

CURRICULUM VITAE

EPAMINONDAS C. VOUTSAS

Dr. Chemical Engineer

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I. BIOGRAPHICAL DATA

SURNAME: Voutsas
NAME: Epaminondas
DATE of BIRTH: March 12, 1968
MARITAL STATUS: Married, 2 children

EDUCATION: *1985-1991*
Diploma in Chemical Engineering, Aristotle University of Thessaloniki
1993-1997
Doctor in Chemical Engineering, National Technical University of Athens (NTUA)

LANGUAGES: Greek (Mother tongue),
English (First Certificate in English)

PROFESSIONAL EXPERIENCE:

i. 6/1997 – 12/2001 Post Doctoral Fellow, Laboratory of Thermodynamics and Transport Phenomena, School of Chemical Engineering, NTUA.
Employee, NTUA

ii. 1/2002 – 10/2004 Lecturer, School of Chemical Engineering, NTUA.

iii. 10/2004 – 9/2009 Assistant Professor, School of Chemical Engineering, NTUA.

iii. 10/2009 – today

PROFESSIONAL SOCIETIES:

Member of Technical Chamber of Greece (TEE)
Member of Hellenic Association of Chemical Engineers

LISTED IN: Marquis Who is Who in the World

REVIEWER FOR: AIChE Journal, Industrial & Engineering Chemistry Research, Fluid Phase Equilibria, Chemical Engineering Journal, Chemosphere, Journal of Chemical and Engineering Data, Chemical Physics Letters, European Polymer Journal, The Canadian Journal of Chemical Engineering, Chemical Engineering Communications, Chemical Engineering Research & Design, Fuel, Energy & Fuels, Thermochimica Acta, Journal of Environmental Management, The Journal of Physical Chemistry, Applied and Environmental Soil Science, Journal of Agricultural and Food Chemistry, Journal of Hazardous Materials, J. Supercritical Fluids, Geochimica et Cosmochimica Acta, The Journal of Chemical Thermodynamics.

SCHOLARSHIPS: Greek State Scholarship's Foundation (November 1993-November 1995).

II. PUBLICATIONS

A. IN INTERNATIONAL JOURNALS WITH REFEREES (787 citations, excluded self-citations. Source: SCOPUS, June 2012)

1. E.C. Voutsas, N. Spiliotis, N.S. Kalospiros and D.P. Tassios "Prediction of Vapor-Liquid Equilibria at Low and High Pressures Using UNIFAC-based Models", *Ind. Eng. Chem. Res.*, 34 (1995) 681.
2. E.C. Voutsas, N. Kalospiros and D. P. Tassios "A Combinatorial Activity Coefficient for Symmetric and Asymmetric Mixtures", *Fluid Phase Equil.*, 109 (1995) 1.
3. E.C. Voutsas, N.S. Kalospiros, C. Boukouvalas and D.P. Tassios "The Performance of EoS/G^E Models in the Prediction of Phase Equilibria in Asymmetric Systems", *Fluid Phase Equil.*, 116 (1996) 480.
4. E.C. Voutsas and D.P. Tassios "Prediction of Infinite-Dilution Activity Coefficients in Binary Mixtures with UNIFAC. A Critical Evaluation", *Ind. Eng. Chem. Res.*, 35 (1996) 1438.
5. G.M. Kontogeorgis, E.C. Voutsas and D.P. Tassios "A Molecular Simulation-Based Method for the Estimation of Activity Coefficients for Alkane Solutions", *Chem. Eng. Sci.*, 51 (1996) 3247.
6. G.M. Kontogeorgis, E.C. Voutsas, I.V. Yakoumis and D.P. Tassios "An Equation of State for Associating Fluids", *Ind. Eng. Chem. Res.*, 35 (1996) 4310.
7. E.C. Voutsas and D.P. Tassios "On the Extension of the p-FV and R-UNIFAC Models to Multicomponent Mixtures", *Fluid Phase Equil.*, 128 (1997) 271.
8. I.V. Yakoumis, G.M. Kontogeorgis, E.C. Voutsas and D.P. Tassios "Vapor-Liquid Equilibria for Alcohol/Hydrocarbon Systems Using the CPA Equation of State", *Fluid Phase Equil.*, 130 (1997) 31.
9. E.C. Voutsas, G.M. Kontogeorgis, I.V. Yakoumis and D.P. Tassios "Correlation of Liquid-Liquid Equilibria for Alcohol/Hydrocarbon Mixtures Using the CPA Equation of State", *Fluid Phase Equil.*, 132 (1997) 61.
10. E.C. Voutsas and D.P. Tassios "Analysis of the UNIFAC-type Group-Contribution Models at the Highly Dilute Region. 1. Limitations of the Combinatorial and Residual Expressions", *Ind. Eng. Chem. Res.*, 36 (1997) 4965.
11. E.C. Voutsas and D.P. Tassios "An Analysis of the UNIFAC-type Group-Contribution Models at the Highly Dilute Region. 2. Empirical Improvements with Application to Water/Hydrocarbon Mixtures", *Ind. Eng. Chem. Res.*, 36 (1997) 4973.
12. I. Hatzioannidis, E.C. Voutsas, E. Lois and D.P. Tassios "Measurement and Prediction of Reid Vapor Pressure of Gasoline in the Presence of Additives", *J. Chem. Eng. Data*, 43 (1998) 386.
13. I.V. Yakoumis, G.M. Kontogeorgis, E.C. Voutsas, E.M. Hendriks and D.P. Tassios "Prediction of Phase Equilibria in Binary Aqueous Systems Containing Alkanes, Cycloalkanes and Alkenes with the Cubic-plus-Association Equation of State", *Ind. Eng. Chem. Res.*, 37 (1998) 4175.
14. E.C. Voutsas, I.V. Yakoumis and D.P. Tassios "Prediction of Phase Equilibria in Water/Alcohol/Alkane Systems", *Fluid Phase Equil.*, 158 (1999) 151.
15. G.D. Pappa, E.C. Voutsas and D.P. Tassios "Prediction of Activity Coefficients in Polymer and Copolymer Solutions using Simple Activity Coefficient Models" *Ind. Eng. Chem. Res.*, 38 (1999) 4975.
16. E.C. Voutsas, G.C. Boulougouris, I.G. Economou and D.P. Tassios "Water/ hydrocarbon Phase Equilibria Using the Thermodynamic Perturbation Theory" *Ind. Eng. Chem. Res.*, 39 (2000) 797.
17. H. Stamatis, E.C. Voutsas, Ch. Delimitsou, F. N. Kolisis and D.P. Tassios "Enzymatic Production of Alkyl Esters Through Lipase-Catalyzed Transesterification Reactions in Organic Solvents: Solvent Effects and Prediction Capabilities of Equilibrium Conversions" *Biocatalysis and Biotransformation*, 18 (2000) 259.
18. N. Spiliotis, E.C. Voutsas, K. Magoulas and D.P. Tassios "Recovery of Fructose Laurate Produced Through Enzymatic Esterification" *Separation & Purification Technology*, 19 (2000) 229.
19. E.C. Voutsas, M.V. Flores, N. Spiliotis, G. Bell, P.J. Halling and D.P. Tassios "Prediction of Critical Micelle Concentrations of Nonionic Surfactants in Aqueous and Nonaqueous Solvents with UNIFAC", *Ind. Eng. Chem. Res.*, 40 (2001) 2362.
20. E.C. Voutsas, N. Spiliotis and D.P. Tassios "Enzymatic Reactions in Non-Conventional Media: Prediction of Solvent Water Content for Optimum Water Activity", *Biocatalysis and*

- Biotransformation*, 19 (2001) 99.
21. E.C. Voutsas, E.A. Tritopoulou, K. Magoulas and D.P. Tassios "Prediction Helps Analytical Experimental Work for Environmental Purposes", *Mikrochimika Acta*, 136 (2001), 193.
 22. E.C. Voutsas, C. Andreou, D. Theodorou and D.P. Tassios "Prediction of Infinite Dilution Volatilities of Aroma Compounds in Water" *J. of Food Science*, 66 (2001) 447.
 23. M.V. Flores, E.C. Voutsas, N. Spiliotis, G.M. Eccleston, G. Bell, D.P. Tassios and P. J. Halling "Critical Micelle Concentrations of Nonionic Surfactants in Organic Solvents: Approximate Prediction with UNIFAC", *J. Colloid. Interface Sci.*, 240 (2001) 277.
 24. G.C. Boulougouris, E.C. Voutsas, I.G. Economou, D.N. Theodorou and D.P. Tassios "Henry's Constant Analysis for Water and Nonpolar Solvents from Experimental Data, Macroscopic Models, and Molecular Simulation", *J. Phys. Chem. B.*, 105 (2001) 7792.
 25. E.C. Voutsas, E.V. Abatzi and D.P. Tassios "Application of the Equilibrium Partitioning Theory for the Prediction of the Bioaccumulation of Organic Pollutants in Aquatic Biota", *Fresenius Environ. Bulletin*, 10 (2001) 480.
 26. G. Pappa, E.C. Voutsas and D.P. Tassios "Liquid-Liquid Phase Equilibrium in Polymer- Solvent Systems: Correlation and Prediction of the Polymer Molecular Weight and the Pressure Effect", *Ind. Eng. Chem. Res.*, 40 (2001) 4654.
 27. E.C. Voutsas, H. Stamatis, F.N. Kolisis and D. Tassios "Solvent Effects on Equilibrium Position and Initial Rate of Lipase-Catalyzed Esterification Reactions in Organic Solvents: Experimental Results and Prediction Capabilities", *Biocatalysis and Biotransformation*, 20:2 (2002) 101.
 28. E. Retzekas, E. Voutsas, K. Magoulas and D. Tassios "Prediction of Physical Properties of Hydrocarbons, Petroleum and Coal Liquid Fractions", *Ind. Eng. Chem. Res.*, 41 (2002) 1695.
 29. E. Voutsas, M. Lampadariou, K. Magoulas and D. Tassios "Prediction of Vapor Pressures of Pure Compounds from Knowledge of the Normal Boiling Point Temperature", *Fluid Phase Equil.*, 198/1 (2002) 81.
 30. K. Katsikaris, E. Voutsas, G. Andronikos, S. Stamataki and K. Magoulas "Recycling Ferrous-Nickel Slag in Blast Cleaning", *Waste Management and Research*, 20/3 (2002) 269.
 31. P. Tsavas, S. Polydorou, E. Voutsas, K. Magoulas, K. Naraghi and P.J. Halling "Sucrose Solubility in Mixtures of Water, Alcohol, Ester and Acid", *J. Chem. Eng. Data*, 47/3 (2002) 513.
 32. P. Tsavas, S. Polydorou, I. Fafli, E. Voutsas, D.P. Tassios, M.V. Flores, K. Naraghi, P.J. Halling, F. Chamouleau, M. Ghoul, J.-M. Engasser, M. Ferrer and F. Plou "Solubility of Glucose in Mixtures Containing t-Pentanol, Dimethyl Sulfoxide, Acids, Esters and Water", *J. Chem. Eng. Data*, 47/4 (2002) 807.
 33. E. Voutsas, K. Magoulas, D. Tassios "Prediction of the Bioaccumulation of Persistent Organic Pollutants in Aquatic Food Webs", *Chemosphere*, 48/7 (2002) 645.
 34. A. Mountouris, E. Voutsas and D. Tassios "Bioconcentration of Heavy Metals in Aquatic Environments: The Importance of Bioavailability", *Marine Pollution Bulletin*, 44/10 (2002) 1134.
 35. E. Voutsas, P. Tsavas, K. Magoulas, D. Tassios, M. Ferrer, F. Plou and A. Ballesteros "Solubility Measurements of Fatty Acid Glucose and Sucrose Esters in 2-Methyl-2-Butanol and Mixtures of 2-Methyl-2-Butanol with Dimethyl Sulfoxide", *J. Chem. Eng. Data*, 47 (2002) 1517.
 36. P. Coutsikos, E. Voutsas, K. Magoulas, D. Tassios "Prediction of Vapor Pressures of Solid Organic Compounds with a Group-Contribution Method", *Fluid Phase Equil.*, 207 (2003) 263.
 37. E. Tritopoulou, G. Pappa, E. Voutsas, I. Economou, D.P. Tassios "Modeling of Liquid-Liquid Equilibria in Aqueous Solutions of Poly(Ethylene Glycol) with a UNIFAC-Based Model", *Ind. Eng. Chem. Res.*, 42 (2003) 5399.
 38. V. Louli, G. Folas, E. Voutsas, K. Magoulas "Extraction of Parsley Seed Oil by Supercritical CO₂", *J. Supercritical Fluids*, 30 (2004) 163.
 39. E. Voutsas, G. Pappa, C. Boukouvalas, K. Magoulas, D. Tassios "Miscibility in Binary Polymer Blends: Correlation and Prediction", *Ind. Eng. Chem. Res.*, 43/5 (2004) 1312.
 40. A. Vrachnos, E. Voutsas, K. Magoulas, A. Lygeros "Thermodynamics of Acid Gas-MDEA-Water Systems" *Ind. Eng. Chem. Res.*, 43 (2004) 2798.
 41. E. Voutsas, A. Vrachnos, K. Magoulas "Measurement and Thermodynamic Modeling of the Phase Equilibrium of Aqueous N-Methyldiethanolamine Solutions" *Fluid Phase Equil.*, 224 (2004) 191.

42. E. Voutsas, K. Magoulas, D. Tassios "A Universal Mixing Rule for Cubic Equations of State Applicable to Symmetric and Asymmetric Systems: Results with the Peng-Robinson Equation of State" *Ind. Eng. Chem. Res.*, 43 (2004) 6238.
43. P. Tsavas, E. Voutsas, K. Magoulas, D. Tassios "Phase Equilibrium Calculations in Aqueous and Nonaqueous Mixtures of Sugars and Sugar Derivatives with a Group-Contribution Model" *Ind. Eng. Chem. Res.*, 43 (2004) 8391.
44. E. Voutsas, Ch. Vavva, K. Magoulas, D. Tassios "Estimation of the volatilization of organic compounds from soil surfaces" *Chemosphere*, 58 (2005) 751.
45. S. Pouloupoulos, E. Voutsas, H. Grigoropoulou, C. Philippopoulos "Stripping as a Pretreatment Process of Industrial Oily Wastewater" *J. Hazardous Materials*, B117 (2005) 135.
46. G. Pappa, E. Voutsas, K. Magoulas, D. Tassios "Estimation of the Differential Molar Heat Capacities of Organic Compounds at their Melting Point", *Ind. Eng. Chem. Res.*, 44/10 (2005) 3799.
47. G. Leontarakis, P. Tsavas, E. Voutsas, K. Magoulas, D. Tassios "Experimental and Predicted Results of Anomeric Equilibrium of Glucose in Alcohols", *J. Chem. Eng. Data*, 50/6 (2005) 1924.
48. E. Voutsas, G. Pappa, K. Magoulas, D. Tassios "Vapor Liquid Equilibrium Modeling of Alkane Systems with Equations of State: Simplicity versus Complexity", *Fluid Phase Equil.*, 240 (2006) 127.
49. A. Mountouris, E. Voutsas and D. Tassios "Solid Waste Plasma Gasification: Equilibrium Model Development and Exergy Analysis", *Energy Conversion & Management*, 47 (2006) 1723.
50. E. Voutsas, V. Louli, C. Boukouvalas, K. Magoulas, D. Tassios "Thermodynamic Property Calculations with the Universal Mixing Rule for EoS/G^E Models: Results with the Peng-Robinson EoS and a UNIFAC Model", *Fluid Phase Equil.*, 241 (2006) 216.
51. Ch. Perakis, E. Voutsas, K. Magoulas, D. Tassios "Thermodynamic Modeling of the Vapor-Liquid-Equilibrium of the Water/Ethanol/CO₂ System", *Fluid Phase Equil.*, 243 (2006) 142
52. G. Pappa, Ch. Anastasi, E. Voutsas "Measurement and Thermodynamic Modeling of the Phase Equilibrium of Aqueous 2-amino-2-methyl-1-propanol Solutions", *Fluid Phase Equil.*, 243 (2006) 193
53. E. Panteli, E. Voutsas, K. Magoulas, D. Tassios "Prediction of Vapor Pressures and Enthalpies of Vaporization of Organic Compounds from the Normal Boiling Point Temperature", *Fluid Phase Equil.*, 248 (2006) 70.
54. A. Vrachnos, G. Kontogeorgis, E. Voutsas "Thermodynamic Modeling of Acidic Gas Solubility in Aqueous Solutions of MEA, MDEA and MEA-MDEA Blends" *Ind. Eng. Chem. Res.*, 45 (2006) 5148.
55. F. Varanda, M. J. Pratas de Melo, A. Cacüo, R. Dohrn, F. Makrydaki, E. Voutsas, D. Tassios, I. Marrucho "Solubility of Antibiotics in Different Solvents. 1. Hydrochloride Forms of Tetracycline, Moxifloxacin, and Ciprofloxacin", *Ind. Eng. Chem. Res.*, 45 (2006) 6368.
56. R. Dohrn, E. Bertakis, O. Behrend, E. Voutsas, D. Tassios "Melting Point Depression by Using Supercritical CO₂ for a Novel Melt Dispersion Micronization Process", *J. of Molecular Liquids*, 131-132 (2007) 53.
57. E. Bertakis, I. Lemonis, S. Katsoufis, E. Voutsas, R. Dohrn, K. Magoulas, D. Tassios "Measurement and Thermodynamic Modeling of Solid-Liquid-Gas Equilibrium of Some organic Compounds in the Presence of CO₂", *J. Supercritical Fluids*, 41/2 (2007) 238.
58. Ch. Perakis, E. Voutsas, K. Magoulas, D. Tassios "Thermodynamic Modeling of the Water + Acetic Acid + CO₂ System: The Importance of the Number of Association Sites of Water and of the Nonassociation Contribution for the CPA and SAFT-Type Models", *Ind. Eng. Chem. Res.*, 46/3 (2007) 932.
59. E. Voutsas, Ch. Perakis, G. Pappa, D. Tassios "An Evaluation of the Performance of the Cubic-Plus-Association Equation of State in Mixtures of non-Polar, Polar and Associating Compounds: Towards a Single Model for non-Polymeric Systems", *Fluid Phase Equil.*, 261/1-2 (2007) 343.
60. V. Louli, Ch. Boukouvalas, E. Voutsas, K. Magoulas, D. Tassios "Application of the UMR-PRU Model to Multicomponent Systems: Prediction of the Phase Behavior of Synthetic Natural Gas and Oil Systems", *Fluid Phase Equil.*, 261/1-2 (2007) 351.
61. A. Mountouris, E. Voutsas, D. Tassios "Plasma Gasification of Sewage Sludge: Process

- Development and Energy Optimization", *Energy Conversion & Management*, 49/8 (2008) 2264.
62. E.K. Panteli, E.K. Voutsas "Solubilities of Cinnamic Acid Esters in Ionic Liquids", *J. Chem. Eng. Data*, 54/3 (2009) 812.
 63. G. Pappa, C. Perakis, I. Tsimpanogiannis, E. Voutsas "Thermodynamic Modeling of the vapor–liquid equilibrium of the CO₂/H₂O mixture", *Fluid Phase Equil.*, 284/1 (2009) 56.
 64. E. Alevizou, G. Pappa, E. Voutsas "Prediction of phase equilibrium in mixtures containing ionic liquids using UNIFAC", *Fluid Phase Equil.*, 284/2 (2009) 99.
 65. E. Panteli, P. Saratsioti, H. Stamatis, E. Voutsas, "Solubilities of Cinnamic Acid Esters in Organic Solvents", *J. Chem. Eng. Data*, 55 (2010) 745.
 66. E. Panteli, E. Voutsas "Solubilities of Cinnamic Acid Esters in Binary Mixtures of Ionic Liquids and Organic Solvents", *Fluid Phase Equil.*, 295 (2010) 201.
 67. C. Perakis, V. Louli, E. Voutsas, K. Magoulas "Supercritical CO₂ Extraction of Dittany Oil: Experiments and Modelling", *J. Supercrit. Fluids*, 55 (2010) 573-578.
 68. E. Voutsas, C. Pamouktsis, D. Argyris, G. Pappa "Measurements and thermodynamic modeling of the ethanol–water system with emphasis to the azeotropic region", *Fluid Phase Equil.*, 308 (2011) 135.
 69. G. Pappa, V. Louli, K. Dedousi, E. Voutsas "Phase Equilibria of Mixtures Containing CO₂ and Organic Acids Using the UMR-PRU Model", *J. Supercritical Fluids*, 58 (2011) 321-329.
 70. V. Louli, G. Pappa, Ch. Boukouvalas, S. Skouras, E. Solbraa, K.O. Christensen, E. Voutsas, "Measurement and Prediction of Dew Point Curves of Natural Gas Mixtures", *Fluid Phase Equil.*, **submitted**.

B. IN BOOKS

1. E. Voutsas, Ph. Coutsikos, G. Kontogeorgis
Equations of State with Emphasis on Excess Gibbs Energy Mixing Rules
In R. Gani and G. Kontogeorgis (Eds.): "Computer Aided Property Estimation"
Elsevier Science, **2004**.
2. E. Voutsas
Estimation of the Volatilization of Organic Chemicals from Soil
In T. Letcher (Eds.): "Thermodynamics, Solubility and Environmental Issues"
Elsevier Science, **2007**.

III. CONTRIBUTIONS IN INTERNATIONAL CONFERENCES

1. E.C. Voutsas, N.S. Kalospiros and D. P. Tassios "Removal of Organic Compounds from Water Wastes: A Consistent Data Base for Infinite Dilution Activity Coefficients and Solubilities of Organics in Water", 14th European Seminar on Applied Thermodynamics, Athens, Greece, June 9 - 12, **1994**.
2. C. Boukouvalas, E.C. Voutsas, N.S. Kalospiros and D.P. Tassios "The Performance of EoS/G^E Models in the Prediction of Phase Equilibria in Asymmetric Systems", Seventh International Conference on Properties and Phase Equilibria for Product and Process Design, Snowmass/Aspen, Colorado, USA, June 18-23, **1995**.
3. E.C. Voutsas, G.M. Kontogeorgis, I.V. Yakoumis and D.P. Tassios "An Equation of State for Associating Fluids", 15th European Seminar on Applied Thermodynamics, Runcorn/Liverpool, England, June 12-15, **1996**.
4. E.C. Voutsas, N.M. Spiliotis and D.P. Tassios "Application of UNIFAC-based Models in Phase Equilibria Calculations in Systems of Interest in Biotechnology", 16th European Seminar on Applied Thermodynamics, Pont-a-Mousson, France, June 19-22, **1997**.
5. I.V. Yakoumis, E.C. Voutsas and D.P. Tassios "Application of the CPA EoS to Water/Hydrocarbon Mixtures", 16th European Seminar on Applied Thermodynamics, Pont-a-Mousson, France, June 19-22, **1997**.
6. D. Tassios, K. Magoulas, Ch. Boukouvalas and E. Voutsas "Thermodynamic Modelling in High Pressure Systems", COST Chemistry Action D6, Workshop on *Chemistry and Biochemistry Under Extreme Conditions*, Santorini Island (Greece), June 1-3, **1997**.
7. E.C. Voutsas and D.P. Tassios "Correlation and Prediction of Phase Equilibria in Associated Mixtures", 8th International Conference on Properties and Phase Equilibria for Product and Process Design, Noordwijkerhout, The Netherlands, April 26 - May 1, **1998**.
8. E.C. Voutsas, G.C. Boulougouris, I.G. Economou and D.P. Tassios "Phase equilibria of water/hydrocarbon systems from two equations of state using a thermodynamic perturbation theory", 17th European Seminar on Applied Thermodynamics, Vilamoura, Portugal, May 13-16, **1999**.
9. G.D. Pappa, E.C. Voutsas and D.P. Tassios "Prediction of activity coefficients in polymer systems with simple activity coefficient models", 17th European Seminar on Applied Thermodynamics, Vilamoura, Portugal, May 13-16, **1999**.
10. N. Spiliotis, F. Nikiforiadis, E. Voutsas, K. Magoulas and D. Tassios "A UNIFAC model for sugars and sugar esters with application to sugar ester recovery", 17th European Seminar on Applied Thermodynamics, Vilamoura, Portugal, May 13-16, **1999**.
11. G. Goulas, P. Tsavas, E. Voutsas and D. Tassios "Evaluation of the UNIFAC model for the estimation of equilibrium constants and the prediction of equilibrium conversions in non-aqueous reactions", 17th European Seminar on Applied Thermodynamics, Vilamoura, Portugal, May 13-16, **1999**.
12. E.A. Tritopoulou, E.C. Voutsas and D.P. Tassios "Thermodynamic applications in environmental engineering", 17th European Seminar on Applied Thermodynamics, Vilamoura, Portugal, May 13-16, **1999**.
13. E. Voutsas, E.A. Tritopoulou and D.P. Tassios "Thermodynamic applications in environmental engineering", 6th International Conference on Environmental Science and Technology, Samos, Greece, August 30 – September 2, **1999**.
14. E.C. Voutsas, K. Magoulas, and D.P. Tassios "Prediction Helps Analytical Experimental Work for Environmental Applications", Instrumental Methods of Analysis: Modern Trends and Applications (IMA'99), Halkidiki, Greece, September 19-22, **1999**.
15. E.C. Voutsas, V. Louli, Ch. Boukouvalas, K. Magoulas, and D.P. Tassios "Applications of Supercritical Fluids", Chemical Reactions under Extreme Conditions, CERC-3 Workshop, Arcachon, France, May 14-17, **2000**.
16. G.D. Pappa, E. Abatzi, E.C. Voutsas and D.P. Tassios "Correlation and Prediction of Liquid-Liquid

- Equilibria in Polymer Solutions", 18th European Seminar on Applied Thermodynamics, Kutna Hora, Czech Republic, June 8-11, **2000**.
17. P. Tsavas, I. Fafli, S. Polydorou, E. Voutsas, K. Magoulas and D. Tassios "Phase Equilibrium in Mixtures Containing Sugars and Sugaresters: Experimental Measurements and Correlation/Prediction", 18th European Seminar on Applied Thermodynamics, Kutna Hora, Czech Republic, June 8-11, **2000**.
 18. G. Boulougouris, E. Voutsas, I. Economou, D. Theodorou and D.P. Tassios "Analysis of the Temperature Dependence of Henry's Constant for Water and non-Polar Solvents: What Can We Get From Experimental Data, Molecular Simulation and Macroscopic Models?", 18th European Seminar on Applied Thermodynamics, Kutna Hora, Czech Republic, June 8-11, **2000**.
 19. E. Voutsas, M. Flores, N. Spiliotis, P. Halling and D. Tassios "Prediction of Micelle Formation using UNIFAC Group Contribution Method", 18th European Seminar on Applied Thermodynamics, Kutna Hora, Czech Republic, June 8-11, **2000**.
 20. A. Mountouris, E. Abatzi, E. Tritopoulou, E. Voutsas and D. Tassios "Prediction of the Bioconcentration of Organic and Inorganic Pollutants", 18th European Seminar on Applied Thermodynamics, Kutna Hora, Czech Republic, June 8-11, **2000**.
 21. C. Boukouvalas, K. Katsikaris, E. Voutsas and D. Tassios "Thermodynamic Modeling of Phase Equilibrium in Polymer Blends", 18th European Seminar on Applied Thermodynamics, Kutna Hora, Czech Republic, June 8-11, **2000**.
 22. A. Mountouris, E. Voutsas and D. Tassios "Prediction of the Bioaccumulation of Heavy Metals in Aquatic Environments", 5th International Conference on Environmental Pollution, Thessaloniki, Greece, August 28 - September 1, **2000**.
 23. E.C. Voutsas, E. Abatzi, D. Tassios "Prediction of the Bioaccumulation of Organic Pollutants in Aquatic Biota". 1st European Conference on Pesticides and Related Organic Micropollutants in the Environment, Ioannina, Greece, October 5-8, **2000**.
 24. K. Katsikaris, E. Voutsas, S. Stamataki, K. Magoulas "Development of recycling process for used ferrous-nickel slag as abrasive material in sandblasting operations" 7th International Conference on Environmental Science and Technology, Hermoupolis, Syros, 3-6 September, **2001**.
 25. A. Mountouris, E. Voutsas, D. Tassios "Establishing metal sediment quality criteria: methodologies and application to Greek areas" 7th International Conference on Environmental Science and Technology, Hermoupolis, Syros, 3-6 September, **2001**.
 26. A. Mountouris, E. Voutsas and D. Tassios "Sediment Quality Criteria for the decision making of Bioremediation of Heavy Metal Pollution: Application to Greek areas", 1st European Bioremediation Conference, Chania, Crete, July 2-5, **2001**.
 27. A. Mountouris, E. Voutsas and D. Tassios "Remedial Investigation of Metal Contaminated Lavrio's Harbour, Greece", International Conference on Remediation of Contaminated Sediments, Venice, Italy, October 10-12, **2001**.
 28. A. Mountouris, E. Voutsas, "Equilibrium partitioning and bioavailability of organic and inorganic pollutants in aquatic environments", 19th European Seminar on Applied Thermodynamics, Santorini Island, Greece, September 6-10, **2002**.
 29. H. Stamatis, E. Voutsas, D. Tassios, F.N. Kolisis "Effect of organic solvents on equilibrium conversion of lipase-catalyzed synthetic reactions: Experimental results and prediction capabilities", 19th European Seminar on Applied Thermodynamics, Santorini Island, Greece, September 6-10, **2002**.
 30. K. Kaloudi, S. Serafeim, E. Voutsas, K. Magoulas, D. Tassios "Recycling of polymers contained in urban solid waste: Preliminary results", 19th European Seminar on Applied Thermodynamics, Santorini Island, Greece, September 6-10, **2002**.
 31. E. Tritopoulou, G. Pappa, E. Voutsas, I. Economou, D. Tassios "Modelling of Liquid-liquid phase equilibrium in aqueous solutions of poly(ethylene glycol)", 19th European Seminar on Applied Thermodynamics, Santorini Island, Greece, September 6-10, **2002**.
 32. Ch. Boukouvalas, G. Pappa, E. Voutsas, K. Magoulas, D. Tassios "Prediction of the molecular weight effect in polymer blend miscibility with UNIFAC and EoS", 19th European Seminar on Applied Thermodynamics, Santorini Island, Greece, September 6-10, **2002**.

33. P. Tsavas, E. Voutsas, K. Magoulas, D. Tassios "Phase equilibrium in mixtures containing sugars and sugar derivatives", 19th European Seminar on Applied Thermodynamics, Santorini Island, Greece, September 6-10, **2002**.
34. P. Coutsikos, E. Voutsas, K. Magoulas, D. Tassios "Prediction of vapor pressures of solids with a group-contribution method", 19th European Seminar on Applied Thermodynamics, Santorini Island, Greece, September 6-10, **2002**.
35. A. Mountouris, E. Voutsas, D. Tassios "Application of ecological risk assessment in heavy metal contaminated sites in Greece", International Conference: Protection and Restoration of the Environment VI, Skiathos Island, Greece, July 1-5, **2002**.
36. E. Tritopoulou, G. Pappa, E. Voutsas, I. Economou, D. Tassios "Modeling of Liquid-Liquid Phase Equilibrium in Aqueous Solutions of Poly(ethylene Glycol)", Thermodynamics 2003, Cambridge, UK, April 9-11, **2003**.
37. A. Vrachnos, E. Voutsas, A. Lygeros "Thermodynamic Modeling of CO₂ Absorption into Aqueous Solutions of MDEA", Thermodynamics 2003, Cambridge, UK, April 9-11, 2003.
38. E. Voutsas, G. Pappa, Ch. Boukouvalas, K. Magoulas, D. Tassios "Correlation and Prediction of Miscibility in Polymer Blends", 20th European Symposium on Applied Thermodynamics, Lahnstein, Germany, October 8-12, **2003**.
39. A. Vrachnos, E. Voutsas, A. Lygeros "Thermodynamic Modeling of CO₂ and H₂S Absorption into Aqueous Solutions of MDEA", 20th European Symposium on Applied Thermodynamics, Lahnstein, Germany, October 8-12, **2003**.
40. E. Tritopoulou, G. Pappa, E. Voutsas, I. Economou, D. Tassios "Liquid-Liquid Phase Equilibrium in Aqueous PEG Solutions", 20th European Symposium on Applied Thermodynamics, Lahnstein, Germany, October 8-12, **2003**.
41. A. Mountouris, E. Voutsas, K. Magoulas, D. Tassios, P. Carabin, P. Tsantrizos, M. Vardavoulias "Plasma Gasification of Sewage Sludge: Equilibrium Modeling and Exergy Analysis", 20th European Symposium on Applied Thermodynamics, Lahnstein, Germany, October 8-12, **2003**.
42. M. J. P. Melo, F. Makrydaki, R. Dohrn, E. Voutsas, D. Tassios, I. M. Marrucho "Solubility of Tetracycline, Ciprofloxacin, and Moxifloxacin in different solvents", 11th International Symposium on Solubility Phenomena-Including Related Equilibrium Processes (*Symposium Sponsored by IUPAC*), Aveiro, Portugal, July 25-29, **2004**.
43. E. Voutsas, G. Pappa, K. Magoulas, D. Tassios "Correlation and Prediction of Phase Equilibria in Asymmetric Alkane Systems: Simplicity versus Complexity", 20th European Seminar on Applied Thermodynamics, Jurata, Poland, June 1-5, **2005**.
44. E. Pandeli, Ch. Boukouvalas, E. Voutsas, K. Magoulas, D. Tassios "Prediction of Vapor Pressures of Pure Compounds from Knowledge of the Normal Boiling Point Temperature", 20th European Seminar on Applied Thermodynamics, Jurata, Poland, June 1-5, **2005**.
45. C. Perakis, V. Louli, E. Voutsas, K. Magoulas, D. Tassios "Modeling of the Water/Ethanol/Carbon dioxide System with the Cubic plus Association (CPA) Equation of State", 20th European Seminar on Applied Thermodynamics, Jurata, Poland, June 1-5, **2005**.
46. E. Bertakis, I. Lemonis, S. Katsoufis, E. Voutsas, R. Dohrn, K. Magoulas, D. Tassios "Measurement and Thermodynamic Modeling of Solid-Liquid-Gas Equilibrium of Organic Solutes and CO₂", 22nd European Seminar on Applied Thermodynamics, Elsinore, Denmark, June 28 – July 1, **2006**.
47. E. Voutsas, N. Botis, V. Louli, Ch. Boukouvalas, G. Pappa, K. Magoulas, D. Tassios "Thermodynamic Property Calculations with the Universal Mixing Rule for EoS/G^E Models", 22nd European Seminar on Applied Thermodynamics, Elsinore, Denmark, June 28 – July 1, **2006**.
48. E. Panteli, M. Dardavila, E. Voutsas, H. Stamatis, K. Magoulas "Measurements and Thermodynamic Modeling of Solubilities of Antioxidants in Organic Solvents and Ionic Liquids", 22nd European Seminar on Applied Thermodynamics, Elsinore, Denmark, June 28 – July 1, **2006**.
49. I. Lemonis, V. Louli, E. Voutsas, V. Oreopoulou, K. Magoulas "Supercritical CO₂ Extraction of Dittany (*Origanum Dictamnus*) Oil: Study of the Process Parameters and the Extracts' Antioxidant Activity", 11th International Conference on Properties and Phase Equilibria for Product and Process Design, Hersonissos, Crete, Greece, May 20 - 25, **2007**.
50. Ch. Perakis, G. Pappa, E. Voutsas, D. Tassios "Phase Equilibrium Calculations with the Cubic-Plus-Association and PC-SAFT EoS: Is the Simpler Physical Term of the Former a Disadvantage?",

- 11th International Conference on Properties and Phase Equilibria for Product and Process Design, Hersonissos, Crete, Greece, May 20 - 25, **2007**.
51. V. Louli, Ch. Boukouvalas, E. Voutsas, S. Stamataki, K. Magoulas, D. Tassios "Application of the UMR-PRU Model to Multicomponent Systems: Prediction of the Phase Behavior of Synthetic Natural Gas and Oil Systems", 11th International Conference on Properties and Phase Equilibria for Product and Process Design, Hersonissos, Crete, Greece, May 20 - 25, **2007**.
 52. N. Botis, V. Louli, E. Voutsas, G. Caputo,, D. Tassios "Thermodynamic Modelling of the Polystyrene+Cyclohexane+Carbon Dioxide System using the Universal Mixing rule for EoS/G^E Models and the SANCHEZ-LACOMBE EoS", 11th International Conference on Properties and Phase Equilibria for Product and Process Design, Hersonissos, Crete, Greece, May 20 - 25, **2007**.
 53. E. Panteli, E. Mandilari, Ch. Vafiadi, G. Pappa, E. Voutsas, H. Stamatis, P. Christakopoulos "Experimental Measurements and Thermodynamic Modelling of the Solubility of Compounds of Biotechnological Interest in Organic Solvents and Ionic Liquids", 11th International Conference on Properties and Phase Equilibria for Product and Process Design, Hersonissos, Crete, Greece, May 20 - 25, **2007**.
 54. Ch. Perakis, E. Voutsas, D. Avlonitis "Kinetics of Gas Hydrate Particle Growth in a Three Phase Crystallizer", 11th International Conference on Properties and Phase Equilibria for Product and Process Design, Hersonissos, Crete, Greece, May 20 - 25, **2007**.
 55. V. Louli, E. Dedoussi, S. Stamataki, K. Magoulas, E. Voutsas "Thermodynamic Modeling of Phase Equilibrium of CO₂-Organic Acid Systems Using the UMR-PRU Model", 23rd European Seminar on Applied Thermodynamics, Cannes, France, May 29 – June 1, **2008**.
 56. N. Botis, Y. Fappas, E. Voutsas, V. Louli, G. Caputo, D. Tassios "Thermodynamic Modelling of the Polystyrene + Cyclohexane + Carbon dioxide system using the Universal Mixing Rule for EoS/G^E Models and the Sanchez -Lacombe EoS", 23rd European Seminar on Applied Thermodynamics, Cannes, France, May 29 – June 1, **2008**.
 57. E. Panteli, P. Saratsioti, E. Alevizou, T. Rontogianni, G. Pappa, C. Boukouvalas, H. Stamatis, E. Voutsas "Solubility of Cinnamic Acid Esters in Ionic Liquids and Organic Solvents: Experimental Measurements and Thermodynamic Modeling", 23rd European Seminar on Applied Thermodynamics, Cannes, France, May 29 – June 1, **2008**.
 58. K. Nasopoulos, C. Boukouvalas, E. Voutsas, K. Magoulas, D. Tassios "Experimental Measurements and Thermodynamic Modelling of the Ethanol-Water Mixture Aiming at the Recovery of Near Anhydrous Bioethanol using Low Pressure Distillation", 23rd European Seminar on Applied Thermodynamics, Cannes, France, May 29 – June 1, **2008**.
 59. M. Psychoyiou, G. Pappa, E. Voutsas "Measurement and Thermodynamic Modeling of Aqueous Piperazine Solutions", 23rd European Seminar on Applied Thermodynamics, Cannes, France, May 29 – June 1, **2008**.
 60. E. Panteli, V. Louli, E. Voutsas, H. Stamatis "Thermodynamic Study of Solid-Liquid Equilibrium in Mixtures Containing Ionic Liquids", Thermodynamics 2009, Imperial College London, U.K, September 23-25, 2009.
 61. E. Skouras, E. Voutsas, V. Louli, E. Solbraa "Hydrocarbon Dew Point Prediction of Synthetic and Real Natural Gas Mixtures with the UMR-PRU Model", 24th European Seminar on Applied Thermodynamics, Santiago de Compostela, Spain, June 27 - July 1, **2009**.
 62. V. Louli, Ch. Perakis, P. Katsis, E. Voutsas, K. Magoulas, "Extraction of Dittany Oil with Supercritical CO₂", 24th European Seminar on Applied Thermodynamics, Santiago de Compostela, Spain, June 27 - July 1, **2009**.
 63. E. Skouras, V. Louli, G. Pappa, Ch. Boukouvalas, E. Solbraa, E. Voutsas, "Dew point prediction of synthetic and real natural gas mixtures with the UMR-PRU model", CHISA 2010, Prague, Czech Republic, 28 August- 1 September, **2010**.
 64. E. Voutsas "Phase equilibrium in natural gas mixtures", *Invited Lecture*, 25th European Seminar on Applied Thermodynamics, Saint Petersburg, Russia, June 24-27, **2011**.
 65. G. Pappa, V. Louli, S. Stamataki, K. Magoulas, E. Voutsas "Thermodynamic Modeling of the Phase Equilibrium of CO₂ – Organic Acid Systems with the UMR-PRU Model", 25th European Seminar on Applied Thermodynamics, Saint Petersburg, Russia, June 24-27, **2011**.

66. E. Alevizou, E. Voutsas "Solubility of cinnamic acid derivatives in ionic liquids: Experimental measurements and thermodynamic modeling", 25th European Seminar on Applied Thermodynamics, Saint Petersburg, Russia, June 24-27, **2011**.
67. E. Panteli, E. Voutsas "Thermodynamic modelling of mixtures containing antioxidants, organic solvents and ionic liquids", 25th European Seminar on Applied Thermodynamics, Saint Petersburg, Russia, June 24-27, **2011**.
68. E. Alevizou, E. Voutsas "Solubility of cinnamic acid derivatives in ionic liquids: Experimental measurements and thermodynamic modeling", 19th European Conference on Thermophysical Properties, Thessaloniki, Greece, August 28 - September 1, **2011**.
69. E. Panteli, E. Voutsas "Thermodynamic modelling of mixtures containing antioxidants, organic solvents and ionic liquids", 19th European Conference on Thermophysical Properties, Thessaloniki, Greece, August 28 - September 1, **2011**.

IV. INVITED TALKS

1. "A Universal Mixing Rule for Cubic Equations of State Applicable to Symmetric and Asymmetric Systems" The University of Oklahoma, School of Chemical, Biological and Materials Engineering, April 25, **2005**.
2. "Modeling of Phase Equilibrium: Basic Tools, New Advances and Applications" Department of Chemical and Food Engineering, School of Engineering, University of Salerno, April 19, **2007**.
3. "Phase equilibrium in natural gas mixtures" 25th European Seminar on Applied Thermodynamics, Saint Petersburg, Russia, June 24-27, **2011**.
4. «Plasma Gasification Assisted Processes». Sustainable Waste Management: A Workshop on Principles and Practice, June 18-22, **2012**, Athens, Greece. It was organized by The Earth Engineering Center (EEC) of Columbia University in collaboration with WTERT-Greece/SYNERGIA and AIT Athens Information Technology.

V. TEACHING

1. "Applied Thermodynamics", 3rd Semester, School of Chemical Engineering, NTUA.
2. "Chemical Engineering Thermodynamics", 4th Semester, School of Chemical Engineering, NTUA.
3. "Advanced Physical Separation Operations", 7th Semester, School of Chemical Engineering, NTUA.
4. "Energy Conservation in Industry", Post-Graduate Program: *Energy Generation and Management*, School of Electrical and Computer Engineering, NTUA.

VI. SPONSORED PROJECTS

“Further development of the UMR-PRU model/Technical support DLL-file”

Financial Support: STATOIL S.A., Norway.

Duration: May 2011 – June 2013.

Project Coordinator

“Simulator development / Process design with the UMR-PRU model”

Financial Support: STATOIL S.A., Norway.

Duration: May 2011 – December 2012.

Project Coordinator

“Prediction of phase equilibrium in hydrocarbon mixtures (Phase 2)”

Financial Support: STATOIL S.A., Norway.

Duration: February 2010 – September 2010.

Project Coordinator

“Experimental study of the stabilization of fly ash produced from the municipal solid waste incinerators with electricity production”

Financial Support: INTRAKAT S.A.

Duration: February 2010 – February 2011.

Project Coordinator

“Experiential study and thermodynamic modelling of phase equilibrium in mixtures of antioxidants and ionic liquids”,

Financial Support: Program PEVE, NTUA.

Duration: December 2009 – December 2011.

Project Coordinator

“Master and business plan for the management of the municipal solid waste of the 2nd management section of Viotia, Greece”

Financial Support: DEPODATH, S.A., Thiva, Viotia.

Duration: August 2009 – November 2009.

Project Coordinator

“Gas processing and Liquefied Natural Gas Technologies”

Financial Support: STATOIL S.A., Norway.

Duration: July 2009 – December 2009.

Project Coordinator

“Environmental management of the fly ash produced from the municipal solid waste incinerators with electricity production”

Financial Support: INTRAKAT S.A.

Duration: December 2008 – December 2009.

Project Coordinator

“Measurement and Thermodynamic Modelling of Phase Equilibria in Mixtures Containing Ionic Liquids”,

Financial Support: Greek General Secretariat for Research and Technology.

Duration: January 2006 – June 2008.

Project Coordinator

“Development of a Simulator for the Prediction of Acid Dew Point of Flue Gases”,

Financial Support: Greek Public Power Corporation S.A. (Project Coordinator)

Duration: May 2005 – November 2006.

Project Coordinator

“Enzymatic Transformation of Natural Antioxidants for the Optimization of the of their Recovery Process from Industrial Wastes and the Improvement of their Properties”,.

Financial Support: Program EPET II, Greek General Secretariat for Research & Technology

Duration: January 1999 – May 2001.

Researcher

“Developments and Applications in Supercritical Fluids in Agriculture and Fisheries.

Financial Support: FAIR-CT98-3464, EU

Duration: June 1998 – June 2001.

Researcher

“Thermodynamic Modeling of Phase Equilibrium of Polymer Mixtures through Molecular Simulation, Macroscopic Models and Experimental Measurements”, *Financial Support:* Program

PENED99 (99ED143), Greek General Secretariat for Research and Technology.

Duration: October 1999 – September 2001.

Researcher

“Improved Lipase Synthesis of Sugar Esters by Combined Enzyme and Solvent Engineering”

Financial Support: BIO4-CT98-0363, EU

Duration: January 1999 – January 2001.

Researcher

“Development of Systems for Management of Sand-Blast Cleaning Wastes”,

Financial Support: Program PAVE, Greek General Secretariat for Research and Technology.

Budget: 35000 €

Duration: August 1997 – June 2000.

Researcher

“Inventory and Evaluation of the Current Situation of Blast-Cleaning / Quoting Operations in Greece”

Financial Support: LIFE96/Env/GR/586, EU.

Duration: May 1997 – May 1999.

Researcher

“Production of Sugar/Fatty Acid Esters from Renewable Agricultural Resources: An Integrated Optimization of Enzymatic - Purification Processes and of Surfactive Properties”,

Financial Support: AIR3-CT94-2291, EU.

Duration: September 1994 – September 1997.

Researcher

“Phase Equilibria in Associating Fluids”

Financial Support: Shell, Amsterdam.

Duration: September 1995 – September 1996.

Researcher

“Development of the Supercritical Extraction Procedure and its Application to the Waste Water Treatment”

Financial Support: Program PENED, Greek General Secretariat for Research & Technology.

Duration: September 1993 – September 1995.

Researcher