.