

## CURICULUM VITAE

### **CONSTANTINE PHILIPPOPOULOS**

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**Place of Birth:** Athens, Greece

**Date of Birth:** February 5, 1956

**Undergraduate Studies:** October 1974-July 1979

Dept. of Chemical Engineering,

National Technical University of Athens

B.Sc in Chemical Engineering

**Postgraduate Studies:** September 1979-May 1984, Ph.D Chemical

Engineering, National Technical University

of Athens, Title "Photochemical

Conversion and Storage of Solar Energy"

**Teaching Experience:** Teaching for over twenty five years Chemical  
Engineering Courses as follows:

(i) Introduction to Chemical Engineering

(ii) Basic Principles and Calculations in  
Chemical Engineering

(iii) Chemical Reaction Engineering

(iv) Chemical Engineering Lab.

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**Research Interests:** Energy Conversion

Catalyst Preparation and Heterogeneous Reaction Kinetics

Air Pollution Control (Catalytic and Photocatalytic oxidation of  
pollutants in gaseous and aqueous phase)

#### **Publications:**

1. C.Philippopoulos, J.Marangozis,  
*Photochemical Solar Energy Conversion in flat-plate collectors - An  
Engineering Analysis,*  
J.Photochem., 17, 157, (1981).

2. C.Philippopoulos, D.Economou, C.Economou, J.Marangozis,  
*Norbornadiene-Quadricyclane System in the Photochemical Conversion and Storage of Solar Energy*,  
Ind.Eng.Chem.Prod.Res.Dev., 22, 627-633, (1983).
3. C.Philippopoulos, J.Marangozis,  
*Kinetics and Efficiency of Solar Energy Storage in the Photochemical Isomerization of Norbornadiene to Quadricyclane*,  
Ind.Eng.Chem.Prod.Res.Dev., 23,4 58-466, (1984).
4. C.Philippopoulos, N.Papayannakos,  
*Intraparticle Diffusional Effects and Kinetics of Desulfurization Reactions and Asphaltenes Cracking during Catalytic Hydrotreatment of a Residue*,  
Ind.Eng.Chem.Res., 27, 415-420, (1988).
5. V.Blachou, D.Goula, C.Philippopoulos,  
*Wet Milling of Alumina and Preparation of Slurries for Monolithic Structures Impregnation*,  
Ind.Eng.Chem.Res., 31, 364-369, (1992).
6. A.Psyllos, C.Philippopoulos,  
*Modelling of Monolithic Catalyst Converters used in Automotive Pollution Control*,  
Appl.Math.Modelling,16:9, 484-490, (1992).
7. C.Philippopoulos,  
*Effect of Pore Structure on the Performance of Catalytic Monoliths Used in Automotive Emission Control*,  
J.Mater.Sci.Let., 11, 592-594, (1992).
8. V.Blachou, C.Philippopoulos,  
*Adsorption of Hexachloroplatinic Acid on  $\gamma$ -Alumina Coatings for Preparation of Monolithic Structure Catalysts*,  
Chem.Eng.Comm.,119, 41 - 53, (1993).
9. A.Psyllos, C.Philippopoulos,  
*Performance of a monolithic Catalytic Converter Used in Automotive Emission Control: the Effect of a Longitudinal Parabolic Active Metal Distribution*,  
Ind.Eng.Chem.Res., 32, 1555-1560, (1993).
10. A.Psyllos, C.Philippopoulos,  
*Modelling of Monolithic Converters with Axial Catalyst Distribution*,  
Appl.Math.Modelling,17, 459-467, (1993).
11. G.Lydatakis, C.Koufopoulos, V.Kaloidas, C.Philippopoulos,  
*Catalytic Conversion of Automotive Exhaust Gases*,  
Tech. Chron., Section C, vol. 13, 3-4, 61-78, (1993), (in Greek).
12. V. Kyriacopoulou, A. Psyllos, C. Philippopoulos,  
*Diffusional Effects and Intrinsic Kinetics for NO Reduction by CO over Pt-Rh / $\gamma$ - Al<sub>2</sub>O<sub>3</sub> Monolithic Catalysts*,  
Ind.Eng.Chem.Res., 33, 1699 - 1679, (1994).

13. A.Psyllos, N.Papayannakos, C.Philippopoulos,  
*CO Oxidation in a Carberry Reactor: Manifestation of Reaction Kinetics by Controlled Reaction/Transport*,  
J. Chem. Eng. Japan, 27, No 5, 693 - 695, (1994).
14. D. Svoronos, H. Grigoropoulou, C. Philippopoulos,  
*The Effect of Pt/Al<sub>2</sub>O<sub>3</sub> Catalyst Preparation conditions upon its Activity on Nitric Oxide Reduction*,  
Appl. Catalysis B, 5, 319-328, (1995).
15. V.Kaloidas, C.Koufopoulos, C. Philippopoulos,  
*BaO Addition for Stabilization of Automotive Catalysts*,  
React. Kinet. & Cat. Let., 55 (1), 227-233, (1995)
16. A.Liapi, A. Psyllos, C. Philippopoulos,  
*Monolithic Catalysts: Diffusional Mass Transfer of CO through  $\gamma$ -Alumina Substrates under Reacting Conditions*,  
Chem.Eng.Comm., 145, 22-32, (1996).
17. C. Philippopoulos, N. Gangas, N.Papayannakos,  
*Catalytic Reduction of NO with CO over a Rh/Al-PILC Catalyst*  
J.Mater.Sci.Let., 15(22), 1940-1943, (1996).
18. A. Strouvalis, H. Grigoropoulou, C.Philippopoulos,  
*The influence of pH on the activity of Rh/ $\gamma$ -alumina catalysts*,  
Chem. Biochem. Eng. Q., 11(2), 97-100,(1997).
19. J. Karafyllis, C. Philippopoulos, H. Grigoropoulou,  
*Oxidation of Ethanol over CuO/g-Al<sub>2</sub>O<sub>3</sub> Catalyst: Influence of Oxygen Concentration on Acetaldehyde Yield*,  
Chem. Biochem. Eng. Q., 11(3), 121-125,(1997).
20. H. Grigoropoulou and C. Philippopoulos,  
*Homogeneous Oxidation of Phenols in Aqueous Solution with Hydrogen Peroxide and Ferric Ions*,  
Wat. Sci. Tech., 36,(2-3), 151-154, (1997).
21. S.Morfis, C.Philippopoulos and N. Papayannakos,  
*The Effect of Carrier on the Catalytic Activity of Rh/PILCs Catalysts for the Reaction of NO with CO*,  
Applied Clay Science, 13, 203-212, (1998)
22. V. Tavlarides, S. Pouloupoulos and C. Philippopoulos,  
*MTBE Addition in Gasoline: The Effect on Automotive Exhaust Emissions*,  
Tech. Chron. Sci. J. TCG, V, No 1-2, 17-28, (2000). In Greek
23. S. Pouloupoulos and C. Philippopoulos,  
*Influence of MTBE Addition in Gasoline on Automotive Exhaust Emissions*,  
Atmos. Environ. 34, 4781-4786,(2000)
24. C.Liakopoulos, S. Pouloupoulos and C. Philippopoulos,  
*Kinetic Studies of Acetaldehyde Oxidation over Pt/Rh and Pd Monolithic Catalysts in a Spinning Basket Flow Reactor*,  
Ind. Eng. Chem. Res., 40, 1476-1481, (2001)

25. S. Pouloupoulos and C. Philippopoulos,  
*Speciated hydrocarbon and carbon monoxide emissions from an internal combustion engine operating on methyl tertiary butyl ether containing fuels,*  
J. Air & Waste Manage. Assoc., 51,174-185, (2001)
26. S. Pouloupoulos, D. Samaras and C. Philippopoulos,  
*Regulated and Speciated Hydrocarbon Emissions from a Catalyst Equipped Internal Combustion Engine,*  
Atmos. Environ., 35, 4443-4450, (2001)
27. C. Nezi, S. Pouloupoulos and C. Philippopoulos,  
*MTBE catalytic oxidation over Pt/Rh and Pd monolithic exhaust catalysts: Intrinsic Kinetics studies in a spinning basket flow reactor,*  
Ind. Eng. Chem. Res., 40/15, 3325-3330, (2001)
28. S. Pouloupoulos, D. Samaras and C. Philippopoulos,  
*Regulated and Unregulated Emissions from an Internal Combustion Engine Operating on Ethanol-containing Fuels,*  
Atmos. Environ., 35, 4399-4406, (2001)
29. G. D. Papakonstantopoulos, G. P. Androutsopoulos and C. J. Philippopoulos  
*Reaction selectivity in a porous catalyst pellet: analysis of a kinetic model of two parallel, first order, irreversible reactions with a second order inhibition kinetic term in one of them*  
Chem.Eng.Sci., 56/18, 5413-5417, (2001)
30. S.G.Pouloupoulos, H.P. Grigoropoulou and C.J. Philippopoulos,  
*Acetaldehyde yield and reaction products in the catalytic destruction of gaseous ethanol,*  
Catalysis Let., 78(1): 291-296,(2002).
31. O. Dovletoglou, C. Philippopoulos and H. Grigoropoulou,  
*Coagulation for Treatment of Paint Industry,*  
J. Environ. Sci. Health, Part A, 37(7), 1361-1377, (2002).
32. E. Galanos, S.G.Pouloupoulos, and C.J. Philippopoulos,  
*Photocatalytic Destruction of MTBE in the Gas Phase using Titanium Dioxide,*  
J. Environ. Sci. Health, Part A, 37(9), 1665-1675, (2002).
33. K. Makrodimitris, G. Papadopoulos, C.J. Philippopoulos and D.N. Theodorou,  
*Parallel tempering method for reconstructing isotropic and anisotropic porous media,*  
J. Chem. Phys., 117, 5876-5884, (2002).
34. S.G.Pouloupoulos, and C.J. Philippopoulos,  
*The Effect of Adding Oxygenated Compounds to Gasoline on Automotive Exhaust Emissions,*  
ASME Journal of Engineering for Gas Turbines and Power, 125(1), 344-350, (2003).
35. C.J. Philippopoulos and S.G.Pouloupoulos,  
*Photo-assisted Oxidation of an Oily Wastewater Using Hydrogen Peroxide,*  
J. Hazard. Mater., 98 (1-3): 201-210, (2003).
36. C.Zerva, Z. Peschos, S.G.Pouloupoulos and C.J. Philippopoulos,  
*Treatment of Industrial Oily Wastewaters by Wet Oxidation,*

- J. Hazard. Mater., 97 (1-3): 257-265, (2003).
37. D. Mamma, S. Gerontas, C. Philippopoulos, P. Christakopoulos, B. Makris and D. Kekos,  
*Combined photo-assisted and biological treatment of industrial oily wastewater,*  
J. Environ. Sci. Health, Part A, 39(3), 729-740, (2004).
38. S. Pouloupoulos and C. Philippopoulos,  
*Photo-assisted oxidation of chlorophenol in aqueous solutions using hydrogen peroxide and titanium dioxide,*  
J. Environ. Sci. Health, Part A, 39(6), 1385-1397, (2004).
39. S. Pouloupoulos and C. Philippopoulos,  
*MTBE Methane, Ethylene and Regulated Exhaust Emissions from Vehicles with Deactivated Catalytic Converters,*  
Atmos. Environ., 38, 4495-4500, (2004).
40. M. K. Krokida and C. Philippopoulos,  
*Rehydration of dehydrated foods,*  
Drying Technology, Special issue, 23 (4), 799-830, (2005).
41. S. G. Pouloupoulos, E. C. Voutsas, H. P. Grigoropoulou, C. J. Philippopoulos,  
*Air Stripping as a Pretreatment Process of Industrial Oily Wastewater,*  
J. Hazard. Mater., 117, 135-139, (2005).
42. M.D. Nikolaki, A.G. Oreopoulou, C.J. Philippopoulos,  
*Photo-Fenton assisted reaction of dimethoate in aqueous solutions,*  
J. Environ. Sci. Health, Part B, 40(2), 233-246, (2005).
43. M. K. Krokida and C. Philippopoulos,  
*Volatiles of apple during air and freeze drying,*  
Journal of Food Engineering, 73(2), 135-141, (2006).
44. S. G. Pouloupoulos, F. Arvanitakis, C. J. Philippopoulos,  
*Photochemical treatment of phenol aqueous solutions using ultraviolet radiation and hydrogen peroxide,*  
J. Hazard. Mater., 129 (1-3), 64-68, (2006).
45. E. Zervas, S. G. Pouloupoulos, C. J. Philippopoulos,  
*Formation of Oxygenated Compounds from Isooctane Flames,*  
FUEL, 85, 333-339, (2006).
46. C. Zerva and C. Philippopoulos,  
*Ceria Catalysts for Water Gas Shift Reaction: Influence of Preparation Method on their Activity,*  
Appl. Catalysis B, 67, 105-112, (2006)
47. M.D. Nikolaki, D. Malamis, S.G. Pouloupoulos and C.J. Philippopoulos,  
*Photocatalytical degradation of 1,3-dichloro-2-propanol aqueous solutions by using an immobilized TiO<sub>2</sub> photoreactor*  
J. Hazard. Mater., 137, 1189-1196, (2006).
48. E. Zervas, S. Pouloupoulos and C. Philippopoulos,  
*CO<sub>2</sub> emissions change from the introduction of diesel passenger cars: Case of Greece*  
Energy, 31 (14), 2915-2925, (2006)

49. S.G. Pouloupoulos, C.A. Korologos, A. Boulamanti and C. J. Philippopoulos, *Treatment of 2-chlorophenol aqueous solutions by wet oxidation*, Water Research, 41 [6],1263-1268, (2007)
50. M.D. Nikolaki and C.J. Philippopoulos, *Photochemical degradation of 1,3-dichloro-2-propanol aqueous solutions*, J. Hazard. Mater., 146/3, 674-679,(2007).
51. S.G. Pouloupoulos, M.D. Nikolaki, D. Karampetsos and C.J. Philippopoulos, *Photochemical treatment of 2-chlorophenol aqueous solutions using ultraviolet radiation, hydrogen peroxide and photo-Fenton reaction* J. Hazard. Mater., 153/1-2, 582-587, (2008).
52. A. Boulamanti and C. J. Philippopoulos, *Photocatalytic degradation of methyl tert-butyl ether in the gas phase: a kinetic study*, J. Hazard. Mater., 160, 83-87, (2008).
53. E. Zervas,S.Pouloupoulos S, C.Philippopoulos, [CO2 control by means of the increased penetration of diesel passenger cars in Finland](#), GLOBAL NEST JOURNAL, 10 (2): 174-182, (2008)
54. O. Katsanou, E. Zervas,S.Pouloupoulos S, C.Philippopoulos, [Photocatalytic oxidation of TCE and MTBE in the gas phase](#), \_\_\_\_\_ GLOBAL NEST JOURNAL, 10 (2): 237- 240, (2008)
55. A. Boulamanti, C. Korologos, C. Philippopoulos, [The rate of photocatalytic oxidation of aromatic volatile organic compounds in the gas-phase](#), Atmos. Environ., 42(34), 7844-7850, (2008)
56. M.D. Nikolaki, C.N. Zerva and C.J. Philippopoulos, *Photocatalytic oxidation of 1,3-dichloro-2-propanol aqueous solutions with modified TiO<sub>2</sub> catalysts*, Appl. Catalysis B, 90(1-2), 89-98, (2009)
57. A. Boulamanti and C. Philippopoulos, *Photocatalytic degradation of C5 - C7 alkanes in the gas - phase*, Atmos. Environ., 43, 3168-3174, (2009)