

## PUBLICATIONS

### A. IN REFEREED JOURNALS

1979

- J1.** “Chemistry at Catalyst Surfaces: The Oxidation of SO<sub>2</sub> on noble metals”, C.G. Vayenas and H.M. Saltsburg, *J. Catal.* **57**, 296-314 (1979)

1980

- J2.** “Solid Electrolyte Aided Study of the Oxidation of Ethylene Oxide on Silver”, M. Stoukides and C.G. Vayenas, *J. Catal.* **64**, 18-28 (1980)
- J3.** “Kinetics, Limit Cycles and Mechanism of Ethylene Oxidation on Pt”, C.G. Vayenas, B. Lee and J. Michaels, *J. Catal.* **66**, 36-48 (1980)
- J4.** “Cogeneration of Electric Energy and Nitric Oxide”, C.G. Vayenas and R.D. Farr, *Science* **208**, 593-595 (1980)
- J5.** “Ammonia High Temperature Solid Electrolyte Fuel Cell”, R.D. Farr and C.G. Vayenas, *J. Electrochem. Soc.* **127**, 1478-1483 (1980)

1981

- J6.** “The role of PtO<sub>x</sub> in the isothermal rate and oxygen activity oscillations of the Ethylene Oxidation on Pt”, C.G. Vayenas, C.Georgakis, J. Michaels and J. Tormo, *J. Catal.* **67**, 348-361 (1981)
- J7.** “Solid Electrolyte-Aided Study of the Ethylene Oxidation on Polycrystalline Silver”, M. Stoukides and C.G. Vayenas, *J. Catal.* **69**, 18-31 (1981)
- J8.** “The effect of Electrochemical Oxygen Pumping on the Rate and Selectivity of Ethylene Oxidation on Polycrystalline Silver”, M. Stoukides and C.G. Vayenas, *J. Catal.* **70**, 137-146 (1981)
- J9.** “The effect of Homogeneous Gas Phase Oxidations in Char Particle Gasification”, R. Cwiklinski, C.G. Vayenas, C. Georgakis and J. Wei, *Chem. Eng. Science* **36 (12)**, 1883-1896 (1981)
- J10.** “Ammonia Oxidation to Nitric Oxide in a Solid Electrolyte Fuel Cell”, C. Sigal and C.G. Vayenas, *Solid State Ionics* **5**, 567-570 (1981)

1982

- J11.** “Kinetics and Rate Oscillations of the oxidation of Propylene Oxide on Silver”, M. Stoukides and C.G. Vayenas, *J. Catal.* **74**, 266-274 (1982)
- J12.** “Response to Comments on the Model of Isothermal Oscillations of Ethylene Oxidation on Pt”, C.G. Vayenas, C. Georgakis, and J.Michaels, *J. Catal.* **73**, 201-204 (1982)
- J13.** “On the Stability Limit of Surface Platinum Oxide and its role in the oscillatory behavior of Platinum Catalyzed Oxidations”, C.G.Vayenas and J. Michaels, *Surface Science* **120**, L405-L408 (1982)

1983

- J14.** “Steady State Analysis of High Temperature Fuel Cells”, P.G. Debenedetti and C.G.Vayenas, *Chem. Engin. Sci.* **38(11)**, 1817-1829 (1983)
- J15.** “Solid Electrolyte Aided-Study of Propylene Oxidation on Polycrystalline Silver”, M. Stoukides and C.G. Vayenas, *J. Catal.* **82**, 45-55 (1983)

1984

- J16.** “Electrocatalytic Rate Enhancement of Propylene Epoxidation on Porous Silver Electrodes Using a Zirconia Oxygen Pump”, M. Stoukides and C.G. Vayenas, *J. Electrochem. Soc.* **131(4)**, 839-845 (1984)

- J17.** “Kinetics of Vapor-Phase Electrochemical Oxidative Dehydrogenation of Ethylbenzene”, J.N. Michaels and C.G. Vayenas, *J. Catalysis* **85**, 477-487 (1984)
- J18.** “Styrene Production from Ethylbenzene on Platinum in a zirconia Electrochemical Reactor”, J.N. Michaels and C.G. Vayenas, *J. Electrochem. Soc.* **131**(11), 2544-2550 (1984)
- J19.** “Comment on the “Interpretation of the Electromotive Forces of Solid Electrolyte Concentration Cells during CO oxidation on Platinum” and on “Electromotive-Forces Studies of CO oxidation on Platinum”, C.G. Vayenas, *J. Catalysis* **90**, 371-373 (1984)
- 1985**
- J20.** “Cross-Flow Solid-State Electrochemical Reactors: A steady-state Analysis”, C.G. Vayenas, P.G. Debenedetti, Y. Yentekakis and L.L. Hegedus, *Ind. & Eng. Chem. Fundamentals* **24**, 316-324 (1985)
- 1986**
- J21.** “Optimal Residence Time Distribution for Product Yield Maximization in Chemical Reactors”, V. Nestoridis, I. Andreou and C.G. Vayenas, *J. of Optimization Theory and Applications (JOTA)* **49**(2), 271-287 (1986)
- J22.** “A Novel Cross-Flow Design for Solid State Electrochemical Reactors”, J.N. Michaels, C.G. Vayenas and L.L. Hegedus, *J. Electrochem. Soc.* **133**(3), 522-525 (1986)
- 1987**
- J23.** “Effectiveness Factors for reactions between volatile and non-volatile components in partially wetted catalysts”, I. Yentekakis and C.G. Vayenas, *Chem. Engng. Science* **42**(6), 1323-1332 (1987)
- J24.** “Optimal Catalyst Distribution and Generalized Effectiveness Factors in Pellets: Single Reactions with Arbitrary kinetics”, C.G. Vayenas and S. Pavlou, *Chem. Engng. Science* **42**(11), 2633-2645 (1987)
- J25.** “Optimal Catalyst Distribution for Selectivity Maximization in Pellets: Parallel and Consecutive Reactions”, C.G. Vayenas and S. Pavlou, *Chem. Engng. Science* **42**(7), 1655-1666 (1987)
- J26.** “Optimal Catalyst Distribution in Pellets with Shell Progressive Poisoning”, T. Bacaros, S. Bebelis, S. Pavlou and C.G. Vayenas in “Catalyst Deactivation 1987”, P. Delmon, G.F. Froment (eds) “Studies in Surface Science and Catalysis”, Elsevier, Amsterdam, **34**, 459-468 (1987)
- 1988**
- J27.** “Optimal Catalyst Distribution for Selectivity Maximization in Nonisothermal Pellets: The case of Parallel Reactions”, C.G. Vayenas and S. Pavlou, *Chem. Engng. Science* **43**(10), 2729-2740 (1988)
- J28.** “Solid Electrolyte Aided Study of the Mechanism of CO oxidation on Polycrystalline Platinum”, I.V. Yentekakis, S. Neophytides and C.G. Vayenas, *J. Catalysis* **111**, 152-169 (1988)
- J29.** “The Effect of Electrochemical O<sup>2-</sup> Pumping on the Steady State and Oscillatory Behavior of CO oxidation on Polycrystalline Pt”, I.V. Yentekakis and C.G. Vayenas, *J. Catalysis* **111**, 170-188 (1988)
- J30.** “Catalytic and Electrocatalytic Reactions in Solid Oxide Fuel Cells”, C.G. Vayenas, *Solid State Ionics*, Review Paper, **28-30**, 1521-1539 (1988)
- J31.** “Non-Faradaic Electrochemical Modification of Catalytic Activity”, C.G. Vayenas, S. Bebelis and S. Neophytides, *J. Phys. Chem.* **92**, 5083-5085 (1988)
- J32.** “Mathematical Modelling of SLC Precalciners”, S. Kolifetis and C.G. Vayenas, *ZKG (Zement-Kalk-Gypsum) International* **41**(11), 559-563 (1988)

**1989**

- J33.** “Optimal Catalyst Distribution for Selectivity Maximization in Nonisothermal Pellets: The Case of Consecutive Reactions”, C.G. Vayenas, S. Pavlou and A. Pappas, *Chem. Engng. Science* **44**(1), 133-145 (1989)
- J34.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: 1. The case of Ethylene Oxidation on Pt”, S. Bebelis and C.G. Vayenas, *J. Catalysis* **118**, 125-146 (1989)
- J35.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: 2. The case of Methanol Dehydrogenation and Decomposition on Ag”, S. Neophytides and C.G. Vayenas, *J. Catalysis* **118**, 147-163 (1989)
- J36.** “Chemical Cogeneration in Solid Oxide Fuel Cells: The Oxidation of H<sub>2</sub>S to SO<sub>2</sub>”, I.V. Yentekakis and C.G. Vayenas, *J. Electrochem. Soc.* **136**, 996-1002 (1989)
- J37.** “Feste Ionenleiter in der Heterogene Katalyse”, H.-G. Lintz and C.G. Vayenas, (review paper) *Angewandte Chemie* **101**(6), 725-732 (1989)
- J38.** “Solid Ion Conductors in Heterogeneous Catalysis”, H.-G. Lintz and C.G. Vayenas (review paper) *Angewandte Chemie Intern. Ed. in Engl.* **28**(6), 708-715 (1989)
- J39.** “In Situ High Temperature SERS on Ag Catalysts and Electrodes during Ethylene Epoxidation”, S. Boghosian, S. Bebelis, C.G. Vayenas and G.N. Papatheodorou, *J. Catal.* **117**, 561-565 (1989)
- J40.** “Non-Faradaic Electrochemical Modification of Catalytic Activity in Solid Electrolyte Cells”, C.G. Vayenas, S. Bebelis, S. Neophytides and I.V. Yentekakis, *Applied Physics (A)* **49**, 95-103 (1989)
- J41.** “A Reaction Engineering Approach to the Problem of Concrete Carbonation”, V. Papadakis, C.G. Vayenas and M.N. Fardis, *AIChE J.* **35**(10), 1639-1650 (1989)

**1990**

- J42.** “Chemical Cogeneration in Solid Electrolyte Cells: The Oxidation of CH<sub>3</sub>OH to H<sub>2</sub>CO”, S. Neophytides and C.G. Vayenas, *J. Electrochem. Soc.* **137**(3), 839-845 (1990)
- J43.** “Optimal Catalyst Activity Profile in pellets with Shell-progressive Poisoning: The case of fast linear kinetics”, S. Pavlou and C.G. Vayenas, *Chem. Engng. Science* **45**(3), 695-703 (1990)
- J44.** “Optimal Catalyst Activity Distribution for Selectivity Maximization in Triangular Reaction Networks: Application to the cases of Oxidative Coupling of CH<sub>4</sub> and Epoxidation of C<sub>2</sub>H<sub>4</sub>”, S. Pavlou and C.G. Vayenas, *J. Catal.* **122**, 389-405(1990)
- J45.** “The Dependence of Catalytic Activity on Catalyst Work Function”, C.G. Vayenas, S. Bebelis and S. Ladas, *Nature* **343**, 625-627 (1990)
- J46.** “Non-Faradaic Electrochemical Modification of Catalytic Activity on Pt Metals” C.G. Vayenas, S. Bebelis, I.V. Yentekakis, P. Tsiakaras and H. Karasali, *Plat. Met. Rev.* **34**(3), 122-130 (1990)
- J47.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: Partial Oxidation of C<sub>2</sub>H<sub>4</sub> on Ag and CH<sub>3</sub>OH on Pt”, C.G. Vayenas, S. Bebelis and S. Neophytides in “New Developments in Selective Oxidation” G. Centi and F. Trifiro Ed., “*Studies in Surface Science and Catalysis*” **55**, pp. 643-652, Elsevier, Amsterdam (1990)

**1991**

- J48.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: 3. The Case of Methanol Oxidation on Pt”, C.G. Vayenas and S. Neophytides, *J. Catalysis* **127**, 645-664 (1991)
- J49.** “Physical and Chemical Characteristics Affecting the Durability of Concretes”, V.G. Papadakis, M.N. Fardis and C.G. Vayenas, *ACI Materials J.* **88**(2), 186-196 (1991)
- J50.** “Experimental investigation and Mathematical modeling of the concrete carbonation problem”, V.G. Papadakis, C.G. Vayenas and M.N. Fardis, *Chem. Engng. Sci.* **46** (5/6), 1333-1338 (1991)

- J51.** “Oxidative Coupling of Methane over Yttria-doped Zirconia Solid Electrolyte”, S. Seimanides, P. Tsiakaras, X.E. Verykios and C.G. Vayenas, *Appl. Catalysis* **68**, 41-53 (1991)
- J52.** “Fundamental Modeling and Experimental Investigation of Concrete Carbonation”, V. Papadakis, C.G. Vayenas and M.N. Fardis, *ACI Materials J.* **88**(4), 363-373 (1991)
- J53.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: 4. The use of  $\beta$ "-Al<sub>2</sub>O<sub>3</sub> as the solid electrolyte”, C.G. Vayenas, S. Bebelis and S. Despotopoulou, *J. Catalysis* **128**, 415-435 (1991)
- J54.** “Solid Electrolyte Cyclic Voltammetry for in situ Investigation of Catalyst Surfaces”, C.G. Vayenas, A. Ioannides and S. Bebelis, *J. Catalysis* **129**, 67-87 (1991)
- J55.** “Solid Electrolytes and Catalysis. Part 1: Chemical Cogeneration”, C.G. Vayenas, S. Bebelis and C. Kyriazis, *Chemtech* **21**, 422-428 (1991)
- J56.** “Solid Electrolytes and Catalysis. Part 2: Non-Faradaic Catalysis”, C.G. Vayenas, S. Bebelis and C. Kyriazis, *Chemtech* **21**, 500-505 (1991)
- J57.** “Comment on the “Optimal catalyst activity profiles in pellets-VIII. General nonisothermal reacting systems with arbitrary kinetics”, S. Pavlou, C.G. Vayenas and G. Dassios, *Chem. Eng. Science* **46**(12), 3327-3328 (1991)
- J58.** “Work Function Measurements on Catalyst Films subject to in-situ Electrochemical Promotion”, S. Ladas, S. Bebelis and C.G. Vayenas, *Surface Science* **251/252**, 1062-1069 (1991)
- J59.** “Solid Electrolytes for in situ Promotion of Catalyst Surfaces: The NEMCA effect”, C.G. Vayenas, S. Bebelis, I.V. Yentekakis, P. Tsiakaras, H. Karasali and Ch. Karavasilis, *ISSI Letters* **2**, 5-7 (1991)
- J60.** “Kinetics of sulfation of Limestone and precalcined Limestone”, D. Spartinos and C.G. Vayenas, *Chem. Eng. and Process.* **30**, 97-106 (1991)
- J61.** “Catalytic and Electrocatalytic Reactions in Solid Electrolyte Cells: The NEMCA effect” C.G. Vayenas, S. Bebelis, I.V. Yentekakis, P. Tsiakaras, H. Karasali and Ch. Karavasilis, *Materials Science Forum* **76**, 141-148 (1991)
- J62.** “Work Function Measurements in Solid Electrolyte Cells: Dependence of Electrode Work Function on Electrode Potential and Polarization”. S. Bebelis and C.G. Vayenas, *Materials Science Forum* **76**, 221-224 (1991)
- J63.** “NEMCA: The Oxidation of CO on Pt”, H. Karasali and C.G. Vayenas, *Materials Science Forum* **76**, 171-174 (1991)
- J64.** “NEMCA: The Oxidation of CO on Ag”, Ch. Karavasilis, S. Bebelis and C.G. Vayenas, *Materials Science Forum* **76**, 175-178 (1991)
- J65.** “NEMCA: Methane oxidation on Pt”, P. Tsiakaras and C.G. Vayenas, *Materials Science Forum* **76**, 179-182 (1991)
- 1992**
- J66.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: A Status Report” (Review Paper) C.G. Vayenas, S. Bebelis, I.V. Yentekakis and H.-G. Lintz, *Catalysis Today* **11**(3), 303-442 (1992)
- J67.** “Effect of Composition, Environmental Factors and cement line mortar coating, on Concrete Carbonation”, V.G. Papadakis, M.N. Fardis and C.G. Vayenas, *J. Materials and Structures* **25**, 293-304 (1992)
- J68.** “Hydration and Carbonation of Pozzolan Cements”, V.G. Papadakis, M.N. Fardis and C.G. Vayenas, *ACI Materials J.* **89**(3/4), 119-130 (1992)
- J69.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: The Work Function of Electrodes in Solid Electrolyte Cells”, C.G. Vayenas, S. Bebelis, I.V. Yentekakis and S. Neophytides, *Solid State Ionics* **53-56**, 97-110 (1992)
- J70.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: 5. Oxygen Chemisorption on Silver”, S. Bebelis and C.G. Vayenas, *J. Catal.* **138**, 570-587 (1992)

- J71.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: 6. The epoxidation of Ethylene on Ag/ZrO<sub>2</sub>(8mol%)Y<sub>2</sub>O<sub>3</sub>” S. Bebelis and C.G. Vayenas, *J. Catal.* **138**, 588-610 (1992)
- 1993**
- J72.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: 7. The oxidation of CH<sub>4</sub> on Pt” P. Tsiakaras and C.G. Vayenas, *J. Catalysis* **140**, 53-70 (1993)
- J73.** “Oxidative Coupling of CH<sub>4</sub> on Ag catalyst-electrodes deposited on ZrO<sub>2</sub>(8mol% Y<sub>2</sub>O<sub>3</sub>)”, P. Tsiakaras and C.G. Vayenas, *J. Catalysis* **144**, 333-347 (1993)
- J74.** “Electrochemical Modification of CH<sub>3</sub>OH oxidation selectivity and activity on a Pt single-pellet catalytic reactor”, C. Cavalca, G. Larsen, C.G. Vayenas and G. Haller, *J. Phys. Chem.* **97**, 6115-6119 (1993)
- J75.** “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. Bunsenges. Phys. Chem.* **97**, 709-720 (1993)
- J76.** “Solid electrolytes for in situ promotion of catalyst surfaces: The NEMCA effect”, C.G. Vayenas, S. Bebelis, I.V. Yentekakis, P. Tsiakaras, H. Karasali and Ch. Karavasilis in “New Frontiers in Catalysis”, Gucci et al. (Eds.), *Studies in Surface Science and Catalysis*, Elsevier, Amsterdam, **75**, 2139-2142 (1993)
- J77.** “Ion spillover as the origin of the NEMCA effect” C.G. Vayenas, S. Bebelis, I.V. Yentekakis, S. Neophytides and Jiang Yi, in T. Inui et al (Editors) *New Aspects of Spillover Effect in Catalysis* *Studies in Surface Science and Catalysis* **77**, 111-117, Elsevier Science Publishers (1993)
- J78.** “High Temperature cyclic voltammetry of Pt electrodes in solid electrolyte cells”, Jiang Yi, A. Kaloyannis and C.G. Vayenas, *Electrochimica Acta* **38**(17), 2533-2539 (1993)
- J79.** “The origin of Non-Faradaic Electrochemical Modification of Catalytic Activity”, S. Ladas, S. Kennou, S. Bebelis and C.G. Vayenas, *J. Phys. Chem.* **97**, 8845-8847 (1993)
- 1994**
- J80.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: Solid Electrolytes as Active Catalyst Supports”, C.G. Vayenas, S. Bebelis, I.V. Yentekakis, Ch. Karavasilis and J. Yi, *Solid State Ionics* **72**, 321-327 (1994).
- J81.** “In situ controlled promotion of catalyst surfaces via NEMCA: The effect of Na on the CO oxidation on Pt”, I.V. Yentekakis, G. Moggridge, R.M. Lambert and C.G. Vayenas, *J. Catalysis* **146**, 292-305 (1994).
- J82.** “Electrochemical promotion in catalysis: Non-Faradaic electrochemical modification of catalytic activity”, C.G. Vayenas, S. Ladas, S. Bebelis, I.V. Yentekakis, S. Neophytides, Jiang Yi, Ch. Karavasilis and C. Pliangos, *Electrochimica Acta* **39**(11/12), 1849-1855 (1994).
- J83.** “Potential-programmed reduction: A new technique for investigating chemisorption on catalysts supported on solid electrolytes”, Jiang Yi, I.V. Yentekakis and C.G. Vayenas, *J. Catalysis* **148**, 240-251 (1994)
- J84.** “In situ controlled promotion of Pt for CO oxidation via NEMCA using CaF<sub>2</sub> as the solid electrolyte”, I.V. Yentekakis and C.G. Vayenas, *J. Catalysis* **149**, 238-242 (1994)
- J85.** “Methane to Ethylene with 85% Yield in a Gas-Recycle Electrocatalytic Reactor-separator”, Y. Jiang, I.V. Yentekakis and C.G. Vayenas, *Science* **264**, 1563-1566, (1994)
- J86.** “Electrochemical Enhancement of a Catalytic Reaction in Aqueous Solution”, S. Neophytides, D. Tsiplakides, M. Jaksic, P. Stonehart and C.G. Vayenas, *Nature* **370**, 45-47, (1994)
- 1995**

- J87.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: 8. Rh-catalyzed C<sub>2</sub>H<sub>4</sub> oxidation”, C. Pliangos, I.V. Yentekakis, X.E. Verykios and C.G. Vayenas, *J. Catalysis* **154**, 124-136 (1995)
- J88.** “Electrochemical Promotion of IrO catalyst for the gas phase combustion of ethylene” E. Varkaraki, J. Nicole, E. Plattner, Ch. Comminellis and C.G. Vayenas, *J. Appl. Electrochemistry* **25**, 978-981 (1995)
- J89.** “Electrochemical Promotion in Emission Control Catalysis”, R.M. Lambert, I.R.Harkness, I.V. Yentekakis and C.G. Vayenas, *Ionics* **1**, 29-32 (1995)
- J90.** “The effect of Catalyst-Electrode Potential and Work Function on the Chemisorptive Bond of Oxygen on Pt interfaced with YSZ”, S.G. Neophytides and C.G. Vayenas, *Ionics* **1**, 80-84 (1995).
- J91.** “Selectivity Maximization of Ethylene Epoxidation via NEMCA with Zirconia and β"-Al<sub>2</sub>O<sub>3</sub> Solid Electrolytes”, Ch. Karavasilis, S. Bebelis and C.G. Vayenas, *Ionics* **1**, 85-91 (1995)
- J92.** “In situ controlled Promotion of Catalyst Surfaces via Solid Electrolytes: Ethylene Oxidation on Rh and Propylene Oxidation on Pt”, A. Kaloyannis, C. Pliangos, I.V. Yentekakis and C.G. Vayenas, *Ionics* **1**, 159-164 (1995)
- J93.** “Support and NEMCA-induced Promotional Effects on the Activity of Automotive Exhaust Catalysts” I.V. Yentekakis, C.A. Pliangos, V.G. Papadakis, X.E. Verykios and C.G. Vayenas in A. Frennet and J.-M. Bastin (eds.) *Catalysis and Automotive Pollution Control III, Studies in Surface Science and Catalysis* **96**, 375-385 (1995)
- J94.** “TPD and Cyclic Voltammetric Investigation of the Origin of Electrochemical Promotion in Catalysis”, S.G. Neophytides and C.G. Vayenas, *J. Phys. Chem.* **99**, 17063-17067 (1995)
- J95.** “In situ Controlled Promotion of Catalyst Surfaces via Solid Electrolytes: The NEMCA effect”, C.G. Vayenas, I.V. Yentekakis, S.I. Bebelis and S.G. Neophytides, *Ber. Bunsenges, Phys. Chem.* **99**(11), 1393-1401 (1995)
- J96.** “Ethylene Production from Methane in a Gas Recycle Electrocatalytic Reactor Separator”, I.V. Yentekakis, Y. Jiang, M. Makri and C.G. Vayenas, *Ionics* **1**, 286-291 (1995)
- J97.** “Electrochemical Promotion of Catalyst Surfaces Deposited on Ionic and Mixed Conductors”, A.C. Kaloyannis, C.A. Pliangos, D.T. Tsiplakides, I.V. Yentekakis, S.G. Neophytides, S. Bebelis and C.G. Vayenas, *Ionics* **1**, 414-420 (1995)
- J98.** “Catalysis, Electrocatalysis and Electrochemical Promotion of the Steam Reforming of Methane over Ni Film and Ni-YSZ cermet Anodes”, I.V. Yentekakis, Y. Jiang, S. Neophytides, S. Bebelis and C.G. Vayenas, *Ionics* **1**, 491-498 (1995)
- J99.** “Electrochemical Promotion of NO reduction by CO and by Propene”, A. Palermo, M.S. Tikhov, N.C. Filkin, R.M. Lambert, I.V. Yentekakis and C.G. Vayenas, *Ionics* **1**, 366-372 (1995)
- J100.** “The Electrochemical Activation of Catalysis», C.G. Vayenas, M.M. Jaksic, S. Bebelis and S.G. Neophytides in “*Modern Aspects of Electrochemistry*” **29**, 57-202 (1995)
- J101.** “Ethylene Production from Methane in a Gas Recycle Electrocatalytic Reactor Separator”, I.V. Yentekakis, Y. Jiang, M. Makri and C.G. Vayenas, *Ionics* **1**, 286-291 (1995).
- 1996**
- J102.** “Ethylene oxidation over Platinum: In situ electrochemical promotion using β"-Al<sub>2</sub>O<sub>3</sub> and studies with a Pt(111)/Na model catalyst”, I.R. Harkness, C. Hardacre, R.M. Lambert, I.V. Yentekakis and C.G. Vayenas, *J. Catalysis* **160**, 19-26 (1996)
- J103.** “Physicochemical processes and mathematical modelling of Concrete Chlorination”, V.G. Papadakis, M. Fardis and C.G. Vayenas, *Chem. Eng. Sci.* **51**, 505-513 (1996)

- J104.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: 9. Ethylene oxidation on Pt deposited on TiO<sub>2</sub>”, C. Pliangos, I.V. Yentekakis, S. Ladas and C.G. Vayenas, *J. Catalysis* **159**, 189-203 (1996)
- J105.** “Non-Faradaic Electrochemical Modification of Catalytic Activity: 10. Ethylene epoxidation on Ag deposited on stabilized ZrO<sub>2</sub> in presence of chlorine moderators”, Ch. Karavasilis, S. Bebelis and C.G. Vayenas, *J. Catalysis* **160**, 190-204 (1996)
- J106.** “In situ Controlled Promotion of Catalyst Surfaces via NEMCA: The effect of Na on the Ag-catalyzed Ethylene Epoxidation in the Presence of Chlorine Moderators”, Ch. Karavassilis, S.Bebelis and C.G. Vayenas, *J. Catal.* **160**, 205-213 (1996)
- J107.** “Electrochemical promotion by Na of the Platinum catalyzed reaction between CO and NO”, A. Palermo, R.M. Lambert, I.R. Harkness, I.V. Yentekakis, O. Mar’ina and C.G. Vayenas, *J. Catal.* **161**, 471-479 (1996)
- J108.** “Non-Faradaic Electrochemical Modification of the Catalytic Activity of Pt for H<sub>2</sub> Oxidation in Aqueous Alkaline Media”, S.G. Neophytides, D. Tsiplakides, P. Stonehart, M.M. Jaksic and C.G. Vayenas, *J. Phys. Chem.* **100**, 14803-14814 (1996)
- J109.** “Development of high performance, Pd-based, three-way catalysts”, V.G. Papadakis, C.A. Pliangos, I.V. Yentekakis, X.E. Verykios and C.G. Vayenas, *Catalysis Today* **29**, 71-75 (1996)
- J110.** “In situ controlled promotion of catalyst surfaces: Non-Faradaic Electrochemical Modification of Catalytic Activity”, S.G. Neophytides, S. Bebelis, I.V. Yentekakis, Y. Jiang, C. Pliangos, Ch. Karavassilis, S. Ladas and C.G. Vayenas, *Kinetics and Catalysis* **37**(5), 666-675 (1996)
- J111.** “Atomic resolution STM imaging of Electrochemically Controlled Reversible Promoter Dosing of Catalysts”, M. Makri, S. Bebelis, C.G. Vayenas, K. Besocke and C. Cavalca, *Surf. Science* **369**, 351-359 (1996)
- J112.** “Electrochemical Promotion: Electrochemistry can activate catalysis”, C.G. Vayenas, *Interface* **3**(4) (winter), 34-37 (1996)
- J113.** “Electrochemical Promotion of the NO reduction by C<sub>2</sub>H<sub>4</sub> on Pt/YSZ and by CO on Pd/YSZ”, M. Marwood, A. Kaloyannis and C.G. Vayenas, *Ionics* **2**, 302-311 (1996)
- J114.** “Non-Faradaic Electrochemical Modification of the Catalytic Activity of Pt using a CaZr<sub>0.9</sub>In<sub>0.1</sub>O<sub>3-a</sub> Proton Conductor”, M. Makri, A. Buekenhoudt, J. Luyten and C.G. Vayenas, *Ionics* **2**, 282-288 (1996)
- J115.** “Atomic Resolution Scanning Tunneling Microscopy Imaging of Pt Electrodes Intefaced with β"-Al<sub>2</sub>O<sub>3</sub>”, M. Makri, C.G. Vayenas, S. Bebelis, K.H. Besocke and C. Cavalca, *Ionics* **2**, 248-253 (1996)
- J116.** “Oxidative Coupling of Methane to Ethylene with 85% Yield in a Gas Recycle Electrocatalytic or catalytic Reactor-Separator”, M. Makri, Y. Jiang, I.V. Yentekakis and C.G. Vayenas, *Studies in Surface Science and Catalysis* **101**, 387-396 (1996)
- J117.** “Electrochemical Promotion of NO Reduction by CO and by Propene”, A. Palermo, M.S. Tikhov, N.C. Filkin, R.M. Lambert, I.V. Yentekakis and C.G. Vayenas, *Studies in Surface Science and Catalysis* **101**, 513-522 (1996)
- J118.** “Quantum-Chemical Study of Electrochemical Promotion in Catalysis”, G. Pacchioni, F. Illas, S. Neophytides and C.G. Vayenas, *J. Phys. Chem.* **100**, 16653-16661 (1996)
- 1997**
- J119.** “Electrochemical Promotion”, C.G. Vayenas and S. Bebelis, *Solid State Ionics* **94**, 267-277 (1997)
- J120.** “Electrochemical Promotion of the Catalytic Reduction of NO by CO on Palladium”, M. Marwood and C.G. Vayenas, *J. Catal.* **170**, 275-285 (1997)
- J121.** “Non-faradaic Electrochemical Modification of Catalytic Activity (NEMCA) of Pt Black Electrodes Deposited on Nafion 117 Solid Polymer Electrolyte”, D. Tsiplakides, S. Neophytides, O. Enea, M.M. Jaksic and C.G. Vayenas, *J. Electrochem. Soc.* **144**(6), 2072-2088 (1997)

- J122.** “In situ controlled Promotion of Catalyst Surfaces via NEMCA: The effect of Na on the Pt-catalyzed NO Reduction by H<sub>2</sub>”, O.A. Marina, I.V. Yentekakis, C.G. Vayenas, A. Palermo and R.M. Lambert, *J. Catalysis* **166**, 218-228 (1997)
- J123.** “The promotional effect of Na on the NO reduction by CO on supported Pt, Pd and Rh catalysts”, F.A. Alexandrou, V.G. Papadakis, X.E. Verykios and C.G. Vayenas, *Proc. 4th Intl. Congress on Catalysis and Automotive Pollution Control*, Vol. **2**, pp. 1-16 (1997).
- J124.** “Electrochemical Promotion of Electrochemically isolated Pt catalysts on Stabilized Zirconia”, M. Marwood and C.G. Vayenas, *J. Catalysis* **168**, 538-542 (1997)
- J125.** “Non-Faradaic Electrochemical Modification of Catalytic Activity. 11. Ethane Oxidation on Pt”, A. Kaloyannis and C.G. Vayenas, *J. Catalysis* **171**, 148-159 (1997)
- J126.** “Direct STM, XPS and TPD observation of spillover phenomena over mm distances on metal catalyst films interfaced with solid electrolytes”, C.G. Vayenas, R.M Lambert, S. Ladas, S. Bebelis, S. Neophytides, M.S. Tikhov, N.C. Filkin, M. Makri, D. Tsiplakides, C. Cavalca and K. Besocke, *Studies in Surface Science and Catalysis* **112**, 39-47 (1997).
- J127.** “In situ electrochemically controlled promotion of complete and partial oxidation catalysts”, C.G. Vayenas and S Bebelis, *Studies in Surface Science and Catalysis* **110**, 77-92 (1997)
- J128.** “Oxidative Coupling of Methane to Ethylene with 85-percent yield in a Gas Recycle Electrocatalytic or Catalytic Reactor Separator” I.V. Yentekakis, Y. Jiang, M. Makri and C.G. Vayenas, *Studies in Surface Science and Catalysis* **107**, 307-312 (1997)
- J129.** “Hydrotreatment of Spent Lube Oil – Catalysts and Reactor Performances” C. Yiokari, S. Morphi, A. Siokou, F. Satra, S. Bebelis, C.G. Vayenas, C. Karavasilis, G. Deligiorgis, *Studies in Surface Science and Catalysis* **106**, 323-331 (1997)
- J130.** “Support-induced promotional effects on the activity of automotive exhaust catalysts 1. The case of oxidation of light hydrocarbons (C<sub>2</sub>H<sub>4</sub>)”, C. Pliangos, I.V. Yentekakis, V.G. Papadakis, C.G. Vayenas and X.E. Verykios., *App. Catalysis B: Environmental* **14**, 161-173 (1997)
- J131.** “Non-Faradaic Electrochemical Modification of Catalytic Activity”, C.G. Vayenas, *Elektrochemische Verfahrenstechnik (GDCh-Monographie)* **9**, 27-36 (1997)
- J132.** “Oxidative Coupling of Methane in a Solid Oxide Fuel Cell Reactor” Y. Jiang, I.V. Yentekakis, M. Makri and C.G. Vayenas, *Electrochemical Proceedings*, (U. Stimming, S.C. Singhal, H. Tagawa and W. Lehnert, Eds), **97**(18), 235-243 (1997)
- J133.** “Thermal Desorption Study of Oxygen Adsorption on Pt, Ag and Au films Deposited on YSZ”, D. Tsiplakides, S. Neophytides and C.G. Vayenas, *Ionics* **3**, 201-208 (1997).
- J134.** “Electrochemical Promotion of NH<sub>3</sub> decomposition on Fe using H<sup>+</sup>, Na<sup>+</sup> and K<sup>+</sup> conductors”, G. Pitselis, P. Petrolekas and C.G. Vayenas, *Ionics* **3**, 110-117 (1997)
- 1998**
- J135.** “Electrochemical Promotion of Pt catalyst dispersed on Au electrodes deposited on Stabilized Zirconia”, M. Marwood and C.G. Vayenas, *J. Catal.* **178**, 429-440 (1998)
- J136.** “Unsteady state operation of catalytic particles with constant and periodically changing degree of external wetting”, C. Kouris, S. Neophytides, C.G. Vayenas and J. Tsamopoulos, *Chem. Eng. Sci.* **53**, 3129-3142 (1998)
- J137.** “Electrochemical promotion of Ethylene Oxidation on Pt Catalyst Films deposited on CeO<sub>2</sub>”, P.D. Petrolekas, S. Balomenou and C.G. Vayenas, *J. Electrochem. Soc.* **145**(4), 1202-1206 (1998)
- J138.** “Electrochemical promotion of Pt catalyst-electrodes deposited on Na<sub>3</sub>Zr<sub>2</sub>Si<sub>2</sub>PO<sub>12</sub> during Ethylene Oxidation”, P.D. Petrolekas, S. Brosda and C.G. Vayenas, *J. Electrochem. Soc.* **145**(4), 1469-1477 (1998)



- J139.** “Work function and catalytic activity measurements of an IrO<sub>2</sub> film deposited on YSZ subjected to in situ electrochemical promotion”, D. Tsiplakides, J. Nicole, C.G. Vayenas and Ch. Comminellis, *J. Electrochem. Soc.* **145**, 905-908 (1998)
- J140.** “Temperature-Programmed Desorption of Oxygen from Pt films Interfaced with Y<sub>2</sub>O<sub>3</sub>-Doped ZrO<sub>2</sub>”, S.G. Neophytides, D. Tsiplakides, and C.G. Vayenas, *J. Catal.* **178**, 414-428 (1998).
- J141.** “Electrochemical Promotion of CH<sub>4</sub> oxidation on Pd”, A. Giannikos, A.P. Frantzis, C. Pliangos, S. Bebelis, and C. G. Vayenas, *Ionics* **4**, 53-60 (1998).
- J142.** “Electrochemical Promotion of Pd for the hydrogenation of C<sub>2</sub>H<sub>2</sub>”, A. Giannikos, P. Petrolekas, C. Pliangos, A. Frenzel, C.G. Vayenas and H. Pütter, *Ionics* **4**, 161-169 (1998).
- J143.** “Electrochemical Promotion of Electronically Isolated and Dispersed Pt catalysts”, M. Marwood, S. Balomenou, A. Tsiliras, C.A. Cavalca, C. Pliangos and C.G. Vayenas, *Ionics* **4**, 207-214 (1998).
- 1999**
- J144.** “Non-Faradaic electrochemical modification of catalytic activity. 12: Propylene oxidation on Pt, A. Kaloyannis and C.G. Vayenas, *J. Catalysis* **182**, 37-47 (1999).
- J145.** “An X-ray photoelectron spectroscopy study of zirconia-supported Mo and Ni-Mo hydrodesulfurization catalysts”, D. Sotiropoulou, C. Yiokari, C.G. Vayenas, S. Ladas, *Applied Catalysis A: General* **183**, 15-22 (1999)
- J146.** “Temperature Programmed Desorption of Oxygen from Ag films interfaced with Y<sub>2</sub>O<sub>3</sub>-doped ZrO<sub>2</sub>, D. Tsiplakides and C.G. Vayenas, *J. Catalysis* **185**, 237-251 (1999)
- J147.** Electrochemical Promotion of heterogeneous catalysis, C.G. Vayenas and S. Bebelis, *Catalysis Today* **51**, 581-594 (1999).
- 2000**
- J148.** “Electrochemical activation of catalytic reactions using anionic, cationic and mixed conductors”, S. Bebelis, M. Makri, A. Buekenhoudt, J. Luyten, S. Brosda, P. Petrolekas, C. Pliangos and C.G. Vayenas, *Solid State Ionics* **129**, 33-46 (2000).
- J149.** “Electrochemical Promotion of NO reduction by C<sub>3</sub>H<sub>6</sub> on Rh/YSZ catalyst-electrodes”, C. Pliangos, C. Raptis, Th. Badas and C.G. Vayenas, *Solid State Ionics* **136-137**, 767-773 (2000).
- J150.** “Investigation of Electrochemical Promotion using temperature-programmed desorption and work function measurements”, D. Tsiplakides, S. Neophytides and C.G. Vayenas, *Solid State Ionics* **136-137**, 839-847 (2000).
- J151.** “Electrochemical Promotion of Pd, Fe and distributed Pt catalyst-electrodes”, S. Balomenou, G. Pitselis, D. Polydoros, A. Giannikos, A. Vradis, A. Frenzel, C. Pliangos, H. Pütter and C.G. Vayenas, *Solid State Ionics* **136-137**, 857-862 (2000).
- J152.** “The electrochemical promotion of ethylene and propylene oxidation on Pt deposited on Ytria-Titania-Zirconia”, P. Beatrice, C. Pliangos, W.L. Worrell and C.G. Vayenas, *Solid State Ionics* **136-137**, 833-837 (2000).
- J153.** “Electrochemical Promotion (NEMCA) of CH<sub>4</sub> and C<sub>2</sub>H<sub>4</sub> oxidation on Pd/YSZ and investigation of the origin of NEMCA via AC impedance spectroscopy”, A.D. Frantzis, S. Bebelis and C.G. Vayenas, *Solid State Ionics* **136-137**, 863-872 (2000).
- J154.** “Electrochemical Promotion of a Classically Promoted Rh catalyst for the Reduction of NO”, C. Pliangos, C. Raptis, Th. Badas, D. Tsiplakides and C.G. Vayenas, *Electrochimica Acta* **46**, 331-339 (2000).
- J155.** “Electrochemical Promotion of NO Reduction by C<sub>3</sub>H<sub>6</sub> and CO on Rh/YSZ catalyst-electrode”, C. Pliangos, C. Raptis, Th. Badas and C.G. Vayenas, *Ionics* **6**, 119-126 (2000).
- J156.** “Electrochemical Promotion of NO Reduction by C<sub>3</sub>H<sub>6</sub> on Rh/YSZ catalyst – electrodes and investigation of the origin of the promoting action using TPD and WF

- measurements”, C. Raptis, Th. Badas, D. Tsiplakides, C. Pliangos and C.G. Vayenas, *Stud. Surf. Sci. Catal.* **130**, 1283-1288 (2000)
- J157.** “High-Pressure Electrochemical Promotion of Ammonia Synthesis over an Industrial Iron Catalyst”, C.G. Yiokari, G.E. Pitselis, D.G. Polydoros, A.D. Katsaounis and C.G. Vayenas, *J. Phys. Chem.* **104**, 10600-10602 (2000).
- J158.** “On the work function of the gas exposed electrode surfaces in solid state electrochemistry”, C.G. Vayenas, *J. Electroanalytical Chemistry* **486**, 85-90 (2000).
- J159.** “On the work function of the gas-exposed electrode surfaces in solid state electrolyte cells”, C.G. Vayenas and D. Tsiplakides, *Surf. Sci.* **467**, 23-34 (2000).
- 2001**
- J160.** “Characterization of hydrotreating catalysts using the principal component analysis”, N. Pasadakis, C. Yiokari, N. Varotsis and C. Vayenas, *Applied Catalysis A: General*, **207**, 333-341 (2001).
- J161.** “Electrode work function and absolute potential scale in solid state electrochemistry”, D. Tsiplakides and C.G. Vayenas, *J. Electrochemical Soc.*, **148**(5), E189-E202 (2001).
- J162.** “Partial oxidation of methane to formaldehyde with 50% yield in a continuous recycle reactor separator (CRRS)”, I.C. Bafas, I.E. Constantinou, C.G. Vayenas, *Chem. Engng. J.*, **82**, 109-115 (2001).
- J163.** “Mathematical modeling of Electrochemical Promotion and of Metal-Support Interactions”(Paper dedicated to Professor Jimmy Wei on the occasion of his 70th birthday), C.G. Vayenas and G.E. Pitselis, *Industrial & Engineering Chemistry Research*, **40**(20), 4209-4215 (2001).
- J164.** “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)”, F. Tietz, Ch. Papadelis, D. Tsiplakides, A. Katsaounis, C. Vayenas, *Ionics*, **7**(1/2), 101-104 (2001).
- J165.** “Spillover-modified catalysis: Experiment and mathematical modeling”, C.G. Vayenas, and S. Brosda, *Stud. Surf. Sci. Catal.* **138**, 197-204 (2001).
- J166.** “Rules and mathematical modeling of electrochemical and chemical promotion: 1. Reaction classification and promotional rules”, C.G. Vayenas, S. Brosda and C. Pliangos, *J. Catal.*, **203**, 329-350 (2001).
- J167.** “Electrochemical Promotion and Metal-support interactions”, J. Nicole, D. Tsiplakides, C. Pliangos, X.E. Verykios, Ch. Comninellis and C.G. Vayenas, *J. Catal*, **204**, 23-34 (2001).
- J168.** “Investigation of the State of Electrochemically Generated Adsorbed O Species on Au films Interfaced with  $\text{Y}_2\text{O}_3$ -doped- $\text{ZrO}_2$ ”, D. Tsiplakides, S.G. Neophytides and C.G. Vayenas, *Ionics*, **7**(3), 203-209 (2001).
- 2002**
- J169.** “Rules and mathematical modeling of electrochemical and classical promotion: 2. Modeling”, S. Brosda and C.G. Vayenas, *J. Catal.* **208**, 38-53 (2002).
- J170.** “The absolute potential scale in Solid State Electrochemistry”, D. Tsiplakides and C.G. Vayenas, *Solid State Ionics*, **152-153**, 625-639 (2002).
- J171.** “Electrochemical promotion: Experiment, rules and mathematical modeling”, C.G. Vayenas, and S. Brosda, *Solid State Ionics*, **154-155**, 243-250 (2002).
- J172.** “Electrochemical Promotion of Conventional and Bipolar Reactor Configurations for NO Reduction”, C. Pliangos, C. Raptis, I. Bolzonella, Ch. Comninellis and C.G. Vayenas, *Ionics*, **8**, 372-382 (2002).
- 2003**
- J173.** “Fermi level and potential distribution in solid electrolyte cells with and without ion spillover”, Ilan Riess and C.G. Vayenas, *Solid State Ionics*, **159(3-4)**, 313-329 (2003).

- J174.** “Successful scale up of Gas Recycle Reactor Separators for the production of C<sub>2</sub>H<sub>4</sub> from CH<sub>4</sub>”, M. Makri and C. G. Vayenas, *Applied Catalysis A: General*, **244**, 301-310 (2003).
- J175.** “The Double-Layer Approach to Promotion, Electrocatalysis, Electrochemical Promotion and Metal-Support Interactions”, C.G. Vayenas, S. Brosda and C. Pliangos, *40<sup>th</sup> Anniversary issue, J. Catal.* **216**, 487-504 (2003).
- J176.** “Scanning tunneling microscopy observation of the origin of electrochemical promotion and metal-support interactions” C.G. Vayenas, D. Archonta and D. Tsiplakides, *J. Electroanalytical Chemistry*, **554-555**, 301-306 (2003).
- J177.** “Electrochemical Promotion of an Oxidation Reaction using a Proton Conductor” A. Thursfield, S. Brosda, C. Pliangos, T. Schober and C.G. Vayenas, *Electrochimica Acta*, **48**, 3779-3788 (2003).
- 2004**
- J178.** “Thermodynamic Analysis of the Electrochemical Promotion of Catalysis”, C.G. Vayenas, *Solid State Ionics*, **168**, 321-326 (2004).
- J179.** “Comparative isotope-aided investigation of electrochemical promotion and metal-support interactions: 1. <sup>18</sup>O<sub>2</sub> TPD of electropromoted Pt films deposited on YSZ and of dispersed Pt/YSZ catalysts” A. Katsaounis, Z. Nikopoulou, X.E. Verykios and C.G. Vayenas, *J. Catal.*, **222**(1), 192-206 (2004).
- J180.** “Novel monolithic electrochemically promoted catalytic reactor for environmentally important reactions” S. Balomenou, D. Tsiplakides, A. Katsaounis, S. Thiemann-Handler, B. Cramer, G. Foti, Ch. Comninellis and C.G. Vayenas, *Applied Catalysis B: Environmental*, **52**, 181-196 (2004).
- J181.** “Comparative isotope-aided investigation of electrochemical promotion and metal-support interactions: 2. CO oxidation by <sup>18</sup>O<sub>2</sub> on electropromoted Pt films deposited on YSZ and on nanodispersed Pt/YSZ catalysts, A. Katsaounis, Z. Nikopoulou, X.E. Verykios and C.G. Vayenas, *J. Catal.*, **226**(1), 197-209 (2004).
- J182.** “Triode Fuel Cells and Batteries”, S.P. Balomenou and C.G. Vayenas, *J. Electrochem. Soc.*, **151**(11), A1874-A1877 (2004).
- 2005**
- J183.** “Electrochemical promotion of RuO<sub>2</sub> catalysts for the combustion of Toluene and Ethylene”, I. Constantinou, I. Bolzonella, C. Pliangos, Ch. Comninellis and C.G. Vayenas, *Catalysis Letters*, **100**(3-4), 125-133 (2005).
- J184.** “Electrochemical promotion of Catalysis: Mechanistic investigations and monolithic electropromoted reactors”, D. Tsiplakides, S. Balomenou, A. Katsaounis, D. Archonta, C. Koutsodontis and C.G. Vayenas, *Catalysis Today*, **100**, 133-144 (2005).
- J185.** “Electrochemical promotion of ethylene oxidation over sputter-coated Rh catalysts on YSZ and TiO<sub>2</sub>/YSZ supports”, E.A. Baranova, A. Thursfield, S. Brosda, G. Fóti, Ch. Comninellis, C.G. Vayenas, *J. Electrochem. Soc.* **152**(2), E40-E49 (2005).
- J186.** “Proton tunneling-induced bistability, oscillations and enhanced performance of PEM fuel cells”, A. Katsaounis, S. Balomenou, D. Tsiplakides, S. Brosda, S. Neophytides and C.G. Vayenas, *Appl. Catalysis B: Environmental*, **56**, 251-258 (2005).
- J187.** “The role of potential-dependent electrolyte resistance in the performance, steady-state multiplicities and oscillations of PEM fuel cells: Experimental investigation and macroscopic modeling”, A. Katsaounis, S.P. Balomenou, D. Tsiplakides, M. Tsampas and C.G. Vayenas, *Electrochimica Acta*, **50**, 5132-5143 (2005).
- J188.** “Electrochemically induced oscillations of C<sub>2</sub>H<sub>4</sub> oxidation over thin sputtered Rh catalysts films”, E.A. Baranova, A. Thursfield, S. Brosda, G. Fóti, Ch. Comninellis, C.G. Vayenas, *Catalysis Letters*, **105**(1-2), 15-21 (2005).
- 2006**
- J189.** “Proton and electron wave-particles in chemical and physical environments”, C.G. Vayenas and A. Katsaounis, *Appl. Catalysis B: Environmental*, **64**, 111-120 (2006).

- J190.** Erratum to “Proton and electron wave-particles in chemical and physical environments”, C.G. Vayenas and A. Katsaounis, *Appl. Catalysis B: Environmental*, **65**, 326-327 (2006).
- J191.** “The effect of membrane thickness on the conductivity of Nafion”, M.N. Tsampas, A. Pikos, S. Brosda, A. Katsaounis and C.G. Vayenas, *Electrochimica Acta*, **51**, 2743-2755 (2006).
- J192.** “Rules of chemical promotion”, S. Brosda, C.G. Vayenas and J. Wei, *Appl. Catalysis B: Environmental*, **68**, 109-124 (2006).
- J193.** “Triode Fuel Cells”, S.P. Balomenou, F. Sapountzi, D. Presvytes, M. Tsampas and C.G. Vayenas, *Solid State Ionics*, **177**, 2023-2027 (2006).
- J194.** “Monolithic electrochemically promoted reactors: A step for the practical utilization of electrochemical promotion”, S.P. Balomenou, D. Tsiplakides, A. Katsaounis, S. Brosda, G. Fóti, Ch. Comninellis, S. Thiemann-Handler, B. Cramer and C.G. Vayenas, *Solid State Ionics*, **177**, 2201-2204 (2006).
- J195.** “STM observation of the origin of electrochemical promotion on metal catalyst-electrodes interfaced with YSZ and  $\beta''$ -Al<sub>2</sub>O<sub>3</sub>”, D. Archonta, A. Frantzis, D. Tsiplakides, C.G. Vayenas, *Solid State Ionics*, **177**, 2221-2225 (2006).
- J196.** “Potential-dependent electrolyte resistance and steady-state multiplicities of PEM fuel cells”, A. Katsaounis, M. Tsampas, S.P. Balomenou, D. Tsiplakides and C.G. Vayenas, *Solid State Ionics*, **177**, 2397-2401 (2006).
- J197.** “The effect of catalyst film thickness on the magnitude of the electrochemical promotion of catalytic reactions”, C. Koutsodontis, A. Katsaounis, J.C. Figueroa, C. Cavalca, C.J. Pereira and C.G. Vayenas, *Topics in Catalysis*, **38**(1-3), 157-167 (2006).
- J198.** “The effect of catalyst film thickness on the electrochemical promotion of ethylene oxidation on Pt” C. Koutsodontis, A. Katsaounis, J.C. Figueroa, C. Cavalca, C. Pereira and C.G. Vayenas, *Topics in Catalysis*, **39**(1-2), 97-100 (2006).

## 2007

- J199.** “First principles analytical prediction of the conductivity of Nafion membranes”, C.G. Vayenas, M.N. Tsampas and A. Katsaounis, *Electrochimica Acta*, **52**, 2244-2256 (2007).
- J200.** “Proton interactions in chemical-electrochemical and physical systems”, C.G. Vayenas and Stamatia J. Giannareli, *Electrochimica Acta*, **52**, 5614-5620 (2007).
- J201.** “Mathematical modeling of the operation of SOFC Nickel-cermet anodes”, D. Presvytes and C.G. Vayenas, *Ionics*, **13**, 9-18 (2007).
- J202.** “Electrocatalysis and electrochemical promotion of CO oxidation in PEM fuel cells: The role of oxygen crossover”, F. Sapountzi, M.N. Tsampas and C.G. Vayenas, *Topics in Catalysis*, **44**(3), 461-468 (2007).
- J203.** “Absolute potential measurements in solid and aqueous electrochemistry using two Kelvin probes and their implications for the electrochemical promotion of catalysis”, D. Tsiplakides, D. Archonta and C.G. Vayenas, *Topics in Catalysis*, **44**(3), 469-479 (2007).
- J204.** “Electrochemical promotion in a monolith electrochemical plate reactor applied to simulated and real automotive pollution control”, S. Balomenou, D. Tsiplakides, C.G. Vayenas, S. Poulston, V. Houel, P. Collier, A. Konstandopoulos and Ch. Agrafiotis, *Topics in Catalysis*, **44**(3), 481-486 (2007).
- J205.** “Methanol reformat treatment in a PEM fuel cell-reactor”, F.M. Sapountzi, M.N. Tsampas and C.G. Vayenas, *Catalysis Today*, **127**, 295-303 (2007).
- J206.** “Electrochemical promotion of NO reduction by C<sub>3</sub>H<sub>6</sub> on Rh catalyst-electrode films supported on YSZ and on dispersed Rh/YSZ catalysts”, I. Constantinou, D. Archonta, S. Brosda, M. Lepage, Y. Sakamoto and C.G. Vayenas, *J. Catal.*, **251**, 400-409 (2007).

- J207.** “Gravitational moduli forces in small nuclei and analytical computation of the Newton constant”, C.G. Vayenas, S. Giannareli and S. Souentie, arXiv: 0707.4097 (2007).
- 2008**
- J208.** “Non-Faradaic electrochemical activation of catalysis”, C.G. Vayenas and C.G. Koutsodontis, *J. Chem. Phys.*, **128**, 182506 (2008).
- J209.** “Electrochemical promotion of the CO<sub>2</sub> hydrogenation on Pd/YSZ and Pd/β"-Al<sub>2</sub>O<sub>3</sub> catalyst-electrodes”, S. Bebelis, H. Karasali and C. G. Vayenas, *Solid State Ionics*, **179**(27-32), 1391-1395 (2008).
- J210.** “Electrochemical promotion of NO reduction by C<sub>2</sub>H<sub>4</sub> in excess of O<sub>2</sub> using a monolithic electropromoted reactor and Pt-Rh sputtered electrodes”, C. Koutsodontis, A. Hammad, M. Lepage, Y. Sakamoto, and C.G. Vayenas, *Topics in Catalysis*, **50**, 192-199 (2008).
- J211.** “Electrochemical promotion of CO<sub>2</sub> hydrogenation on Rh/YSZ electrodes” S. Bebelis, H. Karasali and C. G. Vayenas, *J. Appl. Electrochem.*, **38**, 1127–1133 (2008).
- J212.** “NO reduction performance of Rh paste catalyst on YSZ under steady state and forced oscillation electropromotion conditions”, S. Brosda and C.G. Vayenas, *J. Appl. Electrochem.*, **38**, 1135–1142 (2008).
- J213.** “Electrochemical promotion of NO reduction by C<sub>2</sub>H<sub>4</sub> in 10% O<sub>2</sub> using a monolithic electropromoted reactor with Rh/YSZ/Pt”, S. Souentie, A. Hammad, S. Brosda, G. Foti and C.G. Vayenas, *J. Appl. Electrochem.*, **38**, 1159–1170 (2008).
- J214.** “Tailor-structured skeletal Pt catalysts employed in a Monolithic Electropromoted Reactor”, A. Hammad, S. Souentie, S. Balomenou, D. Tsiplakides, J.C. Figueroa, C. Cavalca, C.J. Pereira and C.G. Vayenas, *J. Appl. Electrochem.*, **38**, 1171–1176 (2008).
- J215.** Erratum to “Mathematical modeling of the operation of SOFC Nickel-cermet anodes”, D. Presvytes and C.G.Vayenas, *Ionics*, **14**, 469 (2008).
- 2009**
- J216.** “Steady-state multiplicity phenomena during the electrochemical promotion of NO reduction by C<sub>2</sub>H<sub>4</sub> in presence of O<sub>2</sub> on thin Rh and Pt catalyst-electrodes in a monolithic electropromoted reactor”, S. Souentie, A. Hammad and C.G. Vayenas, *Catalysis Today*, **146**(3-4), 285-292 (2009).
- J217.** “Electrochemical promotion of CO conversion to CO<sub>2</sub> in PEM fuel cells PROX reactor”, F.M. Sapountzi, M.N. Tsampas and C.G. Vayenas, *Catalysis Today*, **146**, 319-325 (2009).
- J218.** “Electrochemical promotion of the CO<sub>2</sub> hydrogenation reaction using thin Rh, Pt and Cu films in a monolithic reactor at atmospheric pressure”, E.I. Papaioannou, S. Souentie, A. Hammad, C.G. Vayenas, *Catalysis Today*, **146**, 336-344 (2009).
- J219.** “Electrochemical promotion of CO oxidation on Pt/YSZ: The effect of catalyst potential on the induction of highly active stationary and oscillatory states”, M.N. Tsampas, F.M. Sapountzi, C.G. Vayenas, *Catalysis Today*, **146**, 351-358 (2009).
- J220.** “Nickel-Zirconia Anode Degradation and Triple Phase Boundary Quantification from microstructural Analysis”, A. Faes, A. Hessler-Wyser, D. Presvytes, C.G. Vayenas, J. Van herle, *Fuel Cells*, **6**, 841-851 (2009).
- 2010**
- J221.** “The role of TiO<sub>2</sub> layers deposited on YSZ on the electrochemical promotion of C<sub>2</sub>H<sub>4</sub> oxidation on Pt”, E.I. Papaioannou, S. Souentie, F.M. Sapountzi, A. Hammad, D. Labou, S. Brosda, C.G. Vayenas, *J. Appl. Electrochem.*, **40**, 1859-1865 (2010).

- J222.** “Permanent electrochemical promotion of C<sub>3</sub>H<sub>8</sub> oxidation over thin sputtered Pt films”, S. Souentie, L. Lizarraga, E.I. Papaioannou, C.G. Vayenas, P. Vernoux, *Electrochem. Communications*, **12**, 1133-1135 (2010).
- J223.** “Electrochemical promotion of Pt(111)/YSZ(111) and Pt-FeOx/YSZ(111) thin catalyst films: Electrocatalytic, catalytic and morphological studies”, E. Mutoro, C. Koutsodontis, B. Luerssen, S. Brosda, C. G. Vayenas, J. Janek, *Appl. Catal. B*, **100**(1-2), 328-337 (2010).
- 2011**
- J224.** “Bridging Electrochemistry and Heterogeneous Catalysis”, C.G. Vayenas, *Journal of Solid State Electrochemistry*, **15**, 1425-1435 (2011).
- J225.** “The role of Nafion content in sputtered IrO<sub>2</sub> based anodes for low temperature PEM water electrolysis”, F.M. Sapountzi, S.C. Divane, E.I. Papaioannou, S. Souentie, C.G. Vayenas, *Journal of Electroanalytical Chemistry*, **662**, 116-122 (2011).
- J226.** Note on “The Electrochemical Promotion of Ethylene Oxidation at a Pt/YSZ Catalyst”, C.G. Vayenas and Ph. Vernoux, *ChemPhysChem*, **12**(9), 1761–1763 (2011).
- J227.** Note on “Electrochemical promotion of catalytic reactions”, Ph. Vernoux and C.G. Vayenas, *Progress in Surface Science*, **86**, 83-93 (2011).
- J228.** “Study of the Mechanism of the Electrochemical Promotion of Rh/YSZ Catalysts for C<sub>2</sub>H<sub>4</sub> Oxidation Via AC Impedance Spectroscopy”, S. Brosda, T. Badas and C.G. Vayenas, *Topics in Catalysis*, **54**, 708-717 (2011).
- J229.** “Enhanced performance of CO poisoned proton exchange membrane fuel cells via triode operation”, F.M. Sapountzi, S.C. Divane, M.N. Tsampas, C.G. Vayenas, *Electrochimica Acta*, **56**(20), 6966-6975 (2011).
- J230.** “Electrochemical impedance spectroscopy of fully hydrated Nafion membranes at high and low hydrogen partial pressures”, M.N. Tsampas, S. Brosda and C.G. Vayenas, *Electrochimica Acta*, **56**(28), 10582-10592 (2011).
- 2012**
- J231.** “Hydrogenation of CO<sub>2</sub> over Ru/YSZ electropromoted catalysts”, D. Theleritis, S. Souentie, A. Siokou, A. Katsaounis and C.G. Vayenas, *ACS Catalysis*, **2**(5), 770-780 (2012).
- J232.** “Triode operation of CO poisoned PEM fuel cells: Fixed and cyclic potential triode operation”, M.N. Tsampas, F.M. Sapountzi, S. Divane, V.I. Papaioannou, C.G. Vayenas, *Solid State Ionics*, **225**, 272-276 (2012).
- J233.** “Methane oxidation on Pd/YSZ by electrochemical promotion”, C. Jiménez-Borja, S. Brosda, M. Makri, F. Sapountzi, F. Dorado, J.L. Valverde and C.G. Vayenas, *Solid State Ionics*, **225**, 376 - 381 (2012).
- J234.** “Electrochemical Promotion of Propane and Methane Oxidation on Sputtered Pd Catalyst-Electrodes Deposited on YSZ”, S. Peng-ont, P. Praserthdam, F. Matei, D. Ciuparu, S. Brosda and C. G. Vayenas, *Catal. Lett.*, **142**, 1336-1343 (2012).
- J235.** “Electrochemical promotion of methane oxidation on Pd catalyst-electrodes deposited on Y<sub>2</sub>O<sub>3</sub>-stabilized-ZrO<sub>2</sub>”, C. Jiménez-Borja, S. Brosda, F. Matei, M. Makri, B. Delgado, F. Sapountzi, D. Ciuparu, F. Dorado, J.L. Valverde and C.G. Vayenas, *Appl. Catal. B*, **128**, 48-54 (2012).

**2013**

- J236.** “Reaction Kinetic-Induced Changes in the Electrochemically Promoted C<sub>2</sub>H<sub>4</sub> Oxidation on Pt/YSZ”, S. Peng-ont, S. Souentie, S. Assabumrungrat, P. Prasertthdam, S. Brosda and C.G. Vayenas, *Catalysis Letters*, in press (2013).
- J237.** “Ionically conducting ceramics as active catalyst supports”, Ph. Vernoux, L. Lizzaraga, M.N. Tsampas, F.M. Sapountzi, A. De Lucas-Consuegra, J.-L. Valverde, S. Souentie, C.G. Vayenas, D. Tsiplakides, S. Balomenou, E.A. Baranova, *Chemical Reviews*, in press (2013).

## **B. BOOKS AUTHORED**

1. “Introduction to Chemical Engineering”, C.G. Vayenas, Patras University Press (1986), in Greek
2. “Analysis and Design of Chemical Reactors”, C.G. Vayenas, Patras University Press (1986), in Greek
3. “Electrochemical Activation of Catalysis: Promotion, Electrochemical Promotion and Metal-Support Interactions” C.G. Vayenas, S. Bebelis, C. Pliangos, S. Brosda, and D. Tsiplakides, Kluwer/Plenum Press, New York (2001).
4. “Gravity, special relativity and the strong force: A Bohr-Einstein-de Broglie model for the formation of hadrons”, Constantinos G. Vayenas, Stamatios N.-A. Souentie, Springer, ISBN 978-1-4614-3935-6 (2012).

## **C. BOOKS EDITED**

1. “*Catalysis and Electrocatalysis at Nanoparticles Surfaces*” (A. Wieckowski, E. Savinova & C.G. Vayenas, eds.), Marcel Dekker Inc., New York - Basel (2003).
2. Volumes 136 & 137 of *Solid State Ionics*, “Proceedings of the 12<sup>th</sup> International Conference on Solid State Ionics”, (2000).
3. Volumes 36, 37, 38, 39, 40, 41 and 42 of *Modern Aspects of Electrochemistry*, B. Conway, R.E. White and C.G. Vayenas, eds. (2003- ).
4. Volume 44 of *Topics in Catalysis*, Electrochemical Promotion of Catalysis, C.G. Vayenas, R.M. Lambert, C. Comninellis, eds, (2007).

## **D. INVITED CHAPTERS IN BOOKS**

1. “Optimization of Catalytic Activity Distributions in Pellets”, C.G.Vayenas and X.E. Verykios, in «*Handbook of Heat and Mass Transfer*», N.P. Chermisinoff (Ed.), Chapter 4, pp. 135-181, Gulf Publishers, Houston (1989)
2. “Non-Faradaic Electrochemical Modification of Catalytic Activity: A Status Report”, C.G. Vayenas, S. Bebelis, I.V. Yentekakis and H.-G. Lintz, Monograph published as a Special Issue of *Catalysis Today*, Elsevier, *Catalysis Today* **11(3)**, 303-442 (1992)
3. “Electrochemical Activation of Catalyzed Reactions”, C.G. Vayenas in “Elementary Reaction Steps in Heterogeneous Catalysis”, R.W. Joyner & R.A. van Santen eds., Kluwer Academic Publishers, Dordrecht 1993, pp. 73-92.
4. “The Electrochemical Activation of Catalysis”, C.G. Vayenas, M.M. Jaksic, S. Bebelis and S.G. Neophytides, in «*Modern Aspects of Electrochemistry*» (J.O’M. Bockris, B.E. Conway and R.E. White eds) Vol. **29**, pp. 57-202 Plenum Press, NY, (1995).
5. “Electrochemical Activation of Catalysis: In situ controlled promotion of catalyst surfaces” C.G. Vayenas and S. Neophytides in “Catalysis-Special periodical Report”, Royal Society of Chemistry, Cambridge, Vol. **12**, pp. 199-253 (1996)
6. “Electrocatalysis and Electrochemical Reactors” C.G. Vayenas, S. Bebelis, I.V. Yentekakis & S. Neophytides, CRC «*Handbook on Solid State Electrochemistry*» (P.J. Gellings and H.J.M. Bouwmeester eds.) CRC Press, Inc., Boca Raton, Chapter 13, pp. 445-480 (1997).

7. "Electrochemical Modification of Catalytic Activity", C.G. Vayenas and I.V. Yentekakis, «*Handbook of Catalysis*», (G. Ertl, H. Knötzinger and J. Weitcamp eds) VCH Publishers, Weinheim, Vol. 3, pp. 1310-1338 (1997).
8. "Electrocatalysis, catalysis and electrochemical promotion in solid electrolyte cells", C.G. Vayenas and S.I. Bebelis, "*Oxygen ion and mixed conductors and their technological applications*" (H.L. Tuller et al., eds), Kluwer Academic Publishers, pp. 123-164 (2000)
9. "Promotion, Electrochemical Promotion, and Metal-Support Interactions: The Unifying Role of Spillover", C.G. Vayenas, C. Pliangos, S. Brosda and D. Tsiplakides, in "*Catalysis and Electrocatalysis at Nanoparticles Surfaces*" (A. Wieckowski, E. Savinova & C.G. Vayenas, eds.), Marcel Dekker Inc., New York - Basel (2003).
10. "Electrocatalysis", A. Katsaounis, S. Brosda and C.G. Vayenas, Chapter 2, "Electrochemical Engineering" (ed. D.D. Macdonald & P. Schmuki), **Vol. 5** in *Encyclopedia of Electrochemistry* (Ed. A.J. Bard and M. Stratmann), Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, pp. 23-80 (2007).
11. "Electrochemical Modification of Catalytic Activity", C.G. Vayenas, A. Katsaounis, S. Brosda and A. Hammad, Ch. 8.1.2 in *Handbook of Heterogeneous Catalysis*, 2<sup>nd</sup> Edition, (G. Ertl, H. Knötzinger, F. Schüth and J. Weitkamp, eds), Wiley-VCH (2007).
12. "NEMCA effect", C.G. Vayenas, in *Electrochemical Dictionary*, (A.J. Bard, G. Inzelt, and F. Scholz, eds), Springer (2007).
13. "NEMCA effect: Nonfaradaic Electrochemical Modification of Catalytic Activity", C.G. Vayenas and S. Brosda, in *Encyclopedia of Electrochemical Power Sources* (J. Garche, Chr. Dyer, P. T. Moseley, Z. Ogumi, D.A.J. Rand, and B. Scrosati, eds.), Elsevier (2009).

#### **E. PUBLICATIONS IN REFEREED INTERNATIONAL PROCEEDINGS**

1. "Single Coal Particle Gasification Model", R. Cwiklinski, C.G.Vayenas, C. Georgakis and J. Wei, Proc. 10th Annual Modeling and Simulation Conference, Pittsburgh, 10, (3) 833-842, ISA (1979)
2. "Transient and Steady State Vapor Phase Electrocatalytic Ethylene Epoxidation: Voltage, Electrode Surface Area and Temperature Effects", M. Stoukides and C.G. Vayenas, ACS Monograph Ser. on "Catalysis Under Transient Conditions", A.Bell and L.L. Hegedus eds., ACS Symp. Series 178, 181-208 (1982)
3. "Rate Oscillations During Propylene Oxide Oxidation on Silver Films in a CSTR", M. Stoukides, S. Seimanides and C.G. Vayenas, ACS Symp. Series 196, 165-178 (1982)
4. "Thermodynamic Analysis and computer simulations of a cogeneration process using ASPEN.II. Sulfur oxidation process with Fuel Cell Technology", Y. Yang, P.G. Debenedetti, H. Britt, C.G. Vayenas and L. Evans, Proc. Int. Symp. on Process Systems Engineering, p.17, Kyoto (1982)
5. "Mathematical Modelling of Cross-Flow Solid State Electrochemical Reactors", C.G. Vayenas, P.G. Debenedetti, Y. Yentekakis and L.L. Hegedus, ACS Symp. Series, 237, 171-196, (1984)
6. "Electrochemical modification of the properties of Partial Oxidation Catalysts", M. Stoukides and C.G. Vayenas, Proc. 8th Int. Congress on Catalysis, 4, 827-834 (1984)
7. "Catalytic and Electrocatalytic Reactions in Solid Oxide Fuel Cells", C.G. Vayenas, in Proc. 6th International Conf. on Solid State Ionics, Garmisch-Partenkirchen, North Holland, Amsterdam, pp. 1521-1539 (1988)
8. "Fundamental Concrete Carbonation Model and Application to Durability of Reinforced Concrete", V.G. Papadakis, M.N. Fardis and C.G. Vayenas, Proc. 5th Inter. Conf. on Durab. of Build. Mat. and Comp., Brighton, U.K., pp. 27-38 (1990)
9. "The use of SOFC as Chemical Reactor: Non-Faradaic Catalysis", S. Bebelis, Ch. Karavasilis, H. Karasali, P. Tsiakaras, I.V. Yentekakis and C.G. Vayenas, Proc. 2d Intl. Conference on Solid Oxide Fuel Cells, Athens, Greece, pp. 353-360, Offic. Publ. of the EEC, Luxembourg (1991)



10. “Chemical Cogeneration in Solid Oxide Fuel Cells: H<sub>2</sub>S Oxidation on Pt and Coal Gasification in a Fused Metal Anode”, I.V. Yentekakis, P.G. Debenedetti and C.G. Vayenas, Proc. 2d Intl. Conference in Solid Oxide Fuel Cells, Athens, Greece, pp. 361-368, Offic. Publ. of the EEC, Luxembourg (1991)
11. “Mathematical Modeling of Cross-flow, Counter-flow and Cocurrent-flow Solid Oxide Fuel Cells: Theory and some preliminary experiments”, I.V. Yentekakis, S. Neophytides, S. Seimanides and C.G. Vayenas, Proc. 2d Intl. Conference on Solid Oxide Fuel Cells, Athens, Greece, pp. 281-288, Offic. Publ. of the EEC, Luxembourg (1991)
12. “Catalytic and Electrocatalytic Reactions in Solid Electrolyte Cells: The NEMCA effect” C.G. Vayenas, S. Bebelis, I.V. Yentekakis, P. Tsiakaras, H. Karasali and Ch. Karavasilis, Proc. 3d Intl. Conference on Fast Ionic Transport in Solids, Holzgau, 1991, Trans Tech Publ., Zurich, pp. 141-148 (1991)
13. “Work Function Measurements in Solid Electrolyte Cells: Dependence of Electrode Work Function on Electrode Potential and Polarization”. S. Bebelis and C.G. Vayenas, Proc. 3d Intl. Conference on Fast Ionic Transport in Solids, Holzgau, 1991, Trans Tech Publ., Zurich, pp. 221-224 (1991)
14. “NEMCA: The Oxidation of CO on Pt”, H. Karasali and C.G. Vayenas, Proc. 3d Intl. Conference on Fast Ionic Transport in Solids, Holzgau, 1991, Trans Tech Publ., Zurich, pp. 171-174 (1991)
15. “NEMCA: The Oxidation of CO on Ag”, Ch. Karavasilis, S. Bebelis and C.G. Vayenas, Proc. 3d Intl. Conference on Fast Ionic Transport in Solids, Holzgau, 1991, Trans Tech Publ., Zurich, pp. 175-178 (1991)
16. “NEMCA: Methane oxidation on Pt”, P. Tsiakaras and C.G. Vayenas, Proc. 3d Intl. Conference on Fast Ionic Transport in Solids, Holzgau, 1991, Trans Tech Publ., Zurich, pp. 179-182 (1991)

## ***F. PATENTS***

- P1. U.S. Patent 4,272,336 “Method and Apparatus for Forming Nitric Oxide from Ammonia”, C.G. Vayenas and D.E. Ortman (1981).
- P2. U.S. Patent 4,329,208 “Method and Apparatus for Forming Ethylene Oxide from Ethylene”, C.G. Vayenas and M. Stoukides (1982).
- P3. U.S. Patent 4,463,065 “Fuel Cell and Method for Conducting Gas Phase Oxidations”, L.L. Hegedus, C.G. Vayenas and J.N. Michaels (1984).
- P4. U.S. Patent 4,512,964 “Method for Forming Nitric Oxide from Ammonia”, C.G. Vayenas and C.E. Teague (1985).
- P5. U.S. Patent 4,643,806 “Electrocatalytic Energy Conversion and Chemicals Production”, L.L. Hegedus, C.G. Vayenas and J.N. Michaels (1987).
- P6. European Patent Appl. 90600021.1 “Metal-Solid Electrolyte Catalysts” C.G. Vayenas, S. Bebelis, I.V. Yentekakis and P. Tsiakaras (1990); European Patent 0480116; 24.7.1996; purchased by BASF.
- P7. PCT Patent Appl. GR94/00001 “Method and Apparatus for Forming Ethylene from Methane” C.G. Vayenas, I.V. Yentekakis and Y. Jiang (1994).
- P8. European Patent Appl. 94600002.3 “New monolithic three-way catalysts with optimized distribution of precious metals within three separate washcoat layers” C.G. Vayenas, X.E. Verykios, V.G. Papadakis, I.V. Yentekakis, C. Pliangos (1994).
- P9. US Patent 6,194,623 B1 “Hydrogenation of organic compounds with the use of the NEMCA effect” A. Frenzel, C.G. Vayenas, A. Giannikos, P. Petrolekas, C. Pliangos (2001).
- P10. PCT/GR03/00032 “Triode fuel cell and battery and method for conducting exothermic chemical reactions” C. G. Vayenas, S. Balomenou (2003).
- P11. PCT/GR2004/000006 “Method and Apparatus for carrying out electrochemically promoted reactions” C.G. Vayenas, S. Balomenou, D. Tsiplakides, A. Katsaounis, S. Brosda, G. Foti, C. Comninellis, S. Thieman-Handler, B. Cramer, (2004).

- P12.** U.S. Patent 7,267,807 B2 “Method and Device for Treating Automotive Exhaust” Leo B. Kriksunov and C.G. Vayenas, (2007).

### ***G. SCIENTIFIC ARTICLES WRITTEN BY OTHERS EXCLUSIVELY ABOUT OUR RESEARCH***

1. “Fuel Cell Yields Nitric Oxide”, C & EN May 19, (1980), p. 32.
2. “Cogeneration of Nitric Acid and Electricity. Platinum Electrodes Employed in High-Temperature Fuel Cell”, Platinum Metals Review 25 (2), April (1981), p.56
3. “Applied Highlights: Fuel cells for cogenerating electricity and SO<sub>2</sub>”, Chemistry and Industry, 17, September 4, (1989), p. 571
4. “Electrochemical Promotion”, by J. Pritchard, Nature 343, pp. 592-593 (1990)
5. “American Concrete Institute Honors 25, one Association”, Concrete International 15, 15-22 (1993)
6. “Recycling reactions” P. Szuromi, Science 264, 1513 (1994)
7. “One-step process converts methane to ethylene in 85% yield”, C&EN June 13 (1994) p. 41
8. “Chemical engineers near «holy grail»”, Chemistry and Industry 22, June 20, 1994
9. “Electrocatalysis: Past, present and Future” in J.O’M. Bockris and Z.S. Minevski, Electrochimica Acta 39, 1471-79 (1994), last section, 1478 “NEMCA 1990’s”

### ***H. BOOK REVIEWS***

1. “Heterogeneous Catalysis in Industrial Practice, 2nd Edition by C.N. Satterfield McGraw-Hill, NY 1991” C.G. Vayenas J. Catalysis 134, 755-756 (1992).